THE POLITICS OF WATER FLUORIDATION FROM A PROBLEM DEFINITION PERSPECTIVE

A dissertation presented

by

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to
The Department of Political Science

In partial fulfillment of the requirements for the degree of
Doctor of Philosophy

in the field of
Public and International Affairs

Northeastern University
Boston, MA
November, 2008
Abstract

The Politics of Water Fluoridation from a Problem Definition Perspective

Community water fluoridation has been controversial since it was first proposed more than 60 years ago. Proponents of fluoridation state that it is a safe and cost-effective method of solving a public health problem while opponents question its safety and effectiveness and whether it is a legitimate function of government. Most decisions regarding water fluoridation reside at the local level. In MA, the current law allows the local board of health to order water fluoridation. The law stipulates that within 90 days of public notice opponents can submit a petition with the signatures of 10% of the registered voters in the community, in which case a referendum would be held.

Very often a referendum is held and more than half of the time and with little predictability the order is overturned. Several explanations have been offered including demographic determinism, the structure of the city government and alienation however none of these are fully explanatory.

This paper examines fluoridation decisions from a problem definition perspective which purports that the way problems are defined and framed in public discourse has an impact on decision outcomes. To examine the extent that problem definition principles contribute to fluoridation decisions comparative case studies were utilized. Two communities in MA were chosen. In Worcester, MA voters said NO to a fluoridation referendum in 2001 while in New Bedford, MA voters voted YES in a 2006 referendum. The case studies included an examination of the demographics, structure of government, issue initiators and opponents as well as a comprehensive analysis of media coverage to determine how the issue was defined and framed by spokespersons and the
Lastly, the cases were reviewed to determine the impact that problem definition and issue framing may have had on the expansion of the conflict.

This review identified common elements of framing and problem definition between the cases. Proponents in both cases defined the issue from an instrumental perspective while opponent arguments were more expressive in nature. Descriptions of the problem included many elements often used commonly by issue advocates and opponents to gain support for their views. This analysis suggests that in Worcester opponents were able to steal support from proponents who had public opinion in their favor at the start of the campaign by redefining the argument and tying their arguments to deeply held American values. In New Bedford, the opponents were not able to mobilize and were not able to change the game as they had in Worcester. This may have been due to problem definition but also the differences may have been influenced by the length and nature of the campaign and voter turnout. Future research may include a more comprehensive understanding of public opinion surrounding this issue and the development and testing of messaging campaigns that incorporate not only facts but values.
Acknowledgements

Thank you to the Political Science Department at Northeastern University where I have spent more than 15 years! Several professors should be acknowledged for inspiring me including Governor Michael Dukakis and Bruce Wallin both of whom made me believe in the importance of the public sector and public service. Thank you to David Rochefort and Christopher Bosso who agreed to be on my dissertation committee and for all of their guidance throughout my tenure at Northeastern. As my advisor, Chris Bosso was more helpful than he will ever know.

With special thanks to my professional colleagues who assisted me along the way in this endeavor. Some provided me with material for this project while others were there to listen, give advice, direction and support. They are friends and co-workers from the Forsyth School for Dental Hygienists, The Group Insurance Commission, Delta Dental of MA and its associated companies, The MA Coalition on Oral Health and the Oral Health Advocacy Task Force. Thank you to Catherine Hayes who served on my dissertation committee but also has been a professional mentor for more than 15 years.

Last but not least, thank you to all of my friends and family who understood and accepted my busy life and made me believe that I really could do anything I set my mind to! Without your love and support I could have never accomplished this.
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Chapter 1

Why is Fluoridation a Problem?

Introduction

Why do campaigns to institute fluoridation of public water supplies fail? Why do they succeed? This study examines the politics of fluoridation. In one sense, it looks at how a health profession sought to address what it perceived to be a major public health problem and why one of its major efforts generated considerable opposition.

In another sense, the goal of this study is to examine the explanations offered for what may determine whether a particular community will decide to fluoridate its water supply and examine the extent to which the problem definition literature may contribute to these explanations. Much of the research done on fluoridation decisions has focused on institutional and demographic determinants of the outcomes. The problem definition literature encompasses the impact of public perception of problems on chosen government solutions and the way in which advocates for specific issues can help or hinder their cause based on the ways in which they frame their arguments.

Last, I will analyze fluoridation campaigns in two communities in Massachusetts, Worcester and New Bedford, as well as data from a survey of state legislators to determine the extent to which these explanations can be applied to these cases. The results of the analysis may help advocates in their efforts surrounding community water fluoridation.
The problem – tooth decay

According to the Centers for Disease Control, tooth decay affects more than 1/5 of the children in the U.S. age 2-4 and more than 50% of those ages 5-9 have at least one cavity or filling, and that number increases to more than more than 75% of 17 year olds. Low-income children are the hardest hit, with more than one third of this population having untreated tooth decay. Poor children suffer twice as much caries as their affluent peers and again it is much more likely to be untreated. In the adult population, over ¼ of those 60 or older have lost all of their teeth mostly due to tooth decay, and tooth decay affects more than 95% of all adults. Tooth decay is a progressive disease so generally as one ages the effects of the disease will grow from one requiring simple restorative treatment (fillings) to much more extensive and expensive treatment such as crowns or extractions and dentures.

In 2004, Americans made about 500 million visits to dentists, and an estimated $78 billion was spent on dental services. About 70% of employed Americans have private dental insurance through their employer, the remainder is covered through government programs such as Medicaid or in the case of most over age 65 (the majority of Medicare plans do not cover dental care) and others not covered through employers to pay for care out of their own pocket. This is if they are able to afford the cost of care. There is a great disparity in the oral health of Americans, with those having private dental insurance experiencing oral health superior to those who do not. Although Medicaid programs make insurance available and provide financial access to care, they have significant problems meeting the dental needs of members. One reason for this is the
lack of access to appropriate numbers of providers to treat their members. This lack of access may lead to members putting off much needed preventive care and being seen for emergency care in a hospital emergency room.

Not only can poor oral health lead to unnecessary expense, but also it is important to overall health. Infections in the mouth can exacerbate and contribute to other medical conditions. In addition, pain and infection in the mouth can also have an affect on a person’s overall well-being and productivity at school and in work.

For these reasons, the dental public health profession has spent much of the past 60 years in concerted efforts to lessen the incidence of acute tooth decay. These efforts included school based programs involving simple oral health education programs, sealant programs in local schools, the addition of dental clinics in community health centers, improving dental Medicaid programs and of course, community water fluoridation. The dental profession (dentists and hygienists and their professional associations) has contributed to these public health efforts as well as helping to reduce the disease burden by providing preventive and restorative care to individual patients in their offices. In addition, consumer product companies have been involved in helping to reduce the incidence of decay by adding fluoride to toothpastes, developing mouthwashes and other products such as toothbrushes and dental floss and marketing these products heavily in the marketplace. Many of these items have become over time a “must have” for many American households.
Fluoridation- One Solution

The most controversial of these efforts was and continues to be water fluoridation, the deliberate addition of the trace element fluorine (in the ionic form as fluoride) into drinking water to reduce dental decay. A study published by the American Dental Association in 2001 argued that in communities with more than 20,000 residents every $1 invested in community water fluoridation yields $38 in savings each year from fewer cavities treated. The Task Force on Community Preventive Services of the CDC, which strongly recommends community water fluoridation, concluded that tooth decay in American children has decreased by 30%–50% because of fluoridation. Additional information on the effectiveness of water fluoridation is included in the section on arguments used by proponents and opponents of the measure, who disagree on the actual effectiveness of water fluoridation versus other measures to prevent tooth decay.

Fluoride occurs naturally in water at different levels. Today the US Public Health Service has established the optimal concentration of fluoride in the water to be 0.7 to 1.2 parts per million. The optimum level is dependent on the annual average of the air temperature in the geographic area. Optimum levels may occur naturally at this level or higher in community water systems and is monitored by the EPA which, through the Safe Drinking Water Act of 1986 has exclusive regulatory authority over drinking water served by public water supplies. They set the Maximum Contaminant Level (MCL) at 4.0 ppm. If found naturally at this level, it would not be necessary to add fluoride to the water supply but rather it would be required that the fluoride be removed. The addition of fluoride to water is monitored per CDC guidelines and the optimum level of .7-1.2 ppm does not come close to the 4.0 MCL level set by EPA.
Community water fluoridation is done in accordance with recommendations set forth by the Centers for Disease Control and Prevention in their “Engineering and Administrative Recommendations for Water Fluoridation,” last issued in 1995. According to the CDC the intent of these recommendations is to provide guidance to federal, state and local officials involved in the engineering or administrative aspects of water fluoridation to help them ensure that fluoridated water systems are providing optimal fluoride levels, to minimize potential fluoride overfeeds and to contribute to the safe operation of all fluoridated water systems. The report includes guidelines for state level staffing and training, reporting, technical requirements and inspection of systems and monitoring and surveillance to ensure that the protection of the public.

For its part, the U.S Food and Drug Administration (FDA) monitors additives to bottled water but has no jurisdiction over public water supplies.

Today, consumer exposure to fluoride occurs from many sources, including drinking water, food, dental products and pesticides. Recently, at the request of the EPA, the National Research Council reviewed the health effects of ingested fluoride as it related to the already established maximum level of naturally occurring fluoride in water. The purpose of this study was to determine if the EPA MCL in naturally occurring water protected children and others from adverse health effects. The NRC committee determined that the MCL should be lowered to 2.0 ppm in order to prevent the adverse health effect of enamel fluorosis or “mottled enamel.” The recommendations are intended to prevent toxic or other adverse effects that could result from excess exposure to fluoride naturally occurring in water while individual communities are responsible for monitoring.
their water supplies if they are adding fluoride to ensure that they meet the CDC Guidelines of .7-1.2ppm. 

The fluoride additives for drinking water include sodium fluoride, sodium fluorosilicate and fluorosilicic acid. They are derived from apatite, which is a type of limestone deposit used in the production of phosphate fertilizers. Apatite contains 3-7% fluoride and is the main source of fluoride used in water fluoridation. 

During processing apatite is ground up and treated with sulfuric acid, producing phosphoric acid (the main ingredient in the production of phosphate fertilizer) plus a solid and two gases. The solid calcium sulfate (known as gypsum) is the material used to form drywall or sheetrock. The two gases, hydrogen fluoride and silicon tetrafluoride, are captured in water to form fluorosilicic acid which today is the most commonly used fluoride additive in the U.S. The two remaining fluoride additives (sodium fluoride and sodium fluorosilicate) are derived from fluorosilicic acid. Sodium fluoride is produced when fluorosilicic acid is neutralized with caustic soda. Fluorosilicic acid is neutralized with sodium chloride or sodium carbonate to produce fluorosilicate.

So, in some sense, we are using what some may regard as toxic or at least problematic chemicals in a highly dilute form to prevent tooth decay. This fact has been a central argument of opponents in the fluoridation controversy and will be discussed further later in this chapter.

**The Controversy over Fluoridation**

In fact, the strategy of adding fluoride to water to reduce dental decay was the accidental outcome of efforts to address another problem associated with water that
contained high naturally occurring levels of fluoride. In the very early 1900’s questions arose regarding the cause of “mottled” or stained tooth enamel. Several scientists searched for the cause, but it was not until the early 1930’s that it was determined that the cause was high levels of fluoride in the communities where this problem seemed most acute. In these instances, researchers noticed that individuals with mottled teeth also had very low levels of tooth decay. Additional research determined that a level of fluoride in drinking water at one part per million would significantly reduce tooth decay without causing mottling.10

Investigation into fluorides began in 1902, not in an effort to reduce tooth decay but rather to find the cause of stain on the teeth of persons living in Colorado Springs, Colorado. A dentist there, Frederick McKay began studying the issue, and over the next thirty years he and others such as Grover Kempf of the Public Health Service and a scientist from the ALCOA (the Aluminum Company of America, housed in Bauxite AK where the stain also existed, had been refuting claims that the aluminum in pans was poisonous) spent many hours investigating the potential cause. This led them to find that in fact something in the water was causing the staining and that those with the staining also seemed to have lower levels of tooth decay.11 Another researcher H. Trendley Dean completed the research on the link between fluoride in the water and lower levels of tooth decay in the 1930’s, and in 1941 was able to establish the level that lowered tooth decay without causing mottling. He established this amount to be one part per million.

In 1944 the United States Public Health Service began the experimental addition of fluoride to drinking water. Grand Rapids Michigan began fluoridation in that year with a nearby city used as a control. Newburgh, New York and Brantford, Ontario also began
experimenting. The issue they were exploring was whether artificially administered fluoride acted in the same way as fluoride naturally present since apart from dental health and mottling studies had found no differences between persons drinking water with and without fluoride. These experiments were intended to run until 1954. 12

It was at this stage that a group of dentists in Wisconsin became anxious to move from the experimental stage and begin fluoridating communities in Wisconsin. Because the early clinical data were so impressive other cities began fluoridating. Early media accounts indicate, “Decisions to fluoridate were as much a part of a desire to assist the children as to be a part of a scientific experiment. Even Muskegon, Michigan, the control city in the trial with Grand Rapids, began fluoridating before the trial was completed because its city fathers did not want to deny the demonstrated benefits of fluoridation to the city’s children.” 13

With the USPHS reporting significant drops in decay rates in the experimental cities many in the dental community pushed for the USPHS, the American Dental Association and the American Medical Association to give their approval to the measure. Although they intended to wait until the end of the experiments, the impressive effects in the reduction in decay, the potential reduction in dental costs for millions in the United States, and the push from the proponents caused these organizations to give their support in 1950. 14

Even before these groups had given their support, residents of many cities and towns were debating whether to add fluoride to their water supplies. One example of an unsuccessful fluoridation campaign on the part of the proponents was in Stevens Point, Wisconsin. This campaign began with Dr. John Frisch, a dentist and early supporter and
promoter of fluoridation in Wisconsin, visiting the town to speak to the city council. He was there to support a proposal for fluoridation submitted by the local board of health and dental society. This measure was rejected because decision makers believed that fluoridation was still in the experimental stages. Because the experiments in Grand Rapids and in New York had not been completed opponents were correct in that assertion but proponents continued to argue that the results of the benefits could not be denied. 15 Sixty years later, the debate in cities and towns across the U.S. continues.

Adoption of Fluoridation

In the United States control of the water supplies generally lies at the level of cities or towns, so controversies over fluoridation tend to play out at the local level. Each state and locality may have different laws/local ordinances surrounding fluoridation but for the most part fluoridation is enacted either by ordinance that is voted upon by a board of health, city council or city county commission or by a referendum vote. There are eleven states that have statewide legislation requiring fluoridation.

Much of the legislation and laws surrounding fluoridation was spurred from the early disagreement within the scientific community over the implementation of water fluoridation. Early on, there was disagreement even among those in the dental profession about whether fluoridation should be extended to additional communities beyond those experimental cities/towns before the actual “experiment” was completed. As stated previously, at first even the United States Public Health Service (USPHS) withheld its support for implementing the measure on a larger scale before the experiments were scheduled to be completed (1954). The USPHS, the American Dental Association and the
AMA did finally support the measure in 1950 and 1951, years after fluoridation was implemented in cities other than the experimental ones. In several communities however the conflict had already moved from boards of health that had initial jurisdiction over the issue to city councils some of whom were not sold on implementing something “experimental”.  

In Stevens Point, Wisconsin in 1950, this was the case. The city council had rejected a motion by the local dental society and the board of health to begin fluoridating. Women’s groups in the city then picked up on the issue and were able to change the mind of the council. As soon as this happened an opponent group started a petition requesting a referendum. The council then attempted to satisfy both sides by beginning fluoridation and also scheduling a referendum. The opponents succeeded in stopping fluoridation in Stevens Point.  

It was during this time that the opponents of fluoridation began to use arguments other than only the scientific ones that had most often been used in the past. This period of time is now known as the era of “McCarthyism” where conspiracy theories and accusations of Communism ran rampant. Opponents used these and other arguments of the day including that fluoridation was in effect “socialized medicine”. They also tied the fact that Oscar Ewing, the director of the Federal Security Administration (FSA- later to become the Department of Health, Education and Welfare, whose agencies were holding national hearings on fluoridation) had been an attorney for the Aluminum Company of America. ALCOA was not only involved in the initial research on fluoride but was also involved in the sale of fluoride to communities. This, opponents said, was an example of
“giant capitalism and the communists” working hand in hand to carry out the
“fluoridation conspiracy”.  

Congress also held hearings during this time. The head of the Committee holding
the hearings was a Representative from New York, James Delaney. The report of this
committee was completed in 1952 and although many of the ideas of the opponents were
included in the report of the Select Committee to Investigate the Use of Chemicals in
Foods and Cosmetics, the Committee only went so far as to urge communities
contemplating fluoridation to take a conservative action toward fluoridation. Proponents
jumped on this report and remarked that it was in fact a “deferred minority report”
because prior to this report the full Congress had already appropriated the funds for the
fluoridation of the water supply in Washington, D.C. They emphasized that therefore no
further legislative action by Congress was necessary; essentially that Congress was not
the place for this debate to occur.

Proponents were successful in some states in the 1950’s and 1960’s in passing
enabling legislation “to permit local governments to adopt fluoridation” and in
Connecticut were able to enact legislation that required fluoridation at the local level. On
the other hand, opponents had success as well. They were able to get legislation in two
states (MA being one of them) requiring local governments to submit the issue to
referendum before adopting. In effect, opponents had succeeded in bringing this issue
outside of the realm of science and into the world of politics in the most public sense
(referenda) where it often is played out even today. Over the last half a century, both
sides have had successes in changing “the game” with opponents able to stop statewide
legislation authorizing fluoridation in some instances and proponents achieving statewide
fluoridation in others. In MA, and other states proponents have been able to change the requirement for a referendum to one in which boards of health order fluoridation and if opponents can gather a required amount of signatures a referendum may be held. All of these changes of law and venue of course changed the dynamics of the conflict and the number of cities and towns that adopted fluoridation.

The period between 1950 and 1960 brought the issue of fluoridation to many cities and towns in the US especially those with populations over 10,000. At that time there were 1080 cities and towns with populations over 10,000. Even with the controversy surrounding the issue, adoption of fluoridation continued. Adoption of fluoridation was not without public debate since many of the adoptions occurred only after public referenda. During that ten-year period, 1952 was the year with the greatest number of adoptions (72), eight of them won by referenda. After 1952, the number of referenda increased while the number of adoptions began to decrease. By the end of the ten-year period, if the fluoridation decision went to referenda it was more likely that it would be rejected than adopted. In fact, in 1951 close to 80% of referenda favored fluoridation, while in 1960 less than 20% favored it. By 1960, about 1/3 of the 1080 cities with populations over 10,000 were fluoridated. In 1966, it was estimated that 70-90% of communities over 10,000 in the U.S. had considered adoption but only 773 of the now 1,899 communities in this category were actually using controlled fluoridation.

The first three communities began to fluoridate in Massachusetts in 1951. From 1951-1956 another 14 communities became fluoridated. A compulsory referendum law was enacted in 1958. This law required cities and towns to have a referendum before community water fluoridation could be enacted. From 1958-1967, 37 communities had
referenda with 51% winning and 49% losing. Only five communities actually implemented fluoridation during this time. In 1967, Massachusetts ranked 48th in the nation with only 8.2% of its population living in fluoridated communities. In 1968, that law was changed and the new law allowed a local Board of health to order fluoridation and only if 10% of a community’s registered voters signed a petition within 90 days of publication of the order would a referendum be required. During the five-year time period from 1968-1972, there were 83 orders for fluoridation from 78 communities. Of those 40% went to referenda and fluoridation won 53% of the time and lost 47% of the time. The new law likely increased the possibility of fluoridation being implemented in the community because it could be implemented administratively but the proponents’ success in referenda actually did not improve markedly.
Figure 1.1 depicts the date of fluoridation of the largest US cities as of the year 2000. Of the 50 largest cities in the US, three are fluoridated naturally, two (San Diego, CA, 2000 and Tucson AZ, 1992) have approved fluoridation and not yet implemented and five are not fluoridated. Those not yet fluoridated include San Jose, CA, Portland, OR, Fresno, CA, Honolulu, HI and Wichita, KS.

Table 1.1 (below) lists the number of the largest cities in the US fluoridated in each decade. Because some of the largest cities in the US began fluoridating within a few years of early reports of the benefits observed in communities that pioneered water fluoridation by 1955 15 percent of the US population had access to fluoridated drinking water, by 1965 this amount had increased to 30 percent and by 1975 to 49 percent. Since 1975 however, progress has slowed with the current figure hovering at 67.3% of those

Source: American Dental Association, March 2002.
Americans served by a public water supply receiving fluoridated water\textsuperscript{25}, a twenty percent increase since 1966.\textsuperscript{26}

<table>
<thead>
<tr>
<th>Decade</th>
<th>Number of Large Cities Fluoridated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940s</td>
<td>1</td>
</tr>
<tr>
<td>1950s</td>
<td>16</td>
</tr>
<tr>
<td>1960s</td>
<td>6</td>
</tr>
<tr>
<td>1970s</td>
<td>9</td>
</tr>
<tr>
<td>1980s</td>
<td>2</td>
</tr>
<tr>
<td>1990s</td>
<td>3</td>
</tr>
<tr>
<td>2000-2002</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: American Dental Association, March 2002.

It is interesting to note that of the fifteen largest US cities not fluoridated in 1992, 1 has approved fluoridation but not yet implemented and 6 have implemented fluoridation since 1999. Three of the remaining cities are in California, which passed a law in 1995 requiring fluoridation in all cities with a population of 25,000 or greater but does not provide state funding.\textsuperscript{27}

Clearly fluoridating large cities affects the percentage of the population receiving fluoridated water, states like Hawaii and Oregon both have Top 50 cities in their states that remain non-fluoridated. Hawaii and Oregon have 8.8% and 19.4% of their populations on public water supply systems receiving fluoridated water, two of the lowest percentages in the nation.\textsuperscript{28}

In Massachusetts 139 of the 351 cities and towns are fluoridated. Currently in Massachusetts, 5 of the 25 most populated cities and towns remain non-fluoridated and our population using a public water supply that can be fluoridated is 63%. This number is less than the national average and Massachusetts ranks 35\textsuperscript{th} among all US states. The five
non-fluoridated cities include Worcester, Springfield, Brockton, Chicopee and Barnstable. Of these cities Worcester has had four losing referenda, Springfield and Chicopee, two losing referenda and Brockton had fluoridation ordered in 1972 but it has not been implemented. The available literature does not show Barnstable either ordering fluoridation or having referenda.

Table 1.2 depicts the largest Massachusetts cities and their date of fluoridation. The majority of implementations occurred in the 1970’s (13), 5 occurred in the 1980s and one occurred in both the 1960s and 2000s.

Table 1.2

<table>
<thead>
<tr>
<th>City</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newton</td>
<td>1963</td>
</tr>
<tr>
<td>Framingham</td>
<td>1970</td>
</tr>
<tr>
<td>Haverhill</td>
<td>1971</td>
</tr>
<tr>
<td>Weymouth</td>
<td>1972</td>
</tr>
<tr>
<td>Fall River</td>
<td>1973</td>
</tr>
<tr>
<td>Cambridge</td>
<td>1974</td>
</tr>
<tr>
<td>Boston</td>
<td>1978</td>
</tr>
<tr>
<td>Brookline</td>
<td>1978</td>
</tr>
<tr>
<td>Malden</td>
<td>1978</td>
</tr>
<tr>
<td>Medford</td>
<td>1978</td>
</tr>
<tr>
<td>Quincy</td>
<td>1978</td>
</tr>
<tr>
<td>Revere</td>
<td>1978</td>
</tr>
<tr>
<td>Somerville</td>
<td>1978</td>
</tr>
<tr>
<td>Waltham</td>
<td>1978</td>
</tr>
<tr>
<td>Taunton</td>
<td>1981</td>
</tr>
<tr>
<td>Lowell</td>
<td>1982</td>
</tr>
<tr>
<td>Lawrence</td>
<td>1983</td>
</tr>
<tr>
<td>Lynn</td>
<td>1983</td>
</tr>
<tr>
<td>Peabody</td>
<td>1983</td>
</tr>
<tr>
<td>New Bedford</td>
<td>2006</td>
</tr>
</tbody>
</table>

If one looks at all fluoridation implementations in Massachusetts, the seventies also contain the most implementations followed by the eighties. In the 1970’s Boston was fluoridated along with 32 other communities served by the Massachusetts Water Resource Authority. This regional approach to fluoridation brought a large increase in the
percentage of the population receiving fluoridated water since this water supply served 2.5 million people.²⁹ The following table illustrates the number of implementations by any city or town by decade in Massachusetts.

Table 1.3

<table>
<thead>
<tr>
<th>Decade</th>
<th>Number of Fluoridation Implementations by Cities or Towns of Any Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>0</td>
</tr>
<tr>
<td>1950</td>
<td>18</td>
</tr>
<tr>
<td>1960</td>
<td>13</td>
</tr>
<tr>
<td>1970</td>
<td>55</td>
</tr>
<tr>
<td>1980</td>
<td>21</td>
</tr>
<tr>
<td>1990</td>
<td>14</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
</tr>
</tbody>
</table>

In reviewing Massachusetts data for five year periods since 1968, when fluoridation was ordered it went to referenda on average 56% with a range of 33.3% from 1988-1992 to 75% in 1973-1977 and 1978-1982. When fluoridation goes to referenda it wins less than half the time with a thirty-year average of less 35%. The range is 0% in 1993-1997 to 52.9% in from 1968-1972.³⁰ The national data is less clear and complete on this issue but it does appear that across the country and for most time periods since 1967 when a referenda is held on fluoridation the likelihood of a positive result for fluoridation is at the most 40% and more likely to be closer to 30%.³¹

In the 1960s, eight states enacted mandatory statewide fluoridation legislation or regulation. Two additional states did the same in the 1970s and California enacted their legislation in 1995. Those states that have statewide legislation have among the highest percentage of the population on public water supply systems receiving fluoridation with Connecticut (87.5%), District of Columbia (100%), Kentucky (99.7%), Illinois (99.1%), Michigan (86.2%), Minnesota (98.4%), Ohio (90.6%), South Dakota (78%), Georgia (93%), all being above the national goal of 75% noted in the Healthy People 2010
Objectives developed by public health officials. Three of the states with statewide legislation have not met the 75% goal (Delaware (67.4%), California (27.7%), and Nebraska (69.5%). The reasons that these states may not have met the goal even with state legislation include that in Nebraska a referendum is still required and in California the mandate is not funded by the state, Delaware does not enforce its legislation. Other states such as Arkansas have unsuccessfully attempted statewide legislation in recent years.

There are other states that have met or exceeded the 75% objective that have not enacted statewide legislation. These states include some of the early adopters of fluoridation. States such as North Carolina (84.6%), Indiana (95.5%), Virginia (93.8%), Maryland (93.7%), Wisconsin (89.4%), Tennessee (96%), and Colorado (75.4%) all had very large cities adopt in the 1950s.

The Spread of Fluoridation

Diffusion is the process in which an innovation is communicated through certain channels over time among the members of a social system. It is a kind of social change that can be planned or unplanned. In this case fluoridation requires a change in public policy at either the state or local level in order to be adopted. In general when the number of individuals adopting a new idea is plotted on a cumulative frequency basis over time, the resulting distribution is an S- shaped curve. At first only a few individuals adopt the innovation in each time period; these are generally considered innovators. The diffusion curve then begins to climb as more and more individuals begin to adopt in each succeeding time period. Eventually the trajectory of the rate of adoption begins to level
off, as fewer and fewer individuals remain who have not yet adopted the innovation.

Finally, the S-shaped curve reaches its asymptote and the diffusion process is finished.

There is often variation in the rate of adoption from innovation to innovation with some new ideas diffusing fairly rapidly producing a steep S-shaped curve and others with a slower rate of adoption having a more gradual s- curve and a lazier slope. There also may be differences in diffusion with the same innovation among different social systems.

In their book in 1969, Crain, Katz and Rosenthal called fluoridation “a model of unsuccessful diffusion:” 32

While it is true that by 1960 it had been adopted by nearly one third of the cities with 10,000 or more population, the fact is that the rate of growth was decelerating, and its rate of growth seemed particularly slow in those areas where it did not gain an early foothold. We have seen too that fluoridation met with opposition and was frequently submitted to a referendum; this process particularly in the later years, typically ended in defeat. What is probably most puzzling to the proponents of fluoridation is that the opposition to fluoridation maintained its effectiveness. Of course, any innovation can expect some resistance when it is first suggested but most of the data presented here indicate that fluoridation was more unpopular in 1965 than in 1952! Is there a rational explanation for this? 33

The Controversy

Given the data on rejections, fluoridation was and remains a controversial issue with the chance of adoption being unpredictable for either side and little movement or change in the number of adoptions nationwide in recent years.
From the information presented one may wonder what the controversy is all about? The fact is that the information presented in the previous sections is given from the point of view that fluoride is safe and effective and a proven and necessary public health measure. Although the scientific and public health communities have endorsed community water fluoridation as safe and effective and necessary to address a significant public health issue, opponents of fluoridation continue to disagree on the magnitude and extent of the problem, the safety and effectiveness of fluoridation as well as whether fluoridation is a legitimate function of government.

Although the arguments have changed somewhat during the past sixty years, as will be discussed later in this paper, the basic tenets of the arguments have remained the same for those on both sides of the issue. Opponents claim that mass fluoridation is harmful and causes deleterious health effects, is ineffective in preventing decay, is costly, and interferes with freedom of choice and individual rights. For their part, the proponents of mass fluoridation claim that it is safe, effective at reducing decay, comparatively inexpensive, and is in the public interest. In such matters, individual “rights” are trumped by public health needs.  

For those in the medical, dental, and public health communities, community water fluoridation has been proven to be safe and effective. They point to thousands of studies that show this to be “true”. They are emphatic that these studies have been performed using appropriate scientific methods and printed in peer-reviewed journals. In fact, in many papers they absolutely refute the arguments made by the opponents stating that they are not scientists but “quacks” who use “junk science” in order to present their
arguments. The following is a summary of the arguments used in many fluoridation campaigns:

**Effectiveness**

One argument is in regards to the effectiveness of CWF. For the most part both proponents and opponents agree that tooth the overall rate of tooth decay is lower than sixty years ago when fluoridation was introduced. However, they cannot agree on what percent of the reduction resulted from community water fluoridation and what percent came from other factors such as fluoridated toothpastes. Those opposed to fluoridation often state that, in the words of one critic:

“fluoride may help teeth but that the evidence is not overwhelming. Although rates of dental decay have fallen significantly in the United States since the 1940s, similar improvements have been seen in countries where fluoride is not added to the water. Improved dental care, good nutrition, and the use of antibiotics may explain the parallel improvement. A largely sympathetic official review of fluoridation by the British government in 2000 found that most of the studies of the effectiveness of fluoridated water were of moderate quality and that water fluoridation may be responsible for 15 percent fewer cavities. That’s a far cry from the 65% promised by the early promoters of fluoride.”

Proponents state that the efficacy of water fluoridation in the prevention of dental caries has been established by numerous epidemiological studies and community trial.
The benefits to dental health are significant, appear to continue throughout life, and may be acquired economically by any community.\textsuperscript{36} According to the CDC, “initial studies of community water fluoridation demonstrated the reduction in childhood dental caries attributable to community water fluoridation to be 50-60\%. More recent estimates are lower- 18-40\%. This decrease in attributable benefit is likely caused by the increasing use of fluorides from other sources, with the widespread use of fluoride toothpaste probably most important.” Other arguments by proponents include the effectiveness of CWF in reducing dental caries in adults as well as the fact that CWF reduces the disparities in caries experience among poor and nonpoor children.\textsuperscript{37}

Safety

Opponents and proponents also have significantly different views on the inherent safety of fluoride. Proponents point out that since the inception of community water fluoridation opponents have made claims of the potential “toxic” effects of fluoridation. Complaints of ill effects of community water fluoridation were reported shortly after January 1, 1945, the official starting date. These complaints included gaining weight and a rash caused from the fluoridation. The problem with these particular arguments was that the actual fluoridation of the water did not start until January 25, 1945.\textsuperscript{38} Opponents of fluoridation claim that fluoride can cause cancer Alzheimer’s, congenital abnormalities, kidney problems, lower intelligence, infertility and other diseases.\textsuperscript{39} The proponents of fluoridation claim that none of these studies can be utilized as proof of the toxic effects of CWF. They categorize the studies as having small sample size, testing fluoride at levels significantly higher than even the highest levels of fluoride naturally
found in water, performed on animals not humans, using incorrect methods of statistical analysis as well as other arguments refuting the scientific methods used. They conclude that for all of the diseases or conditions mentioned that there is either no or insufficient scientific evidence to show CWF as a contributing factor. The only harmful effect of fluoride that proponents of fluoridation believe has been scientifically linked to increased levels of fluoride is enamel fluorosis, which is most often minor staining not caused solely from CWF but rather fluoride ingested over and above the recommended amounts. This happens either by swallowing toothpaste or taking unnecessary drops in addition to fluoridated water. 40

Other arguments include the ability to control the amount of fluoride ingested (mass medication without controlled dosage) and the fact that fluoride is a toxin that is regulated by EPA as such and that it is an industrial pollutant. Proponents view the control issue as one that is unsubstantiated since the amount of water that one would need to ingest in order to dangerous levels is far beyond what any normal human consumes daily. As for being an industrial pollutant, they contend that fluoride is a by product of the industrial fertilizer industry but that many products are by products of other products and that being a by-product of this industry does not make it dangerous. Specifically the ADA states in its newest edition of Fluoridation Facts, “by-products are simply materials produced as a result of producing something else- they are by no means necessarily bad, harmful or waste products. In the chemical industry, a by-product is anything other than the most economically important product produced. By products may have certain characteristics, which make them valuable resources. For example, in addition to orange
juice, various by products are obtained from oranges during juice production that are used in cleaners, disinfectants, flavorings and fragrances.

Fluoride additives are valuable by-products produced as a result of producing phosphate fertilizer. To ensure the public’s safety, additives used in water fluoridation meet standards of the American Waterworks Association (AWWA) and NSF International (NSF).

Cost

Opponents and proponents also disagree on the cost-effectiveness of fluoridation. The ADA argues in its Fluoridation Facts book that for most cities every $1 invested in water fluoridation saves $38 in treatment costs. They estimate that the annual cost for a U.S. community to fluoridate its water is estimated to range from approximately $0.50 per person annually in large communities to approximately $3.00 per person in small communities. They estimate the lifetime cost per person to fluoridate a water system as less than the cost of one dental filling. On the other hand, opponents contend that fluoridating the water supply is not cost effective, since the bulk of fluoridated water is actually used to flush toilets, to wash dishes, clothes, people and cars, for power and heat and to water gardens and lawns and fill swimming pools.

Individual Rights vs. Public Health

Antifluoridationists proclaim that in the case of fluoridation, there is no compelling reason to override the freedom of the right of individual choice. They say that because fluoridation violates freedom of choice that mandating the fluoridation of public
water supplies is illegal and may be defined as criminal. They believe that the use of fluoride can be on a voluntary basis such as in drops or toothpaste rather than forcing all individuals to receive a substance that they do not want or need. They also believe that fluoride is a medication and that fluoridating community water supplies is medicating those such as Christian Scientists who oppose medication on religious grounds. They believe that this is a violation of their religious freedom.

Antifluoridationists have gone to the courts with these and other arguments with increasing frequency over the years and have achieved a few victories in the trial courts. To date however, no appellate court has ruled against fluoridation. In many of these cases the courts viewed fluoridation as a compulsory health measure, similar to vaccinations and upheld the states right to enforce the measure based on concern for the health of the public. It has been the position of the American courts that a significant government interest in health and medical treatment of the population will generally override the individual religious objections to public health regulation as well.

Summary

The arguments presented provide a summary of the overall debate. Proponents contend that the science is beyond reproach. Proponents trying to implement fluoridation are generally from the public health sector and do not understand why such controversy has surrounded this particular public health issue. They exclaim that this is an issue that should be decided by health professionals and not politicians or voters. They cannot understand why polio and other vaccinations have become mandatory in the US without this kind of political activity.
Since the inception of community water fluoridation conflict has surrounded it. What is it about this particular issue that makes it so controversial? The research on fluoridation was mostly done during the early years of its implementation and does not seem to offer answers to the above questions which would help one to predict the outcome of a fluoridation referendum nor help one strategically design a more successful campaign. The following chapter will outline the early studies and offer an alternative explanation that may provide some additional input into the conflict surrounding fluoridation.
Chapter Two

Explaining Outcomes

I am a dental hygienist by training and have been involved in the dental profession for more than twenty-five years. As part of our training as dental professionals, we cover the topic of community water fluoridation; but as I recall in a cursory manner. We were taught that fluoridation is safe and effective in preventing tooth decay and that we may encounter “antis” during the course of our careers, who are really nothing but irrational people offering up crazy arguments against fluoridation. I don’t recall being taught much more and don’t recall having taught much more to my own students during my years of clinical and didactic teaching. Honestly, I also don’t recall thinking much about water fluoridation until recently when I became a member of the Massachusetts Coalition for Oral Health through my employment.

MCOH is an organization dedicated to improving the oral health of the residents of Massachusetts through the use of effective, community-based oral health education and preventive measures. Since its inception in 1999 MCOH has provided technical support to communities interested in educating their citizens about the public health advantages of community water fluoridation. They have provided informational materials and presentations about the benefits of fluoridation and optimal oral health to local Boards of Health and residents of the Commonwealth. In December 2004, MCOH was developing a request for proposals that would outline a plan to determine successful strategies in implementing community water fluoridation in Massachusetts.

In their backgrounds statement they outlined the oral health problem in Massachusetts, explained the current laws surrounding fluoridation and also indicated
that at that time only 63% of Massachusetts residents had access to fluoridated water in their communities. They commented that the lack of universal access exists because some individuals and groups opposed to fluoridation had been effective at turning fluoridation from a public health issue to a political issue. According to the MCOH RFP,

When the issue requires a vote, opponents typically highlight issues such as loss of individual rights, they misrepresent facts about fluoridation, including the cost, and they offer false emotional charges of the dangers of fluoridation to steer voters away from the health issues that could be prevented and improved by fluoridation. Proponents on the other hand are forced to respond to the political campaign as well as to educate the public about a complex scientific health measure. When voters receive conflicting information, they often vote in favor of the status quo, making implementation of CWF very challenging despite its proven benefits. They hope that the outcome of the proposed study would be determine a set of recommendations of both successful strategies and unsuccessful tactics so that in the future cities and towns can use an evidence based approach in their fluoridation campaign.

And so the journey began. I was a PhD student looking for a dissertation topic and so I set out to find the answers to their questions. My first step was to determine what work had already been done on the issue.

I must confess that I too believed that people who were against fluoridation were crazy and somehow irrational. I realized too that this issue was more complex than just understanding why individual voters in referenda voted for or against fluoridation but that
I also needed to think about this from a public policy perspective. What were the factors that may bring this issue to the public agenda in the first place? Why did some communities consider it while others did not and why when it was considered were the outcomes different in different communities? Also, at that time Massachusetts was considering mandating fluoridation at the state level as had been done in other states. Was there something different about state versus local government agendas that needed to be considered if this proposal was to be successful?

As I started my research one of the first things I discovered was the power of “professionalization” in determining one’s view of an issue. I realized that in fact I had never really questioned the safety and efficacy of fluoridation since my profession touted its safety and effectiveness nor had I even considered it to be an infringement on personal liberties. In fact, I thought of it as ensuring one’s right to health. After a review of the available literature on the safety and efficacy of fluoridation, I felt personally comfortable that I was not part of a campaign to promote a dangerous substance that may also be ineffective. I also must admit that after reading the materials that were distributed by antifluoridationists, I understood why there still remain cities and towns that aren’t fluoridated and probably always will be. This is no easy issue to grapple with. Even for me, a dental professional the issues raised by the opponents of fluoridation had the ability to cast some doubt on my opinion and made even me feel somewhat uneasy. How would the average person make a voting decision? And with so much controversy surrounding the issue, what would make a politician, advocate or policy maker take it on? They certainly would need some convincing. In addition, was there some way to ensure the increased likelihood of success for proponents of fluoridation? Under the current laws
and regulations, what cities would be most appropriate to fluoridate? Were there specific strategies that could be employed to increase the likelihood of success or questions to ask that may help determine if the ensuing battle would be worth the effort?

I was a newcomer to fluoridation battles and I tried to learn all I could from people who were much more experienced than me. I realized that for the most part strong proponents of fluoridation were a small group of “public health” dentists and hygienists. Most of them actually were members of MCOH. I called them now “the usual suspects” since most are heavily involved with all dental public health activities in Massachusetts. They were and are a great crowd of people all of whom are dedicated to improving oral health of the citizens of Massachusetts and often working for non-profit organizations, governmental agencies and academic institutions. These were people who often worked for much less than they could if they were in private practice. They were dedicated to their causes. Some had actually been involved in fluoridation referenda for more than twenty years and a few almost since the beginning of the fight for fluoridation in Massachusetts.

When asked about the reasons that fluoridation battles were so difficult and whether there were any similarities or differences in cities or towns that chose to fluoridate, I was given many of the same answers by all. I was told that fluoridation was more likely to pass in wealthy cities and in cities/towns with residents with higher education status. I was told that “dentists” weren’t very good at the political campaign and that a good campaign was necessary to win. I was also told that a good campaign involved education of the public on the merits of fluoridation. Many people discussed the
type of campaign run by antifluoridationists and how they used “scare tactics” to intimidate the public into voting no in a referenda.

Shortly after I began looking into the topic I was invited to a town meeting in East Long Meadow, Massachusetts. This town had been fluoridated for many years and was now considering removing the fluoride from its water supply. I listened to many proponents and opponents. I must admit that since I had never been involved in a campaign or even heard any of the arguments first hand, I was totally unprepared for the arguments that the opponents would use. What I had always thought of as credible science was challenged by opponents often with what I considered to be not the highest quality of studies or evidence. Some of the opponents also seemed to be less like the “crazies” I had heard about and more like average people. Oh, yes there were crazies whose arguments would most likely be dismissed by most people but here were some real people with real questions and opinions that most would not discount.

It was then that I realized that for many of my dental friends and me, oral health was at the top of the list of priorities. This was true whether it be our individual oral health or that of ensuring the oral health of communities. We believed in public health and the government’s ability to improve it. We participated in public health professional organizations and activities. We believed in fluoridation’s safety and effectiveness and that it was truly the best solution to the problem of poor oral health. This was what was important to us. We believed that if only people understood the safety and effectiveness like we did they would accept, promote and vote for fluoridation. This is how we had approached the issue. We aimed to educate others on the science of the issue but had not seriously considered that others may not have the same deeply held values as we had and
perhaps there were other conflicting even more deeply held values that contributed to this issue being so controversial.

Early studies looked at referenda and tried to tie community demographics and other aggregate characteristics to voting behavior. For the most part these studies attempted to understand why those against fluoridation didn’t support it and viewed this decision as irrational. To ardent proponents, most of them trained in science, the clear benefit of fluoridation (the reduction in tooth decay) and the sheer efficiency of delivering this benefit through a community water supply should be enough for people to support the measure. It was through this very rational and utilitarian scientific lens that much of the early research into decision making surrounding fluoridation was performed. The fact was that this lens had not proven helpful to proponents. Fluoridation campaigns were no more successful today than years ago.

I contend that rather than look at those who are opposed to fluoridation as irrational beings and try to refute their scientific arguments, proponents would be better served if they viewed this as a political battle and not solely a scientific one. Only by understanding values can one determine potential appropriate solutions for a given problem and the manner in which it should be addressed in public debate. Even the most scientifically rational arguments will be unsuccessful unless advocates frame the problem and solution in a manner that addresses deeply held cultural values. It is likely that the way this problem is defined and current frames used in arguments surrounding not only oral health but also fluoridation are not conducive to promoting increased success on the part of proponents. It is also possible that due to the nature of this particular issue that this will always be a political battle even if one could actually be 100% sure of the science.
Perhaps some of the arguments that many of my colleagues and me had dismissed were political ones and in fact no amount of education on the science of fluoridation would ever help proponents in attempts at fluoridation. What was needed was a look at how government, health, oral health and fluoridation had been defined in our culture and take a more strategic political approach. This would mean reviewing all of current thinking and strategies and compare them with prevailing beliefs and values. Were they compatible? It would also mean reviewing the literature on decision-making surrounding fluoridation to determine if perhaps looking at the fluoridation issue through a different lens may be helpful.

Explaining Fluoridation Decisions

The forces affecting the extension of fluoridation in the United States have been described to include: 1) demographic trends-urbanization, race, ethnicity, language, immigration, age, education levels, housing, income and poverty levels 2) external environmental forces/political climate 3) media influence on public opinion and public policy 4) voter apathy/lack of awareness of benefits of fluoridation 5) perceptions of risks vs. benefits 6) lack of political campaign skills and legal issues. 46

Over the years multiple studies have examined the reasons why fluoridation decisions may differ in communities. The perspectives examined included demographic determinism, alienation theory, confused voter theory, theories regarding the structure and leadership in community government as well as diffusion theory. Studies looking only at these variables appeared to offer little clear predictive value to determining the
likelihood of a city/town to become fluoridated in fact many even contradicted each other. None of these variables by themselves can explain the fluoridation decision.\textsuperscript{47}

Since the 1940’s when community water fluoridation was first introduced as a solution to the problem of dental decay controversy has surrounded it. Fluoridation at that time was portrayed as another of the miracles of science. From the beginning, those who were opposed to fluoridation were characterized as a small minority of zealots and crazies. It was thought by those who supported fluoridation (most of those in government and healthcare) that to be against such a clearly beneficial innovation the opponents must be irrational. It was then that social science researchers began to look into those who led the fight against fluoridation and why such a minority with very few monetary resources available to them could convince voters in referenda to vote against this solution to a major public health problem. Even today when fluoridation has been characterized as one of the top ten public health achievements of the twentieth century and when there is no concrete evidence to support the antifluoridationsist’s claims of health hazards or lack of effectiveness, fluoridation referenda are supported less than half of the time. Proponents of fluoridation continue to wonder how and why it is so intensely political and why the public seem so unaware of the “facts” surrounding fluoridation after all of these years.

\textit{Resource Based Explanations}

It is the perception of many that the resources available to each side in a political conflict can explain success or failure. Cobb and Ross contend that sometimes those material resource differentials are uneven and that this can be an important factor in why an issue receives attention but that there are a number of situations in which the party
with greater resources does not win a conflict. This may be due to the fact that the resources of the opposing groups may be so different that it is not easy to tell who possesses the greater resources and that simple resource based explanations avoid the question of how specific resources are converted into political outcomes in a given conflict. 48

Based on the information on adoption, fluoridation decisions are won and lost with little predictability and would appear not to be based on monetary or professional resources. Opponents of fluoridation win even though proponents are generally considered to have the significant resources of dental and medical professional communities (ADA, AMA and their component groups in Massachusetts and elsewhere and others) which have significant monetary resources as well as government institutions such as the Centers for Disease Control (CDC), The National Institutes of Health (NIH), and the United States Public Health Service (USPHS) on their side.

One would believe that public’s view of science during those early days of fluoridation would have influenced where the fluoridation decisions were made and the decisions in the early referenda decisions. Not so. Even then fluoridation was contentious. In the first half of the twentieth century, especially during World War II the general opinion of science was positive. Science as in “institution” was given a moral stature that allowed it to flourish and scientists were viewed as the “objective problem solvers” and somehow scientific policy issues were considered to be outside of politics. In fact, scientists often believed that it was not necessary for the public to understand science rather that good science should be unintelligible to all accept an elite few and most scientific decisions were thought to be appropriately made within the scientific
community. The belief was that scientific decisions were somehow different than other decisions. Actually this was true of many complex scientific decisions for some time. Proponents of fluoridation have also believed that this is a decision that should be made by public health experts not the public because it is so “technical”. Early research focused on opponents as uneeducated and poor and unable to understand the scientific arguments or somehow outside of mainstream society. Then as today, scientific experts believed that people had insufficient knowledge and understanding of science and that if they had more information they could and would make better decisions.

In contrast, Dorothy Nelkin in the *Politics of Technical Decisions* (1992) explores the political values and beliefs that underlie decisions about science and technology. She contends that although many controversies in the past have centered on political control or who controls the decisions around science and technology, controversies are often taking a more moralistic spin, with issues being framed in terms of moral absolutes. Critics of science are increasingly challenging the instrumental reasoning that underlies science. She states:

Controversies over science and technology also reflect broader tensions in American society- the disagreements over the appropriate role of government and the struggle between individual autonomy and community goals. Extending well beyond particular incidents, controversies reflect broad disagreement over the goals of science and technology, resentment over research priorities, and widespread concerns over the exploitation of environmental resources or the use of animals in research. While most people believe the benefits of science and
technology outweigh its costs, there is a growing sense that science threatens deeply held beliefs. And while scientists appear as a source of neutral knowledge, there is considerable mistrust in the ability of a science to regulate itself. 49

Although early research did try to examine the values and beliefs that may have contributed to fluoridation decisions it did so from a rational perspective and made the following assumptions that

1. Actors pursue goals
2. Goals reflect actors perceived self interest
3. Behavior results from a conscious choice
4. Individual are the basic actor in society
5. Actors have preference orderings that are consistent and stable
6. If given options, actors will chose the alternative with the highest utility or least risk
7. Actors possess extensive information on both the available alternatives and the likely consequences of their choices.

One of the major problems with this approach to the fluoridation issue is that it assumes that “good” oral health is important or should be important to all actors and that actors’ preferences for particular policies were not only internally consistent over time but also were consistent amongst actors. In fact, everyone does not have similar preferences nor does everyone have the benefit of knowing all options or having complete information when they make decisions. In fluoridation decisions, voters are often going to the polls
and voting on fluoridation as well as other issues. Voters may have only the information that they have read in the newspaper or heard in their networks of friends or colleagues. This type of decision-making could hardly be viewed as rational based on the criteria above. Although all of this early research did not offer a complete explanation of how individuals or communities made fluoridation decisions it did help to shed some light on the issue and to promote further research directions.

Demographic Explanations

In 1959, Thomas Plaut published a paper on the fluoridation fight in Cambridge, Massachusetts. Fluoridation had been defeated in a referendum in Cambridge in 1953. Even at this time, if the issue of fluoridation went to referendum it won only half of the time. The goal of his analysis was to discover factors correlated with support or opposition to fluoridation. In his literature review, Plaut cites multiple studies. They include a book on its history by Donald McNeil in 1957 and studies by Taylor, Munro, and Faqua (1955) in California where education and income seemed to be clearly related to the attitude toward fluoridation, the better educated and wealthy supporting it and the less educated and poor against it. This study also showed Protestants tending to endorse fluoridation while more Catholics were against it, which could also have been a direct result of their higher economic status. A statement about internationalism was also asked during this same CA study, and those taking an isolationist stand also tended to reject fluoridation. In addition, a question was asked regarding racial integration with those supporting integration supporting fluoridation. He cites a Mausner and Mausner study (1956) that indicated the more educated and more wealthy an individual is, the more
likely he is to favor fluoridation and one by Green and Briggs (1957) that looked at 53 communities in Massachusetts. Their findings were that communities supporting fluoridation tended to be smaller, wealthier, better educated, have a higher proportion of children and tend to be growing more rapidly than those rejecting it. Plaut’s own study focused on precincts rather than individual voters. He found that the precincts that supported a “liberal” position on other issues tended also to support fluoridation. He also found that the precincts supporting fluoridation were in the wealthier middle-class parts of the city with little crime, good housekeeping and a high proportion of high school graduates. It was suggested by Plaut that the middle class better educated voters would be less likely to respond to the “non-rational” arguments against fluoridation that were publicized by those opposing fluoridation.

Other studies, such as those by Metz (1966) attempted to further tie demographics and other personal attributes to fluoridation decisions. He found that four variables—education, income, age and number of children—are simultaneously related to attitudes toward fluoridation, and that the relationship of education to attitude toward fluoridation is largely explained by the other three variables. He hypothesized that knowledge of fluoridation (have the respondents ever heard or read about fluoridation and as the respondent understood it, what is it?) would be an intervening variable in his index using the other variables. He found however that the index and knowledge of fluoridation had independent relationships and therefore incorporated knowledge into his index. It is interesting to note that at this time the study showed that 65 percent of those asked supported fluoridation, 23 percent were undecided and 12 percent were unfavorable. This
was similar to results found in other national surveys of the time as well as today although fluoridation does not appear to fare as well in referenda.  

Metz (1967) also identified going to a dentist for check-ups and going frequently to a dentist in the last five years associated with a positive attitude toward fluoridation. Although he also found that having a regular dentist was not significantly associated with attitude toward fluoride. It was further determined by Metz that these variables were only significantly associated with attitude on fluoridation when persons have correct knowledge of fluoridation. The positive relationship between correct knowledge of fluoridation, dental health practices and positive attitude toward fluoridation appears to hold for older as well as younger persons, lower as well as higher income persons and persons with or without children. Metz concludes in his study that persons, who already have a preventive orientation with regard to personal dental practices or perhaps underlying this, place a high value on healthy teeth, would have a greater tendency to support a public preventive dental health measure. Metz concludes that from a practical standpoint that pro- fluoridation information when transmitted would be more effective in producing a favorable attitude for persons who are preventively oriented than for persons who are not preventively oriented. He suggest that prior to a fluoridation referendum campaign, it would be beneficial to carry out a program of dental health education emphasizing the value of good teeth and the importance of preventive dental care in keeping teeth in good condition.  

It is also quite clear however from many years of referenda campaigns that education alone does not guarantee a successful outcome for advocates. In fact, it may be that believing that education alone is all that is necessary is a belief that may be
counterproductive to advocates efforts. There also seems to be little evidence that socioeconomic factors or other demographic factors alone explain referenda decisions in fluoridation campaigns. Understanding these factors does seem necessary in understanding the nuances of particular community and the type of work that should be done before and during any fluoridation campaign but their ability to predict outcomes seems limited. Even from the limited research above it could be hypothesized that regardless of one’s place in society ones overall experience, values and ideas about society play a role in their decisions and that sometimes advocates for issues or solutions can define an issue or frame an argument in a way that either discourages or encourages certain decisions by certain segments of society.

Alienation Theory

Morris Davis in a review of the literature on fluoridation for his 1959-1960 article in Public Opinion Quarterly cites an article by Bernard and Judith Mausner that concluded that opposition to fluoridation was a case of anti-intellectualism. They were struck at the pervasive attitude of suspicion among those who opposed fluoridation to scientific organizations and to scientists themselves, saw conspiracy and tended to perceive the world as menacing. Other articles included that of Peter H Rossi who suggested “some issues are made into controversies, often as the channels for the expression of cleavages which cannot be expressed more directly. The recent controversies over fluoridation, for example are most profitably viewed not as content controversies but as expressing the malaise of the older residents in the communities experiencing rapid growth.” 53 One of the conclusions drawn by these studies was that the
poor and less educated or other minority groups felt alienated from society and transformed that resentment towards elites into a no vote for fluoridation.

**Structural and Political Factors**

Crain, Katz and Rosenthal (1969) reject theories of alienation. They state that studies that arise from this approach stem from a belief that there is a “generalized feeling of estrangement experienced by considerable segments of our “mass society” and that in general the public is said to feel a lack of connection to centers of power and decision making. Opponents of fluoridation are thought to fear further encroachment of science and/or not just of power but also of money, status or both.” They argue that although some of the leaders in the opposition to fluoridation may be categorized as alienated, it just does not make sense to extend this theory to more than half of the voters in a referendum. They consider fluoridation to be more of a populist uprising. More like the grass roots opposition to urban renewal or school desegregation, because rightly or wrongly people feel like these are infringements on their rights or their personal or group interest. They examine the nature of the local government and the adoption or rejection of fluoridation by community in order to determine how or when political elites may be more or less vulnerable to a small but vocal grass roots opposition. They hypothesized that American cities vary with respect to their vulnerability to vetoes, and these decisions can be explained largely on political grounds- to what degree authority is centralized, to what extent a city recruits chief executives that are oriented to change, and to what extent political realities require elected officials to take into account popular opinion from whatever source and however unreasonable. They also looked at environmental factors that may be related to the decisions but their results were inconclusive. Their conclusions
were less decisive as can be seen from statements in the conclusion of their book. They say, “broad popular participation particularly in the absence of strong executive leadership and an institutionalized channel for the expression of opposition spells defeat for fluoridation. It does so because fluoridation is a technical issue, the advantages that are rather small from a citizen’s point of view (and even less than that as far as political capital is concerned), and because opposition can easily implant doubt. Doubt seems to take root and blossom the more the issue is discussed. No matter why it is discussed, whether because of a pro-fluoridationists compulsiveness about “health” education or a tradition of democratic debate in the city’s clubs or a tradition of holding referenda, the opposition succeeds in arousing the citizenry.” The end their book by stating, “there are some systems which can make certain kinds of innovations with a minimum of controversy and commotion and other cities which can make other types of decisions with equal dispatch. Only a study of different types of political issues would permit us to develop a complete picture of this relationship.”

Clarke (1969) hypothesizes that variations in the social, economic, and political characteristics of communities are associated with decisions in communities. His approach was to combine the environmental and political variables. His dependent variable is actually city charter reform activity (the choice to change from a commission form of government to councilor manager or mayor council), which many have associated with “progressive” or good government. Clarke examines 43 cities in one state during the years 1957-1966 to determine the variables associated with change in political form. He looked at referenda decisions on administrative structure change in 22 communities. He found that only two environmental variables could be correlated with
the policy outcomes. They were population size and metropolitan status and that the explanatory capacity for these variables was quite limited. In regards to the political process variables, he found that when council manger proposals were offered, in most cases city hall responded negatively. This opposition was mobilized in counter campaigns to dramatize the alleged excessive costs of councilor-manager government. And that alerted to the financial burden that this would create, taxpayers turned out in large numbers to vote against the proposal. He concluded that political variables were shown to be important determinants in referenda outcomes and that when political and environmental variables were considered simultaneously, the environmental factors decreased in importance. He did find that there was some evidence that these political variables function as intervening variables linking a subset of the environmental indicators to referenda outcomes. Finally he found that standard social indicators were weak in their association with reformism. Clarke offers an explanation for these findings that political process variables are important contrary to a number of findings that indicate that they have limited influence on policy output. He suggests that previous studies had looked at revenue and expenditure policies and that political variables may not be as important in influencing these policies versus policies which reflect more closely the political values of a community such as candidate preferences, fluoridation or municipal reform. In essence he states that the explanatory significance of socio-economic and political process variables will vary with the type of policy being considered.  

Authors such as Laumann and Pappi (1973) expanded on Clarke’s findings by observing community decision using an open-ended system, input-throughput-output
model of community decision-making. This model posits that certain features of communities such as population size, regional location, age, industrial and economic base, population stability, and ethno-religious heterogeneity (inputs) together with attributes of their political institutions are associated with or determine certain features of their decision-making apparatus, such as the degree of centralization or diffusion of decision making (throughput). These in turn determine which issues will be brought to decision and the decision outcome (outputs). The central concern of their paper was with the area of throughput namely the social structure. In their study they identified community influentials and their corresponding institutional sectors. They adapted Parson’s framework for classifying community institutions identifying by their primary function. Institutions were identified as adaptive (banks and economic organizations), goal attainment primacy (governmental agencies, judges and legislative decision making bodies because they make binding decisions for the community as a whole), integrative (voluntary associations such as unions and political parties) and pattern maintenance primacy (positions in educational, religious, and health organizations). They then rank ordered the influence of the elites by asking community members who was considered influential in a particular issue conflict. They then diagrammed the influentials by sector and identified networks of communication patterns including business/professional networks, social relations network and community affairs networks. They looked at the closeness of interaction among influentials in different sectors and lastly at the outcome of the particular decision. They found that the outcome differed based on the patterns of interaction among the influentials and that this pattern may have changed based upon the type of issue.
They classified issue types as instrumental issues or those concerned with controversies over the differing allocation of scarce resources, which find their locus in the adaptive and integrative sectors of community of concern. They describe these issues as having an obvious calculus of costs and benefits to various interested parties. They describe the conflict in these issues as tending to be moderate and characterized as bargaining and compromise among the contending parties. In general the outcome is the direct result of their relative powers of influence.

They describe the other type of issue as expressive or concerned with controversies regarding the maintenance or change in the organization of basic values, commitments, and orientations that shall guide or control community affairs. These issues are usually highly emotional and have an “all or none’ that usually precludes negotiated settlements among the parties. Thus the nature of the outcome and the level of community tensions often depends on how a given issue comes to be defined as one or the other type of issue. 57

Laumann, Marsden and Galaskiewicz (1977) extended the work of Laumann and Pappi in several directions. They looked at three communities, two in the U.S. and the same community in Germany used by Laumann and Pappi. They essentially used the same methodology as Laumann and Pappi. Their findings were that there is a regular pattern of communication and contact patterns among the elite or influentials in a community and that the pattern may vary with regard to specific issues, on instrumental issues there is a more regularized network and pattern of communication than on value laden expressive issues. They found there to be an institutionalization of contact patterns on instrumental issues. They also believe that a bargaining model may be tied to contacts
that involve business or professional ties while an oppositional model may be more characteristic in communities in which contact patterns are rooted in informal social relations.

Smith (1976) also focused more on type of issue than the dispersion of the power source. His review of the literature at the time indicated that there were contradictory studies on policy outcomes with some indicating that policy outputs were greater with a dispersion of power and others indicating that centralization of power produces more policy outputs. For example, Hawley’s model defined concentration of community power as the ratio of managers, proprietors and officials to the labor force and found that the degree of success in a collective action was greatest when community power was highly concentrated. He cites Aiken (1970) and Clark’s (1968) work that cities with more diffuse power structures are more likely to achieve success in mobilizing resources for innovative new programs because where many centers of power exist there is a stronger possibility that the needs for various types of programs will be identified and that interested partisans will initiate actions for instituting these diverse programs. He hoped to add insight to those positions by adding types of policy areas to his analysis. His hypothesis was that the relationship between policy outputs and community power might be considered variable depending on the type and characteristics of the policy in question.

He cites others such as Clark’s fragile versus non-fragile issues as well as Froman’s (1967) studies in which programs are identified as areal versus segmental. In these studies areal is defined as those policies that affect the entire community simultaneously such as change in form of government or the adoption of fluoridation while segmental policies are more likely to affect only a small segment of the population at one time.
Froman hypothesized that areal programs were more likely to be adopted and implemented in homogeneous communities where the programs have similarly perceived effects on all members of the community. In heterogeneous communities segmental policies are more likely because of the diversity of values within the community will stimulate the nomination of many different programs and the segmental nature of these programs makes it unnecessary must agree before it can be adopted. He extends Froman’s hypothesis by stating that where power in a community is concentrated this power can be used to override objections to instituting policies affecting the entire community. Where power is dispersed in many decision centers and participants exist, agreement on areal policies becomes more problematic. In this case, segmental policies that affect only particular groups are more likely to be suggested and supported in a process of political bargaining and trade-offs. Smith looked at four community programs (urban renewal, public housing, fluoridation and Hill-Burton hospital construction). He used Hawley’s classification scheme (MPO ratio) and extended it over time to these programs. With regard to fluoridation, he found that virtually no difference existed between early adopters and non-adopters during the time period with regard to those aspects of power reflected by the MPO ratio. Different results were obtained for early adopters with late adopters. The ratio is significantly lower in the late adopting category and even when adding control variables, in no instance is the average ratio higher for late adopters than early adopters. They found in the two programs classified as segmental (urban renewal and public housing) that increased program activity was inversely related to the MPO ratio and for the two areal programs (fluoridation and Hill Burton) the relationships between MPO ratio and activity were less clear. They conclude that it
appears that program type is an important intervening variable and the relationship between community power and policy outputs. They suggest that this is only one of the many useful policy distinctions and that perhaps some of these distinctions might be employed jointly. They suggest that a program that an areal program that is highly ideological and controversial might require different degrees of power than an areal program that is more routine.

Smith (1979) further explored the issue of fluoridation. This was a single-issue analysis in which he used a previous study of 47 communities located outside of metropolitan New York in 1960. He collected data regarding fluoridation from public activities including public documents identifying communities adopting fluoridation, local newspaper reports on whether the fluoridation issue was ever publicly discussed in a community and new data collected from a survey of mayors and newspaper editors. The survey asked whether the issue had ever been publicly considered and if so whether official action was taken and what it was. They then classified these communities by those never having considered fluoridation, those having considered and rejected it and those having adopted it. In looking at the possible reasons for the outcomes he looked at variables measuring community structure (type and range of business and commercial services, the adequacy of service levels such as food, education and medical services, the number of municipal employees, the number of city planning employees and the occupational structure. He also measured community social integration by looking at voting consensus on several issues, moral integration as identified by crime statistics, migration, unemployment and volunteer organizations. He also classified each community by government structure. As identification of structure he used the type of
election, term of mayor, at large councilman, other elected official and an additional composite score of these categories. The findings of his study indicate fairly strong support for his three original hypotheses which were that the greater the level of structural differentiation, the greater the likelihood that they will have considered a particular policy and have taken action on it and the lower the level the greater the likelihood a community will have never considered. Second, the greater the level of social integration the greater the likelihood that they will have never considered or will have considered and adopted and the lower the level the more likely they will have considered and rejected. Lastly, the greater the centralization of authority in a community political structure, the greater the likelihood that they will have never considered a policy or will have considered and adopted it with the lower concentration of power comes a greater likelihood that a measure will have been considered and rejected. Although their findings did support their hypothesis they do not believe that the three particular structural concepts or that the variables measuring them fully explain the differences. They suggest that other dimensions for categorizing policies in addition to areal and segmental may explain the differences or even overlapping categorizations may help.\textsuperscript{59}

\textit{Importance of Issue Types}

All of the above research thrusts contribute to understanding fluoridation decisions although none alone is explanatory. Researchers do identify one area that appears to be a common thread among all of the explanations. It is that individual issues
matter and decisions may differ based on the type of issue at hand. Each of the authors contend that there are issue types and classifications and that this may be important in how and if issues are brought to the public and government agendas, how they are communicated among participants, how controversial they become in public debate and ultimately what decisions are made.

Certain types and certain attributes of issues may make them more or less likely to be considered public issues. This of course may change over time or may be different depending on particular community circumstances. It is likely that the size, ethnic makeup and type of government in a community either contribute to the culture and values or are a reflection of the culture and values of a particular community. It is also likely that if a particular side on any issues understands this culture and values that they can use language either in the media or in their public discourse to shape their arguments in order to influence or change the perception of the problem at hand or of the solution that they are advocating for although certain types of issues may be more difficult to have an influence on since the particular definitions associated with them represent values are deeply engrained in the psyches of individuals, the community or even the nation. One must also remember that some of these values may change over time while others may not.

The next chapter reviews the literature on problem definition and framing and explores how this lens may be helpful in looking at the fluoridation issue and how it may help or hinder issue advocates in advancing their issue.
Chapter Three

Theories of Problem Definition

As part of this project, I have attempted to attend various forums where the issue of fluoridation was discussed. One stands out in my mind. There was a public hearing in front of the joint committees of Public Health and Children and Families of the Massachusetts General Court. I had attended many healthcare hearings in the past and as with others hearings here were advocates on both sides of the issue. The issue at hand was whether to mandate cities and towns in Massachusetts to fluoridate their water. The term was never used in proponents’ testimony and even in informal conversations regarding the topic we had tried to stop ourselves from using it, we used the word authorize because its interpretation would most likely be less harsh.

Proponents’ testimony consisted of quantifying the problem of poor oral health in Massachusetts, outlining the disparities that existed between the “haves and have nots” in oral health, and reinforcing the safety and effectiveness of fluoridation. I remember thinking to myself that although those that testified did a good job; proponents did not have unified message or a compelling story to tell. Opponents that day included an immigrant mother from the former Soviet Union who talked about the right to choose the medications that were given to children. There was a PhD chemist who talked about the potential toxic effects of fluoridation including Alzheimer’s, cancer and autism. There were environmentalists that asked why additional toxins should be added to the water supply and explained that fluoride was actually a by-product of the phosphate fertilizer
industry. It came from scraping the smoke stacks! I thought to myself that regardless of what I thought to be true, the opponents did have a compelling story (or at least an attention grabbing one) and spun it perfectly.

I also remember thinking how confused legislators must be. Some had signed on to this bill without understanding the full extent of the controversy. From a purely rational perspective, why would fairly affluent insured legislators who wanted to get reelected by the constituents in the cities and towns that they represented vote Yes on this issue. Did they even think that oral health was a problem? In addition, I remember thinking that for the average citizen oral health was not a problem. Oral health had always been separate from the overall health care system and as a health problem it most likely was not ranked at the top of the list of worries. Why would they vote Yes on this issue in referenda? Why did Gallup polls over the years suggest that 70% of the public favored fluoridation of community water supplies but in referenda decisions did fluoridation fare so poorly? Perhaps it had something to do with the arguments presented in public discourse.

I also remember thinking that neither sufficient numbers of legislators nor of the public would vote Yes unless proponents began to think and speak about this issue differently. Even then this issue would always be a political battle. As a person trained in the natural sciences my first instinct was to provide more information for people. If they understood the risk and the science they would surely vote in favor of fluoridation. I even spent many hours reviewing all of the available scientific evidence just to be sure that I would be ready for any debate or question that might ensue.
What I have come to believe is that that this wasn’t just a scientific argument. It was about individual choice, what do to with community resources and even the proper role of government. Did the scientific argument play a part in the debate? In my opinion, it did but it was part of a bigger package of determinants that included values and the placement of particular issues within particular value categories. It also was about using those deeply held values in arguments for or against and issue and the storytelling that went along with it. Could the effectiveness of proponents of fluoridation be changed? I contend that because of the value laden nature of this issue; change will not be an easy process. This is due to the fact that some values are deeply held and not changed easily in the short term. In order to be more effective in the long term perhaps proponents issue need to seriously consider how the oral health issue and fluoridation are perceived by the public and themselves.

For example, most public health practitioners provide instrumental arguments to support their policy proposals while opponents utilize more expressive arguments. Issues that can be framed in this way are usually highly controversial and their outcomes are often difficult to predict. Media, which also contributes to perception of issues, tends to use episodic versus thematic framing in its portrayal of issues often contributing to how the public sees issues. This type of framing tends to focus on individual cases and often places blame on individuals thereby reducing the likelihood of public solutions.

Fluoridation is a solution to the problem of poor oral health that began in the 1940’s when oral health problems were so significant that they often made men unable to serve in the armed forces due to pain etc. Since then the oral health issue has risen and faded from public importance/discussion. In 2000, the Surgeon General issued a report
on oral health calling poor oral health a silent epidemic. Just in the last year the story of Diamante Driver, a young child who died due to a tooth infection, has received much media attention allowing oral health advocates to push the issue once again onto the public agenda but for the most part for most people oral health is not at the top of their list because generally speaking they have dental insurance and “good” oral health. Can we expect fluoridation to be a chosen solution given the controversy surrounding it? Fluoridation is and has been the solutions of choice for the public health community and has continued to be hotly debated in various communities for the past sixty years. The real question is can advocates on either side of the fluoridation issue ever “win” this battle even if they succeed in a referendum or in getting or blocking state wide legislation?

**The Problem Definition Literature**

*How are decisions made?*

In regards to fluoridation, there are multiple decision-making points. Some of these decisions are made in governmental bodies or by government actors such as the decision of a board of health to order fluoridation or the decision of a city councilor to openly support fluoridation and individual voters in referenda make decisions in the voting booth. Behind those decisions are decisions made by public interest groups to advocate for fluoridation and request that their local board of health order it as well as moves made by opponents who attempt to stop fluoridation from ever being ordered, halting the process even before it gets to a referendum.
Policy decisions are often described as a process, which include agenda setting, policy formulation and legitimation, implementation, and evaluation. Most would agree that this is an oversimplification of the process and that the stages often overlap and may not always occur in this particular order. However, this process is helpful in beginning to understand the policy process and in helping to focus on particular aspects of a complex decision making process. For fluoridation, the behind the scenes decisions can be classified as agenda setting, efforts to promote fluoride as a solution as policy formulation and legitimation and the actual order and monitoring of the fluoridation process as implementation and evaluation. It is clear then even on this single issue that mapping the process of a decision and its implementation is never clear-cut and the path does not appear to be linear but rather a process that involves communication between multiple groups and at multiple levels sometimes simultaneously. As stated previously, sometimes the measure is accepted at the level of the board of health and is ordered and with no fanfare it is adopted while most often opponents are able to bring it to a referendum and voters decide. The question to be asked is how or why do these groups make the decisions that they do?

Baumgartner and Jones (2005) in their *Politics of Attention: How Government Prioritizes Problems* lay out a theory of decision-making focused on the bounded rationality nature of human cognition and disproportionate information processing. They contend that both organizations and individuals share certain characteristics of decision making especially how they allocate attention. They contend that all decisions, however complex, are whittled down to simplified choices amenable to public discussion and individual choice. This whittling is called issue definition and all individuals and all
organizations have restricted definitions of issues. They remind us that the existence of a condition does not necessarily constitute a political problem that requires attention. Political systems and individuals are juggling not just a collective set of definitions for a particular issue but also multiple issues with several components.

They develop a model for decision-making that addresses how individuals and organizations prioritize and evaluate numerous multi-dimensional issues. Their model is a behavioral model that builds on the cognitive capacities of individuals. The key component of this behavioral model is attention shifting. Because of the extremely limited attention capacity that people have they must make abrupt shifts as they move from dimension to dimension for an issue. They therefore contend that most of the time people pay little attention to the underlying issue and stick with the status quo. Organizations, with limited agenda capacities behave similarly. Occasionally however issues force themselves to our attention and we reevaluate or we may not. Decisions over time display a characteristic pattern of stability and only occasional major change. This is inherent in how humans process lots of information about difficult issues.

Baumgartner and Jones lay out a stage theory for individual and organizational decision-making but realize that the stages often times overlap and cannot be clearly delineated. For the individual these stages include a recognition stage, characterization stage, alternative stage and a choice stage. For an organization, the stages include agenda setting, problem definition, proposal and debate and collective choice (policy) Again these stages may overlap not only within individual decisions but also organizations are made up of individuals so individual cognition inevitably will have an impact on organizational decisions.
Because information is often not processed efficiently but rather disproportionately, policy choices may not seem completely rational but in truth they are bounded by the constraints of human information processing. This being the case those advocating on any issue will learn to manage the issue often times redefining the issue and reshaping the alternatives to match that particular definition.

Classification of Issues

Redefining or reshaping an issue is characterizing the issue as one type or another. Deborah Stone in the *Policy Paradox: The Art of Political Decision Making* (1997) states that all issues can be framed in different ways and the way one frames a particular issue may depend not so much on the issue itself but may depend on one’s worldview. This worldview can include ones assumptions about the meaning of community or the nature of property and may transcend different issues. This worldview may determine how one classifies individual issues as well. Stone believes that the most profound political conflicts and strategic battles hinge on the problem of classification.  

This classification of issues is also demonstrated in the conflict over community water fluoridation with proponents proclaiming fluoridation as a public health issue to be decided by public health experts and opponents proclaiming it as an invasion of individual privacy, two entirely different classifications of the issue. It is also interesting to note that proponents of fluoridation often proclaim that this is a health issue not a political one and cannot understand why this issue is decided in the public arena unlike most other health measures. Defining this issue as a scientific or health issue can also provide one with a sense about who should make the decision. Scientists or health
practitioners believe that they are the ones qualified to make these decisions and that others couldn’t possibly have the knowledge necessary to make the decision. In fact most of the arguments presented by proponents of fluoridation are based on the “scientific facts” surrounding fluoridation i.e. its safety and effectiveness. Since most would say that the science is on the side of the proponents one can also assume that there are political or moral issues that are also underlying this dispute and that opponents would believe differently. In fact, many of their arguments involve allowing “the people” to decide.

According to Dorothy Nelkin in *Controversy: The Politics of Technical Decisions* (1992) very often in technical policy areas technical experts actually do play an important role in formulating the issues and or legitimizing the arguments on either side. This can be effective since in all disputes “broad areas of uncertainty are open to conflicting scientific interpretation. Decisions must be made in a context of limited knowledge, and there is seldom conclusive evidence to dictate definitive resolution. Power may hinge on the ability to manipulate knowledge and challenge the evidence to support particular policies. But as technical expertise becomes a resource, exploited by all parties to justify their moral and political claims, it becomes difficult to distinguish between scientific facts and political values.” She suggests that science policy is no different from other policy arenas and that it is subject to political evaluation that includes intense public debate. How one perceives science and technology reflects special interests, personal values, attitudes toward risk, and general feelings about authority. She also suggests that the social and moral implications of a particular practice may assume far greater importance than any details of scientific verification. Perceptions of these issues may differ dramatically and resolving disputes will depend on the nature of those perceptions.
In some issues there is no real compromise available to dissolve the dispute since basic moral principles or ideological principles are at stake. Nelkin indicates that there is not much evidence that technical arguments actually change anyone’s mind. Often both positions on an issue are based on existing priorities and well-entrenched beliefs. In some cases dramatic events can have an effect on the technical arguments, as can the larger political climates. The resolution of conflict she states “necessarily reflects the relative political power of the competing interests” although at different points in time different groups may have more or less influence. “Ultimately, the implementation of science policy depends on public acceptance- or at the least, public indifference.”

**Expansion of conflict**

Public indifference or involvement plays a significant role in shaping public policy. Most policy issues have both proponents and opponents with some people who lead the charge and others who are active but less involved and then the remainder who may or may not become involved at all. This includes elections for public office as well as individual public policy decisions whether it is gay marriage, casinos or universal health coverage. Some people will actively push for the measure mobilizing supporters who may call or write their legislatures and may or may not base their votes for candidates on those issues while others do not pay much attention to the issue even if they read about it in the newspaper or on the news. These kinds of community decisions are made every day.

Every community decision can be described as a conflict between competing priorities and how resources in a community will be allocated. Schattschneider in *The
*Semisovereign People* (1960) argues that the nature of conflict determines the nature of the public involvement. He says that every fight over an issue consists of two parts: 1) the few individuals who are actively engaged at the center and 2) the audience that is irresistibly attracted to the scene. The spectators are as much a part of the overall situation as are the overt combatants for the audience determines the outcome of the fight. He states that the audience is never really neutral and the excitement of the conflict communicates itself to the crowd. He states the outcome of any conflict is the extent to which the audience becomes involved or the scope of the contagion of the conflict. Any person or group entering the conflict can change its result. The way in which the public participates in a conflict and the process by which the unstable relation of the public to the conflict is controlled. Schattschneider also comments on the strength of the original contestants in a fight and the ability to predict the outcome of a conflict. He states that one cannot predict outcomes in this way since changes in the number of people involved in the conflict may change the balance of power in a dispute.\(^6^4\) The question is why or how does a conflict expansion happen? Why does the audience become involved? Why do they favor one side versus another? The way a problem is defined and framed in public debate may influence that audience’s participation and the decisions that they make.

*Competing Definitions*

Cobb and Ross in *Cultural Strategies of Agenda Denial* (1997) support the idea that problem definition is important to this process and in fact definitions can be shaped and changed. They state that agenda conflicts are not just about what issues government
chooses to act on; they are also about competing interpretations of political problems and the alternative worldviews that underlie them. They contend that issue initiators and opponents can and do strategically choose arguments that the culture may relate to other issues or ideas. In this way, issues are either constricted or expand to appeal to larger and different audiences. For example, opponents of fluoridation often call community water fluoridation an infringement on individual rights, an idea that virtually all Americans can relate to while proponents argue that as Americans we have a right to good oral health. 65

Problem definition and issue framing may also explain why sometimes the group with the most material resources does not always win the conflict. According to Cobb and Ross, having money to spend and people with political contacts on ones side helps but it is not the whole story. They state, “The key to a successful issue campaign, whether promoting or deflating a cause, is the use of words and images that summarize a point of view.” They contend that it is a strategic skill that makes opponents difficult to defeat. “One of the problems of issue initiators is that they lack the skills to package an issue in cultural terms that will appeal to large numbers of people. Those that are successful are skilled in problem definition. In addition to money, access, and experience, there is a battle for the “hearts and minds” of the public, which occurs at the cultural level.” 66

Bosso (1987) studies policy change and decision-making using the issue of pesticides. He studies this issue over time and finds that there are periods of activity and other periods that the status quo is favored. He finds that these changes can be traced to a host of things including the structure of government itself. He states that any discussion of policy change must first look at the “problem itself”. Some objective conditions arguably can exist, and be “bad” without society perceiving that it has undesirable
consequences. If so, there is no problem to speak of. Such dynamics may hinge on the state of our scientific knowledge and that broader knowledge should lead to a greater perception of the problem. Even when this happens one may deny there is a problem because it may challenge core beliefs or values. Bosso uses pesticides as an example of a public policy that utilizes potentially dangerous chemicals that are created intentionally and authorized by the government for important agricultural and public health reasons. Pesticides, he says, can be characterized as “good things that can cause harm” or “bad things that can cause good”, depending on your perspective. This perception can cause disagreement and conflict surrounding the policy. Bosso states that some problems are relatively simple with few “moral” problems while others exhibit general agreement on “ends” but little agreement on “techniques” since these techniques or solutions may be linked to other values. He describes some problems as being classified by as predominantly moral problems while others are “morally and technologically complex” or “intractable” problems. He describes these problems as having no clear line between means and ends nor much agreement on either. This becomes a value conflict that is accompanied by disputes over means and methods including whose “scientific data are more “correct”, which analytical techniques do we accept as valid and who decides. Pesticides, he says, poses important questions about competing values and tradeoffs. The questions it poses are difficult because there are multiple gray areas and very often it is difficult for proponents or opponents to characterize the issue in pure “good” versus “evil” terms.

Fluoridation may in fact be one of those issues like pesticides that Bosso describes as “intractable” since it has many of the same qualities as pesticides. It is in fact
a chemical that is in its raw form an element found naturally in the environment but in the form utilized in water supplies, a by-product of the fertilizer industry. Opponents describe the chemical derived from pollution or the smokestacks of the fertilizer industry. This chemical as with all chemicals can be dangerous in high quantities but the preponderance of the scientific evidence shows in the quantity used to fluoridate water supplies poses minimal risk. Arguments often center on this risk with opponents using arguments highlighting the possible ill health effects and proponents highlighting the benefits. Experts are utilized on both sides arguing the credibility of their data as well as the credibility and the motives of the other side. Proponents believe that if they could communicate the risk versus benefit that surely they could mobilize supporters. But perhaps as Bosso says about pesticides, fluoridation because of competing values and tradeoffs this issue will always be a tough choice.

One question that should be asked is whether certain classifications problems or descriptions of problems more likely to be make them “intractable.” Also, what attributes of these issues may make them more likely to reach the public agenda? In purely rational terms, why would a public official take on an “intractable” problem? They most likely wouldn’t if they didn’t have a value bias in favor of one position or the other. The second question is whether issue advocates can frame an issue in a manner that may assist the public and/or policymakers perceive these issues differently? Can public opinion on an issue be changed?

Public Opinion and Definitions

Theda Skocpol (1994) discusses how public opinion in American democracy may relate to policy making or policy change. Skocpol discusses that in some instances broad
policy changes have been made by policy entrepreneurs and specialists who have made changes, which precede public opinion. They used language and rhetoric to tie their policies to broader scale public values. Skocpol also comments on the fact that often problematic conditions are not enough to bring an issue to the forefront of the public agenda. She states that for the most part Americans tend to be cynical about government and adamantly resistant to new taxes or new forms of public regulation. Because of this most change tends to be incremental but sometimes an event can trigger a change in public thinking. She states that skillful leaders can use these events to their advantage by tying their ideas to ideas that are currently resonating with the public.  

According to Koch (1998), in any political conflict, each side attempts to convince a significant portion of the citizenry of the correctness of its position. Political elites attempt to mobilize public opinion to their advantage by framing the issue in terms that prime considerations that will move public opinion in the direction they desire. For political elites, the fight is often how the general public understands the conflict; each side attempting to frame the debate to its own advantage. A frame is a central organizing idea for making sense of an issue or conflict and suggesting what is at stake. Through framing political elites attempt to define what a public policy issue is all about. By defining and simplifying a complex issue through framing, they hope that citizens will use a particular set of considerations for formulating their political preferences and that will move public opinion in the direction they desire. The frame interacts with an individual’s memory so as to prime or make some considerations more accessible alternatives than others. Faced with issues that and complex, people select the attributes they deem most important for evaluating a specific policy issue.
Public opinion he says is vulnerable to framing and priming effects because many political attitudes are composed of diverse sets of considerations. Many political attitudes for the vast majority of Americans citizens are shaped by a variety of often conflicting sets of considerations. By employing frames that embrace political/cultural values or shared interests, one can potentially draw supporters away from opposition.69

Analysis of Problem Definitions and Issue Framing

Rochefort and Cobb (1994) define “problem definition” as what we choose to identify as public issues and how we think and talk about these concerns. They state that the description of social problems may affect the rise and decline of an issue before government and that those descriptions can also be linked to the solutions that government devises. According to them, issue definition and redefinition can serve as tools by opposing sides to gain advantage. They state that the function of problem definition is to describe, recommend and above all to persuade. It is a distinctive form of public rhetoric made up of habitual vocabulary. When looking at a problem to determine whether, why and how a problem will be dealt with there are several recurrent categories of problem definition claims. They include: causality; severity; incidence; novelty; proximity; crisis; problem populations; instrumental vs. expressive orientations; and solutions.

According to Rochefort and Cobb attributions of causality can be made to individual versus impersonal causes, human versus equipment error or intentional versus accidental. In addition those seeking to define or redefine a problem tend to place blame and in doing so to rule out certain definitions and solutions as appropriate actions or
solutions. In this same vein, media may portray or frame issues either episodically (as particular incidents and acts) or thematically (within a political and economic context). Episodic framing tends to render viewers less likely to hold public officials accountable for the existence of problems framed in this way or responsible for alleviating the problem.

All problems can be viewed by how serious they are perceived to be. Severity of a problem can be defined by its incidence. Perceptions of the frequency or hazard of a problem are a trigger to it being considered a social problem and whether or not it is taken up on public or government agendas. In addition, a problem’s change over time, whether it is increasing or decreasing can be used as a trigger to moving the problem on or off the public agenda. Novelty and proximity or claims of personal relevancy to the audience can have an effect on the public’s perception of a problem and its willingness to devote resources to solving it.70

Rochefort and Cobb state that identifying a problem as a “crisis” can often affect the perception of a problem and in fact is often used by issue advocates to elevate concern and attention to their issue in an environment overloaded with competing claims. Certain populations also evoke emotions of sympathy in the public while others evoke feelings of the group being unworthy of societal help. They state that which category a target population is perceived to fall into influences the level and nature of public interest in its plight, the tools the government selects for intervening, and the forms of rhetoric with which policy action is justified.71

Rochefort and Cobb also describe the importance of the “ends-means” orientation of those defining the problem. In these instances, advocates may premise their stance on
an instrumental basis, which sets out a deliberate course of action carefully calculated to
achieve a desired end. Sometimes this directly conflicts with opponents who believe that
the means is unacceptable regardless of the fact that it achieves a desired end. They see
this as viewing public policy in expressive terms and that those who have this view see
the implementation of certain policies as corruption of their values. This can cause
endless debates because the two share a lack of psychological orientation essential to
meaningful argument. 72

The last problem definition claim discussed by Rochefort and Cobb is solutions
noting that sometimes solutions determine problem definition and that political actors
that favor particular policy strategies highlight those causal factors in social problems that
can be targeted by their strategies. They also point out that whatever the direction of
influence among recognizing problems, finding causes and choosing solutions -- the
pattern will depend on the issue and the audience. In addition, either side in a conflict can
use each of the above rhetorical tools in order to persuade others to view their particular
issue as an important one. 73

Baumgartner and Jones (1993) discuss policy images or how a policy is
understood or discussed in the expansion of issues to the previously apathetic. Experts or
specialists in any particular area are sometimes able to portray the issue in simplified or
favorable terms to nonspecialists. As a result, every public policy issue is understood by
others in simplified or symbolic terms. Because a single policy may have many
implications or affect people in different ways, different people can have different images
of the same policy. Policy images are always a mixture of empirical information and
emotive appeals thus every policy image has two components and empirative and an
evaluative. Baumgartner and Jones refer to this as its tone. Tone is critical to issue
development because changes in the tone of policy images held by key social actors
usually precede changes in patterns of mobilization.

Baumgartner and Jones also argue that basic social conditions alone do not
automatically generate policy actions. Arguments must be made and accepted that a
given problem can be solved by government action before a social condition becomes a
public policy problem. Related to this issue is whether an issue is viewed as a private or
public one. A private misfortune may imply no necessary government intervention. It
also should be noted that attitudes and views on any issue can and do change over time.
This is done by elites, specialists or advocates on either side of an issue manipulating
images to suit their needs. If a given debate does in fact have a number of different
implications a successful advocate for a position may be able to alter that debate by
shifting the focus of their attention. This can be done without any changes in the facts or
evidence surrounding an issue. Those wishing to mobilize broad groups attempt to focus
attention on highly emotive appeals/symbols while those with an interest in restricting the
debate explain the issue in other more complicated ways. 74

Stone (1997) says that political change occurs through the interaction of mutually
defining ideas and alliances. Ideas about politics shape political alliances, and strategic
considerations of building and maintaining alliances in turn shape the ideas people
espouse and seek to implement. These ideas are the power in policy making. People use
these ideas to gather political support and diminish the support of opponents, all in order
to control policy. She says that the political conflict is never only about material
conditions and choices but rather over what is legitimate. According to Stone, the passion
in politics comes from conflicting senses of fairness, justice, rightness and goodness.

Stone says that people not only fight over ideas but with ideas. Different sides in the battle create different portrayals of the battle— who is affected, how they are affected and what is at stake. These fights according to Stone are fought with money, rules, votes and with favors but they are conducted above all with words and ideas.

Stone believes that five concepts or goals dominate the language of policy discourse. They are used as justifications for a policy, for a government action, or for a government’s not taking action. They often are used as criteria for evaluating public programs and are often called values. They include: equity, efficiency, security, liberty, and community.

Stone also states that people use certain language for defining and portraying policy problems. These include symbols, numbers, causes, interests and decisions. She claims that there is no universal scientific or objective method of problem definition. Problems are defined in politics and political actors make use of several different methods or languages, of problem definition. Each of these languages has room for moral conflict and is a vehicle for expressing moral values, but there is no universal language of problem definition that yields morally correct answers.

Stone also discusses solutions or at least how solutions are defined and portrayed in public discourse. Solutions are policy instruments or policy actions. She states that these are really ongoing strategies for structuring relationships and coordinating behavior to achieve collective purposes. The act of choosing these solutions is political. They are ways of exerting power or getting people to do what they might not otherwise do. She groups these methods into inducements, rules, facts, rights, and powers. Stone adds that
no policy strategy is ever one type and can be simultaneously promoted as two different types of strategies. Often people can promote a strategy as one type to one constituency and another kind to another constituency.

The Berkeley Media Studies Group has done much work focusing on using problem definition and strategic issue framing not only to promote public policies but also to assist issue advocates in examining why their issues may not be on the public agenda or their policy outcomes may not be as they anticipated. One premise of their work is that value systems are crucial to any political culture, and a main root of public opinion in any society. They state that although a culture may have “dominant beliefs” most cultures are characterized by multiple value systems that compete against each other in politics and policy-making. For the most part politicians or advocates mobilize support through articulating ideas that resonate with ideals and aspirations and oppose or undermine values with which they disagree. They contend that their attempts to mobilize voters and support are not only out of self-interest or getting elected but also for the sake of public good and good public policy. But they also state what one believes is the public good depends on the lens through which they see the world or their worldview.  

Media and Problem Definition

Dominant cultural beliefs and competing value systems are often reflected in media coverage of issues. Cobb and Ross (1997) state, “Media coverage of issue disputes has a direct bearing on the outcome of conflict. Like other parties to an issue dispute, the press and television bring certain, often unstated, assumptions to their coverage. These scripts or implicit theories about politics are then used in covering particular issues”.

They add that the ingenuity of parties in a conflict in using the media to present their grievance can be important in determining the outcome of the issue conflict. Cobb and Ross state that the media are important to each side in different ways. They say that proponents typically need to gain visibility and attract support for their issues through the media while opponents do not. If initiators receive media coverage, opponents can focus on bringing out the negative features of the issue or the negative aspects of the proponents. Media are particularly receptive to blaming and personalizing in their coverage and to be effective each side may seek to shape news coverage in terms of these features. They also note that in studies of media coverage media coverage of domestic issues when media coverage was episodic, focusing on particular events or particular case, the blame was much more likely to be allocated to the individuals involved in the problem. However, when the coverage was thematic or focused on political issues or events in some larger context, people were much more likely to blame the decision makers or those in charge. They stated that in most issues, episodic coverage predominated and that this coverage aided opponents, who benefit when problems are in personalized terms.  

Nelkin (1987) explored science and the media. In analyzing the media which covered science she looked for dominant themes and recurring metaphors that project an image of science to the public. She found that the style of science reporting has actually changed little over time. Nelkin believes that for most people the reality of science is what they read in the press. They understand science less through their direct experience or past education but through journalistic language and imagery found in the press. The media is their source for what is going on in technical and scientific fields as well as how
it can affect their lives. Good reporting, in her opinion, can enhance the public’s ability to evaluate science and health issues and make choices while poor reporting can mislead and disempower a public that is increasingly affected by science and technology and by decisions determined by technical expertise. This being the case, Nelkin believes that in the media imagery often replaces content, the press often covers science as a series of dramatic events, focuses on scientific competition and that scientists themselves often shaped the media coverage. They themselves use rhetorical strategies to attract attention, states Nelkin.

Other observations by Nelkin include the fact that although there is more science news in the media every year the public understanding of science may be distorted. She observes that all the public generally welcomes technology as the solution to problems; they are increasingly preoccupied with risk as well. In addition she observes that although scientists court the media they also mistrust them and are not generally pleased with the reporting of their topics

According to Nelkin, media coverage also may differ according to the source with local reporters being less specialized and experienced in science writing. These journalists are also bound by similar cultural biases and professional constraints just as scientists are and their reporting “takes place within a frame that organizes the world for journalists, helping them to process large amounts of information, to select what is news and to present it in efficient form. Their metaphors, descriptive devices, and catch phrase are all expressions of this frame”. Nelkin examined the journalistic approach to scientific reporting over time. She observed that the 1960’s was a period of scientific and technological “breakthroughs and revolutions”. The frame changed in the late 1960’s and
1970’s when wonder gave way to concern about environmental and social risks. In the 1980’s technological enthusiasm came back though tempered by the continued fear of risks. In the 1990’s, progress was resurrected as “innovation” although Nelkin proclaims “there is today more critical more negative reporting about science and technology in the press”. She also states that these stages are cyclical as are the metaphors journalists use to describe science and technology although “most science writers in fact themselves share a style, imagery and a particular worldview”. “Metaphors are ways that journalists can convey their values but they also select certain stories and not others and select certain headlines which can either legitimize or criticize public policies. This may prompt readers to think about science and technology in specific ways or reinforce already held beliefs. Control over the information and images, the values and views and the signs and symbols conveyed to the public is obviously an extremely important issue in today’s society. Industries, political institutions, professional associations, special interest groups, and aspiring individuals all want to manage the messages that enter the cultural arena through education, entertainment and above all, the media”. 77

**Applying Frame Analysis**

The consulting firm Frameworks in *Framing Public Issues (2003)* discusses the news media and its importance in shaping public opinion and the public’s understanding of issues. They state that traditionally the news media is the public’s main source of information about public affairs and that news coverage influences what issues people think are important for government to address (agenda-setting), the lens through which people interpret issues (framing) and what information will prove relevant for social and
political judgments (priming). Frameworks states, “the media’s influence on how we think about social problems last far beyond our memory of a particular newscast or news topic. The way the news is framed on many issues sets up habits of thought or expectations that, over time, are so powerful that they serve to configure new information to conform to this frame. When advocacy groups communicate to their members and potential adherents, they have options to repeat or break these dominant frames of discourse. Understanding which frames serve to advance which policy options with which groups becomes central to any movement’s strategy.” Also, according to Frameworks research, “the literature on social movements suggests that the prudent choice of frames, and the ability to effectively contest the opposition’s frames, lie at the heart of successful policy advocacy. Most movements are associated with a master frame that will either constrain or inspire the movement’s future development. A frame isn’t simply a slogan repeated over and over; rather it is a conceptual construct capable of helping us to organize our world. When frames fail to do so, they are discarded in favor of other frames. But more often, when new facts are submitted that do not resonate with the frames we hold in our heads, it is the facts that are rejected, not the frames.”

Frameworks research uses a technique called ”strategic frame analysis” which adopts the position that people reason on the basis of deeply held moral values, more than on the basis of self-interest or “pocket-book appeals”. This work has its roots in research by authors such as Stone. By incorporating these level one values which include big ideas such as freedom, justice, community, success, prevention and responsibility and then moving to issue types and then into specific issues in our “storytelling” groups can be more successful in moving others to their position. In addition there are other elements
that must be examined since these elements can have impact on the political debate. They include frames, messengers, evidence, cause and effect. Their research has indicated that communication about an issue needs to be “a set of interrelated stories that can resonate with deeply myths about what it means to be an American”. They believe that by examining current frames in the media and in advocates arguments surrounding ones issue and by attempting to reframe the issue if these frames are not telling the story you want told that one can improve the chances of having the issue raised, broaden the constituency for an issue and secure the policies that are needed. They indicate that although framing is important in all phases of the policy process but particularly important in problem identification and gaining agenda status. The following are the elements that they utilize in strategic frame analysis and what their research has suggested about each element.

*Context* is important because it establishes the cause of the problem and who is responsible for solving it, which can either further systems thinking or reduce a social problem to an individual issue. Context must be built into the frame with the introduction of the problem. They also indicate that context is often what distinguishes episodic from thematic reporting. Episodic reporting happens most often and lacks the context necessary to define an issue as “public” and therefore appropriately solved by public policies.  

*Numbers* are another element of the frame examined by strategic frame analysis. The research on numbers suggests that once a frame is established, it will “trump” numbers. The research also suggests that most people cannot judge the meaning of
number; they need cues and that numbers alone often fail to “create pictures in our heads”.  

The choice of messenger is one of the most important tactical choices to be made before taking an issue public. Messengers become the symbol of an issue and are as important as the messenger itself. The message is reinforced or undermined by the choice of messenger. The messenger should be knowledgeable and trustworthy in order to gain acceptance and it must be understood that some messengers lack credibility on certain issues because of a perceived bias. Messengers may convey specific frames and groups should consider a change of messenger, which may prompt reconsideration of an issue.  

Visuals or pictures may also trigger some of the same models and frames as words and can undermine a carefully constructed verbal frame. Advocates should be conscious not only of the visuals that are being used in the media (which they may be able to control) but also the visuals used in Websites, advertising, brochures, fact sheets, action alerts and reports. They warn that advocates should be cognizant on image placement, color and size, which can affect the impact of the visuals. Images may seem more important when they are centered, in the foreground, brightly colored, sharply defined, or overlapping with other elements while human figures, cultural symbols or icons can also signify importance.

The last two elements of the strategic frame analysis used by Frameworks include the use of metaphors and simplifying models and tone. The use of metaphors can help in the explanation of complex issues, which can help to increase engagement and motivation with the issue. The metaphors chosen to describe an issue may drive public reaction and reasoning. A metaphor then can reduce attention to specific issues and to
bigger picture ideas. Often times metaphors that are used with ones issue may have unintended consequences as well.\textsuperscript{83}

According to Frameworks, tone can either help communicate a specific frame or it can also work against frames one is trying to evoke. Tone refers to the style, mood, manners or philosophical outlook of a communication. Frameworks identifies two tones in particular that can work for or against an issue. These are rhetorical and reasonable with much media and political discourse being rhetorical which often polarizes people. Rhetorical mode is more overtly ideological and emotes that of a hardened position. Experts will lose credibility if they talk in this tone often. When tone becomes too extreme, it has been shown that large segments of the public tune out and dismiss the message. In fact they state,” On those issues where many people already see themselves a falling on one side or the other, and when they get cues that the dialogue is about the divide, they stop thinking about the issue itself, and start thinking more generally- and usually less productively- in terms of their own political or factional identities. Even potential supporters may be turned off by overtly political discussions and made skeptical by melodramatic warnings”. \textsuperscript{84}

**Public Opinion, Problem Definition, and Framing Surrounding Oral Health**

In 2000, Frameworks conducted a summary of survey research relating to the public’s attitudes concerning children’s oral health. They found that there was a wealth of public opinion data on health policy and children’s policy, there was very little in the area of policy for children’s oral health. The research that they found was in the context of national health care reform. For health care they found that the survey data indicates that
health care and the quality of health care received was very important and that the responsibility for reforming the system lay with the federal government.

As far as dental care was concerned, they found that most Americans did have regular dental care and had a regular dentist (73%) and that same percentage see a dentist at least annually. Those that had children were even more likely to see a dentist at least annually (82%) with more than half indicating they see the dentist for regular preventive care (62%) and 35% indicating that they only see the dentist when there is a problem. According to the survey data they found more than half the population places high value on their oral health. When asked the amount that they would be willing to spend on oral health half indicated that they would spend $1,000 the remaining would spend less than $500.00. This survey data did not include income data.

When asked about including dental in any basic health care reform package, 87% thought that dental check-ups and oral health care services should be included. Sixty-six percent of those surveyed already had dental insurance through their employer with an additional 9% opting out of their employer coverage. However, when Americans were asked to choose among benefits dental care was seen as the least important. When asked if all benefits could not be covered a full 44% indicated dental should be the first to go, followed by eye care (38%) and mental health (32%). They also found that the public wants dental coverage especially for children but that support is extremely shallow, with a dramatic decline in support once taxes or costs are added into the decision. They found that support declined even more when the policy was characterized as a benefit for the poor only half indicating that they would be willing to pay higher taxes or premiums to extend benefits to the poor.
When ranking the honesty and ethical standards of people in various fields, dentists were in the top ten of 52% of the respondents. Rated above them were nurses, pharmacists, veterinarians, medical doctors, teachers, clergy and judges with college teachers and professors ranking equally. The research also indicated that there might be support for providing examinations to detect dental needs in local public schools. While virtually all believed that the schools should provide examinations to detect sight and hearing defects (92%) and 84% believe that local schools should provide inoculations against communicable disease less although a majority (58%) believe in the dental exams.85

**Definitions, Frames and Public Opinion**

*Oral Health*

Frameworks and cognitive linguist Pamela Morgan did a study of the conceptual frames that ordinary people use to reason about children’s oral health, and a subsequent analysis of the news coverage accorded the topic as well as a review of the promotional material provided by children’s oral health professionals. According to Morgan’s work, there is only a very skeletal model of children’s oral health among the populace. Morgan stated, “She had hard time getting her informants to discuss the issue and had to probe repeatedly. To say that is issue has not emerged in public discourse is to greatly understate the issue; it is invisible”.86 From Morgan’s interviews she outlined the shared elements of the cognitive model of children’s oral health. They include:

1. **Cavities are the primary effect.** The public demonstrates little knowledge of the consequences of ignoring children’s oral health, which is a very large obstacle
to public discussion and prioritization. They do not see ignoring children’s oral health as life threatening and actually see the consequences of ignoring oral health as largely cosmetic affecting appearance and self-esteem. Most did not see children’s oral health in terms of illness or disease and in fact automatically compared it to more serious illnesses like cancer and then found it not so important and not a pressing social need. Morgan also found most news articles focused on cavities and little attention paid to long-term health consequences. She found that news coverage was episodic and largely conformed to what is being told by the oral health profession.

2. The primary responsibility lies with the parents. This is the greatest stumbling block to oral health advocates because it undermines support for public policies. This is reinforced by the episodic framing of news coverage, which tends to reinforce individual responsibility and also the confinement of the issue to the literature on parent education.87

3. There is an expectation that schools will be involved.

4. Oral health is part of a larger health picture. Although many of the respondents commented that they had never thought of oral health as a health issue when it was positioned as part of overall health and health care they were moved to reconsider oral health as an issue.

Public Knowledge LLC conducted a public opinion benchmark poll in New England during July 2005 for the Frameworks Institute. The survey was to determine public understanding of oral health and public support for policies to improve oral health.
Advocates in Maine, Massachusetts and New Hampshire were launching a broad based communications campaign designed to build public understanding and support for collective action to improve children’s oral health. More than 1200 telephone interviews were conducted. The findings indicate then when asked to prioritize a series of issues survey respondents gave the highest priority to health care with 87% rating healthcare as an extremely high or high priority, followed by education at 82%, crime at 82%, the economy 87% and the environment at 76%. Dental care received the lowest ratings of those included in the survey at 61%. They found that healthcare and dental care were the highest priority for those most likely to struggle to afford care, such as low-income, less educated and those respondents who were single with young children.

In terms of issue awareness Public Knowledge also found that children’s oral health is not currently on the public agenda. Few had heard very much about the issue recently, and few recall seeing any news reports. Only a handful could name an organization bringing attention to the issue. Of those who could recall hearing anything about the issue (20%) most cited a story in the newspaper or on television.

More than half of the respondents answered that brushing and flossing are not enough and that regular dental visits and preventive treatment for kids are critical to good oral health. Although prior Frameworks research suggested that it was easy to dismiss oral health as nothing more than a cosmetic or self-esteem issue, in the is New England poll 47% stated that health problems were a main reason to be concerned with oral health. The data also pointed to the fact that understanding of oral health issues did not always translate to support for public policy surrounding the issue since those audiences having an understanding of the health consequences are not the same audiences that prioritize the
issue, support policies, or believe that good oral health takes more than brushing and flossing.

This benchmark poll also showed that though issue awareness and issue priority were low, public support for a number of policies to address children’s oral health is unusually high. The study also notes that although policy support appears to be extremely high it is likely to be very shallow since qualitative research undertaken in each of the three states suggests that peoples understanding and dedication to the issue is soft. In addition they say that responses during the course of the survey were fluid with equal movement both for and against issue, indicating that public perceptions of the issue are not strongly held. The research also may indicate that because many of the policies show supporters that the public are open to conversation about the issues but that an effective campaign is critical because public support for the issue is fluid and just as easily lost as gained. 88

As stated previously, the impetus for the benchmark data was an upcoming communications campaign designed to build public understanding and support for children’s oral health. This campaign was to be based on the research completed by Frameworks that suggested that a redefining and reframing of this issue from one that was considered by most to be an individual responsibility and low on the priority list of public concerns may be able to be transformed through consistent use of elements of the frame that may be more conducive to collective action. This campaign was called the “Watch Your Mouth Campaign” and consisted of radio, TV and a print campaign. This effort was conducted in all New England States but separately in each state and in Massachusetts was spearheaded by Health Care for All, an advocacy group.
In 2007, after two years of the campaign, another public opinion poll was conducted this aimed to evaluate the effectiveness of the campaign. The campaign developers stressed in their evaluation that the goal of this campaign was precise and was stated as to increase awareness of the issue. They also stated that getting the issue on the public agenda was only one step in effectively framing the issue and that it was even more important to effectively reframe the issue so that people understand the role of collective action and policy change in addressing the problem. They also noted that “much of the art of persuasion and advocacy takes place behind closed doors where the public’s interest is mediated by issue brokers and legislators attentive to their public standing and in that regard anecdotal evidence about the degree of “buzz” generated by this campaign within the capital and among influentials who have the attention of legislators will serve to amplify and contextualize the findings”. Frameworks also noted that work beyond the scope of a communications campaign is required to deliver a constituency to shape change.

A summary of the effectiveness of the campaign indicated that children’s oral health has gained significantly in urgency over the course of the campaign activity; by contrast many other high visibility children’s issues such as preschool and after school programs had remained relatively flat over the same period. Prioritization was strong in both traditionally supportive groups that included parents of school age children, Democrats etc and outside that core constituency. There was significant growth in support among those 65 and over and news attentives. Certain subgroups showed growth in issue understanding with married couples with children over 18, men, older men, college educated men, 35-49 year old respondents and college graduates.
Policy support remained high, despite some concerns among subgroups about fluoride. It should be noted that the questioning did not give specific mention of community water fluoridation but rather stated “expand access to preventive measures such as sealants and fluoride by offering preventive services through public schools” and “make fluoride protection available to all kids.” Frameworks found statistically significant shifts among certain demographic groups. Respondents with a High School degree or less were significantly more likely to strongly favor fluoride protection in 2007 than 2006 (82%, a +12 point gain, as were Independent Women (82%, a +16 point gain). They noted however that when the favor and opposition categories were collapsed (those who chose strongly favor and not so strongly favor analyzed as “in favor of.” and those who chose strongly oppose with not so strongly oppose analyzed as “opposed to”) there were some interesting declines in support for fluoride protection The groups that still overwhelmingly supported fluoride protection but that saw significant declines included College graduates (a ten point decline from 86% in 2005 to 76% in 2007), Democrats and Democratic Women (a 9 point decline from 94% in 2005 to 85% in 2007) and those with annual incomes over $100,000 (a 14 point decline from 87% in 2005 to 73% in 2007). 89

Public Opinion around Fluoridation

According to Newbrun and Horowitz (1999), two of fluoridation’s strongest proponents “the overwhelming majority, probably over 90%, of scientists, physicians, dentists, nurses, veterinarians and public health professionals fully support fluoridation.” They also refers to a Gallup poll conducted in the late 1990’s that showed that 70% of the American public believed that community water should be fluoridated with 18% being
opposed and 12% having no opinion. According to polls the proportion of the public favoring fluoridation in such surveys has changed very little over the years with 60 to 75% perceiving it as desirable since 1952. This trend continues today.

At the 2006 National Oral Health Conference in Little Rock Arkansas, Wynne Grossman, the Executive Director of the Dental Health Foundation in CA gave a presentation titled “Citizen Dialogues on Community Water Fluoridation.” This was a summary of a three-year research study conducted by the Foundation and Viewpoint Learning. The study was sponsored by the Centers for Disease Control. The purpose of this research was to explore reasons why polls show that people support fluoridation but that support does not translate to the ballot box where fluoridation proposals often fail. They note that polls have proven strengths, which include accuracy (at that moment in time), reliability, and objectivity. The group also notes that polls can be predictive but only when the public’s views are firm and that views are rarely firm on public policy issues.

The research was intended to determine which considerations are most important in forming and changing San Diegans views on fluoridation, how citizen’s interaction with each other shape their decision about the issue and how the average citizen receives information, processes it and forms their attitudes on fluoridation. It used a new research tool called Choice Dialogue, which includes a series of dialogues with representative cross sections of the public (30-40 participants in each session). The sessions are for eight hours to allow intense social learning. The dialogue is organized around alternative scenarios which were developed in advance and included a workbook which set agenda, gave background on issues, lays out pros and cons grounded in research. A facilitator
kept people in dialogue mode. Before and after measures were taken to quantify shifts in preferences, coupled with qualitative analysis. It was intended to replicate how people make judgments in the real world. They were briefed on the issue for 20 minutes, made connections with others for 40 minutes, heard different points of view for two hours and wrestled with the trade offs and attempted to achieve resolution for five hours. The scenarios that they were asked to consider were to either leave the water unchanged or to fluoridate the water and to consider these three aspects of the issue, in particular:

1. Personal choice vs. community responsibility
2. Science and the environment
3. Cost vs. benefit

The general outcomes were that initially on a 1-10 scale with 10 being the best the average score for fluoridation was 8 and for not fluoridating 5.3. Final opinions shifted with the average score for fluoridation being 5.7, a decline and for not fluoridating a 5.6 a .3 increase.

The study found that participants found some arguments especially compelling. Those supporting fluoridation found the following arguments compelling:

1. Fluoridated water prevents tooth decay
2. Water fluoridation helps the young, the old and the medically underserved
3. Water fluoridation is cost effective

Those that opposed fluoridation found these arguments compelling:

1. People get enough fluoride from other sources
2. We should not add chemicals to the water unless they are absolutely necessary
3. Water fluoridation violates people’s right to choose what sort of treatments they want

But these arguments did not change many minds. Participants believed that advocates on both sides were spinning them, and this increased mistrust and resistance to change. In these circumstances, those with strong opinions dug in and only listened to arguments that reinforced their position while denying and discounting all other arguments. Those who were undecided became frustrated and either looked for “common sense” evidence to resolve the question or withdrew and opted for least change approaches.

Also of interest was an analysis of the data that showed that of those who initially had a negative view of fluoridation 35% believed that putting fluoride in their water violates their fundamental right of choice and should be voluntary, 28% believed that there are long term and negative health effects of fluoride and 11% believed that the initial cost of fluoride is too much. Only 6% felt that more research is necessary which the authors state “seems to support the importance of emotional issues surrounding general water fluoridation. Those who initially had a positive attitude about fluoridation believed in the dental benefits for children (27%), positive long-term dental health benefits (24%) and the low cost of water fluoridation and tooth decay (13%). Of those who were initially neutral about water fluoridation 34% expressed a belief that more research needs to be done (34%) and that the research on fluoride was confusing (20%). Those that were neutral in the beginning were over three times more likely to move toward being negative than positive in their desire to have water fluoridation. 91
Methods and Case Studies

This purpose of this study is to examine the how the problem definition literature may contribute to the explanations of why communities may or may not choose to fluoridate their water supply. Ideas and values are the basis for decisions in the community. All policy decisions can be traced and are influenced by the ideology and basic values of the predominant culture in the community. This includes the choice of venue of policy decisions (i.e. national vs. state vs. local decisions), political structure and the processes (laws and regulations) by which decisions are made. The way in which any issue is defined and framed in public discourse can have an effect on the decisions/policies that are made. Issues can be redefined or reframed in a manner that may make alternate policies or venues a viable solution for the problem or the definition and framing of the problem may clash with or reinforce current values and frames making the status quo the most viable option. Some problems especially scientific ones that pose some risk and involve entrenched beliefs about individual choice and government authority are inherently difficult and although effective framing may help advocates; these issues may always be controversial. Fluoridation may be one of these issues that clashes with basic American values.

To get at these dynamics the chapters that follow examine the case of two Massachusetts cities, Worcester and New Bedford, which had fluoridation referenda during this decade. In the Worcester referendum in 2001 fluoridation failed at the polls while in New Bedford in 2006 the effort to fluoridate the city’s water supply was successful. These cities were chosen because they were similar in some aspects. They are both cities with populations over 50,000, a history of prior referenda, and the most recent
referendum being well publicized in the local newspapers. In addition, there was information on some of the detail of the referenda available through archival documents provided by proponent leaders in both cities, the Massachusetts Department of Public Health and prior papers and presentations on the referenda conducted by other students and participants in the referenda processes.
Criteria for Analysis: The analysis of each city includes:

1. Demographics: Race and Ethnicity; Socioeconomic status; Major Employers
2. Political Structure
3. History of Fluoridation
4. Initiation: Who, When
5. Referendum Campaign
   a. Who involved
   b. Timeline
   c. Resources -- Financing
6. Public Opinion
7. Comparison of Cases
   a. Broad Policy Dynamics
   b. Who Initiates Campaign?
   c. Problem Definition and Framing of Arguments
      i. Problem Definition- do proponents clearly identify the need or issue that it purports to address and is it a problem the community cares about?
      ii. Is the solution to the problem clearly identified?
      iii. Is the campaign grounded in research and are those findings reflected in the campaign?
      iv. Is there a strategy that articulates target audiences, media goals, and policy advocacy goals?
      v. Are values being communicated in the core message and are the values consistent with the community?
      vi. Does the message make the link to neighborhoods and communities and systems as opposed to focusing only on individuals or groups?
      vii. Is the message consistent with issues we care about and will it advance a climate of opinion that is favorable to these issues?
      viii. Does the message set up policy and systems solutions to the problems as opposed to individual behavior change?
      ix. Who are the key messengers used in the campaign and what is the likely impact of those messengers in our community?
      x. What are the visuals and symbols used by each side and are they consistent with campaign goals?
      xi. Does the campaign effectively use numbers and statistics and do the materials explain what the numbers mean?
      xii. Does the campaign have a reasonable tone? Does it invite people into the discussion or is it likely to turn people away or polarize?
      xiii. Other-
          1. Instrumental vs. Expressive Arguments
          2. Scientific Arguments
          3. Episodic vs. Thematic Framing
          4. Media tendencies
Worcester, Massachusetts encompasses 38 square miles and is approximately a one-hour drive west from Boston. With a population of approximately 175,000, it is the second largest city in Massachusetts. It is known for its innovation in commerce, industry, education and social thought and along with the nearby Blackstone Valley claims a historic role as the birthplace of the American Industrial Revolution. Today Worcester has a diversified economy with its largest employer being the University of Massachusetts Medical School. There is a biotech park adjacent to the medical school that is host to many innovative companies including Advanced Cell Technology and Abbott Laboratories one of the nation’s largest pharmaceutical manufacturers. There are also several other types of manufacturing firms located in the city. In the financial sector, Hanover Insurance maintains its national headquarters in the city, as do a few other large national insurance companies. The Worcester Foundation for Experimental Biology is located in Worcester and is best known for the development of the contraceptive pill in 1951 and for pioneering research on in vitro fertilization with the first American conceived by this method in 1981 living in nearby Westminster.

Worcester has multiple cultural attractions and activities. It is home to eleven colleges and universities including the College of the Holy Cross, Clark University, Worcester Polytechnic Institute, Worcester State College, Anna Maria College, Salter, Becker College, Tufts University Veterinary School (located in neighboring Grafton but it is part of the Greater Worcester Education Community), Massachusetts College of
Pharmacy and Health Sciences, Quinsigamond Community College and the University of Massachusetts Medical School. In addition, UMass Memorial Hospital (affiliated with the medical school) and St. Vincent’s Hospital are located here.\textsuperscript{93}

Generally speaking Worcester is a city of immigrants. In the early years, waves of immigrants formed many ethnic enclaves in the city. These included Swedes, Italians, Irish, Polish and Jews. Also, an African American community has existed since colonial times. Other prominent groups in the city include Russians, Armenians, Greeks, Vietnamese, Liberians, Congolese and most recently Albanians and Brazilians.\textsuperscript{94}

<table>
<thead>
<tr>
<th>Race</th>
<th>Worcester</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>77.1%</td>
<td>84.5%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>6.9%</td>
<td>5.4%</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>.5%</td>
<td>.2%</td>
</tr>
<tr>
<td>Persons reporting some other race</td>
<td>7.2%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Persons reporting two or more races</td>
<td>3.4%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Persons of Hispanic or Latino Origin</td>
<td>15.1%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, \textit{State & County Quick Facts}

It is urban with a higher percentage of the population being minorities and non-English speaking persons. In addition, 14.5\% of Worcester’s residents indicate that they are foreign born, slightly higher than the Massachusetts average and a full 28.1\% indicate that a language other than English is spoken at home with the Massachusetts average being 18.7\%. Insurance seems to have an effect on the ability to see a dentist more than 40\% indicating that lack of insurance has prevented them from getting proper dental care.\textsuperscript{95}
Generally speaking Worcester residents are less well off than their Massachusetts counterparts with the median household income being almost $15,000 less than the state average. Worcester residents also are somewhat less educated with only 57.6% of residents above 25 having a high school diploma compared to the state average of 84.8%. The percentage of residents holding a bachelors degree is lower than the state average by slightly less than 10% as well. Corresponding with a lower income level, home ownership is also significantly less than the state average (43.3 vs. 61.7%).

Structure of government

Worcester has a Council-manager government with a popularly elected mayor. A city council acts as the legislative body, and the council appointed manager handles the traditional day- to- day chief executive functions. City councilors can run as either a representative of a city district or as an at-large candidate. The winning at large candidate who receives the greatest number of votes for mayor becomes the mayor (they must ask to be removed from the ballot for mayor if they do not want to be considered for mayor). The mayor has no more authority than other city councilors but is the ceremonial head of the city and the chair of the city council. They have 11 councilors, six at-large and five district councilors.

History of Fluoridation in Worcester

At the time of the 2001 referendum, fluoridation had been a part of the public discourse for almost 50 years. Fluoridation was attempted in Worcester in 1955 and in 1956 when it was officially voted on in the City Council and turned down by a margin of
five to two. In 1958, there was a compulsory referendum law enacted in Massachusetts that required a referendum before fluoride could be implemented. The Council voted on the issue again in 1963 and voted against the measure. There was public referendum on the issue in 1963 in which community water fluoridation was voted down by a large margin, four to one.

In 1969, there was a council vote that was perhaps symbolic since a vote of the council was not part of the process required or authorized by Massachusetts law. The law had been changed in 1968 to the current law authorizing Boards of Health to order fluoridation and a referendum only being held if opponents were able to gather signatures of ten percent of the registered voters in the city within 90 days of the order.

In 1971 and again in 1978, the issue was brought before the City Council to secure funding but was denied. In 1996, the Council with a margin of seven to four supported the city manager’s “appropriate action to fluoridate the water supply of the City of Worcester.” In 2001, the city council made an “unofficial” vote regarding the measure which resulted in a margin of ten to one supporting the action and also had an official vote later in the year with nine members voting in support and two in opposition.

In 2001, the latest date of a fluoridation referendum the vote was actually closer with 12,906 votes against fluoridation and 9,980 votes for fluoridation. 97

1996 Referendum

Prior to the 2001 referendum the most recent referendum took place in 1996. During this election, fluoridation fared much better than in 1963, losing “only” by a margin of two to one. According to Carol Roy, of the Commonwealth of Massachusetts
Department of Public health, Office of Oral Health, considering fluoridation at this time may have been that Worcester was in the process of building a new state of the art water treatment plant. Space had been set aside for the equipment necessary to fluoridate the water supply so that no changes to the physical plant would be necessary of a decision was made to fluoridate at a later date. At this time the Health Department began investigating the possibility of fluoridation.

A timeline of the process is provided below:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 1996</td>
<td>Open meeting by Worcester City Council Health Committee to determine if issue should be brought to City Council</td>
</tr>
<tr>
<td>March 19, 1996</td>
<td>City Council holds open hearing and vote is taken. Fluoridation wins by 7-4 margin</td>
</tr>
<tr>
<td>March 25, 1996</td>
<td>Board of Health issues fluoridation order</td>
</tr>
<tr>
<td>April 3, 1996</td>
<td>Legal notice of order appears in major newspapers</td>
</tr>
<tr>
<td>July 1, 1996</td>
<td>Antifluoridation group submits necessary signatures to city clerk in order to go to referendum</td>
</tr>
<tr>
<td>November 5, 1996</td>
<td>Election held and fluoridation loses by a vote of 17,826 for and 28,972 against.</td>
</tr>
</tbody>
</table>

Roy indicates that two formal groups developed during this time period. An advocacy group, “Our Rights, Our Water” was formed and collected the necessary signatures in spring and early summer 1996 to bring the issue to a vote. This group was led by Deborah Moore PhD and consisted of members who opposed fluoridation of Worcester’s water supply. In June 1996, a group of proponents of fluoridation, calling themselves Citizens for Better Health, met to develop a strategy for a campaign if in fact the fluoride opponents were able to collect the required signatures and to form a ballot Question Committee (BQC) as required by Massachusetts law.
Proponent and Opponent Strategies

Roy indicates that the proponent group was small. The group had only three active members according to Roy (she being one of them and a local dentist being another) but was able to implement a campaign that included:

1. Distribution of community water fluoridation pamphlets to libraries, health centers, hospitals, HMO’s, regional office of the Department of Public Health and various other civic agencies. This included fact sheets that were in Spanish and distributed to Headstart sites and other organizations serving Latino clients. In addition materials were also handed out during the last two weeks of the campaign at supermarkets, post offices and other places where voters may congregate.

2. Posters supporting fluoridation were sent to St Vincent’s Hospital where they were placed throughout the hospital and to dental hygiene students at Quinsigamond Community College who placed them around the campus. Posters were also placed in the pediatric department at the Fallon Medical Group, a large group practice in Worcester.

3. Dentists and pediatricians were encouraged to speak to their patients regarding the benefits of fluoride and dear friend postcards were sent to involved community persons to send to friends and relatives about the safety and effectiveness of fluoride.

4. Plans were made to speak to community groups, especially the elderly although because of the limited number of speakers available the group was only able to reach one high turnout voting area in the city. Three different speaking times were set up at the Jewish Service Center in order to reach out for support with its members. Roy
indicates that this group appeared to be well informed on the issue and split on their feelings regarding fluoridation, with one of the members being the brother of one of the leading anti-fluoridationists and another was the mother of a city council member who opposed fluoridation.

Roy also notes that the Worcester Board of Health provided support and information upon request and that its chair, Dr. Gurwitz, actively promoted fluoridation in letters to the editors of local newspapers and various civic groups. She also notes that funding was minimal with actual cash available less than $200.00. It appears that much of the materials were donated, as is typical of such campaigns. Often the local dental societies contribute materials from their libraries although this is not stated. She does mention that she felt that the public support for fluoridation from the Massachusetts Dental Society was limited with many members indicating, “that they had worked so hard in the past and did not want to get actively involved again.”

On the other hand, says Roy, proponents “underestimated the antis’ creativity” and that opponents were very visible and “present at almost any event that took place in the two months preceding the election,” including a float in a local parade, booths at fairs and craft shows, and even face painting. Roy also states that in their information and at the events opponents argued that fluoride was “a poison” that they did not want in their water supply. Roy commented that anti-fluoridation activists appear to have been first to get their message out to the public may have made the proponents’ job more difficult because they were always forced to debate on terms set by opponents. Moreover, says Roy, opponents enjoyed superior political support, including that of an ex–mayor and
local radio talk show host who used his show to oppose fluoridation. Opponents also used letters to the editor and were more successful in getting their letters printed. 98

**Background to the 2001 Campaign**

In August of 1999 Jan Yost, EdD was named as the Executive Director of the Health Foundation of Central Massachusetts. Yost had served for the previous ten years as president of the Mary Black Foundation in Spartanburg, South Carolina. She had led that foundation from a fundraising organization to a grant making organization due to the sale of the Mary Black Hospital in Spartanburg. Since that reconfiguration, the organization with assets of more than $80 million dollars had been awarding grants intended to improve the health status of Spartanburg county residents. Her assignment in Worcester was similar. The Health Foundation had been formed in the previous year from the sale of a Central Massachusetts Health Care in Worcester to a for profit company. The mission of the new organization was to be a philanthropic organization that committed its resources to activities intended to improve the health of those that live and work in the Central Massachusetts region. The foundation was expected to award grants to community groups and non-profits of approximately 2.5 million dollars a year beginning in 2000. It was this funding opportunity that led to the most recent attempt in 2001 to fluoridate the city of Worcester. 99

Yost was well qualified for the position but by her own admission she was a southerner in northern territory. Yost was a well-dressed, well- mannered and highly educated white woman with a southern accent. Worcester had its own culture and history
with fluoridation, which Yost would later learn all too well as she led the fluoridation effort.

Pre-Board of Health Order

Documents kept by Dr. Jan Yost of the Oral Health Foundation of Central Massachusetts indicate that as early as November/December of 2000 both proponents and opponents of fluoridation had begun to contact city officials regarding fluoridation. The actual fluoridation order by the BOH required by Massachusetts law did not actually occur until June 6, 2001.

In November 2000, a memo was written to Thomas R. Hoover, the City Manager from Joseph McCarthy the Deputy Commissioner of Health. The purpose of the memo was to outline the severity of the oral health problem in Worcester and outline potential solutions to the problem with community water fluoridation being noted as “the single most important commitment a community can make to the oral health of its children and future generations.” It also outlined the safety and effectiveness of fluoridation for all population groups and ended by stating the department’s support for fluoridation. 100

On December 5th, 2000 a letter was sent to the City Council from Deborah Moore PhD, one of the more vocal members of the opponents of fluoridation in Worcester. Her letter begins by stating how distressing it was to learn that the City Council was once again discussing the possibility of fluoridating Worcester’s water for those who were aware of fluoride’s toxic effects and who wish to have the right to medicate themselves under their own doctors’ supervision. She also stated that it was disappointing that the
issue is being forced on a city that has stated time and time again that it does not wish to be fluoridated.

Moore enclosed informational items regarding water fluoridation which included excerpts from a memo titled “The Legal, Ethical and Political Implications of Fluoridation” by a Dr. Paul McCormick in England. This memo identified fluoridation as compulsory medication or medical treatment without consent or as a doctor treating a patient without his name or medical condition. She also enclosed a chart that compared fluoride’s toxicity relative to lead and arsenic and also showed the EPA’s maximum contaminant levels of lead, fluoride and arsenic. Another attachment was a copy of a newsletter titled “Waste Not” with an article from the 22nd Conference of the International Society for Fluoride Research, which took place in Bellingham Washington in 1998. Dr. Paul Connett authored the article. The author gave abstracts of papers on fluoride toxicity that he compiled. They included a rat study by Dr. Karl Jensen (who he identified as a U.S. EPA neurotoxicologist) and also one by Dr. Phyllis Mullenix that found that fluoridated steroids used to treat childhood leukemia causes hyperactivity and three other excerpts from studies discussing the toxic effects of fluoride. She also enclosed another paper titled “50 Reasons to Oppose Water Fluoridation” also by Dr. Paul Connett identified in this paper as a Professor of Chemistry at St. Lawrence University in New York. This article began by challenging the necessity of fluoridation since decay rates have declined even in countries that are not fluoridated and other examples that challenge fluoride’s effectiveness. It also went on to give reasons that associate fluoridation with ill health effects and toxicity. Other of the 50 Reasons stated that the science that is used by proponents that declares that fluoride is safe and effective
is inherently flawed. The remainder of the reasons includes the fact that fluoridation is
against an individual’s rights to choose to be medicated. Lastly, the paper included
statements from officials in several countries stating reasons why their water supply had
not been fluoridated. Deborah Moore also supplied the councilors with several websites
where they could go to find their own information. 101

That same month, the Telegram and Gazette ran their first editorial on the topic,
“Thorny health, policy issue back on city agenda.” This editorial discussed the fact that it
had been five years since Worcester’s voters rejected a proposal to fluoridate the city’s
water. It started by saying that “there is room for honest disagreement about the
appropriateness, from a public health policy standpoint of adding this mineral to the
water supply.” The remainder for the most part gave the reader information supporting
the measure and did not elaborate on why the measure may not be appropriate. The
editors stated, “the scientific evidence of the effectiveness of fluoridation is unassailable.
Studies consistently have shown it prevents tooth decay both in children and adults and
may prevent or delay osteoporosis in older adults.” The next paragraph went on to say
“nor is the safety of water fluoridation in doubt.” 102

It did indicate that there were alternatives means of administering fluoride and
gave examples of other community preventive measures that had been started through
University of Massachusetts Memorial Health Care, Great Brook Valley Health Center,
the Family Health Center and Quinsigamond Community College but that these efforts
could not reach all children as fluoridating the water supply would. They noted that “the
water filtration plant in Worcester was already set up to begin fluoridation” and that “city
health officials have argued forcefully that doing so would yield significant public health benefits.”

The editorial board acknowledges that this has been a highly charged and emotional issue in Worcester and that voters have rejected fluoridating the water supply three times since 1963 but also continues to say that this has been largely on the basis of safety concerns that have been shown to be groundless by a large and growing body of scientific research. They conclude the article by stating, “the public policy issue remains clouded.” “Whether the health considerations will be sufficient to persuade the people of Worcester to accept this additive in their drinking water will be determined as the latest round of the fluoridation debate unfolds.”

And so the public debate had begun. The arguments used in this debate were not unlike the others that had been used in Worcester, nor were they different than those used in most other public debate about fluoride around the country.

Two factors seem to have triggered or at least contributed to the timing of Worcester’s fluoridation effort. One was A Special Legislative Commission Report on Oral Health released in February 2000 that prominently placed fluoridating community water supplies as one of its recommendations for preventive measures. The report also noted that Healthy People 2000, an initiative of the United States Office of Health Promotion and Disease Prevention had as one of its goals to increase fluoridated water systems to cover 75% of a state’s population. The report went on to say that Massachusetts had just 57% of its population living in a fluoridated community, a number that made Massachusetts rank 35th in the nation for this basic health measure. For proponents of fluoridation this report provided them with data useful to their cause.
In fact in a position paper on the Central Massachusetts Oral Health Initiative’s Fluoride Education Effort this document was used as support for the initiative.

The other factor that may have contributed to the timing of the effort was the grant making capabilities of the Health Foundation of Central Massachusetts. The Health Foundation had more than $60 million available from the sale of a not-for-profit HMO to a for-profit company. The Foundation had committed funding of more than $2 million each year.

It appeared that the Yost, who headed the Foundation, viewed health more holistically than most and was willing to consider funding activities outside of what one would traditionally consider as important to health. For Yost, oral health must have fit into her health definition nicely because the Foundation dedicated more than $1 million in 2001 to oral health efforts, much of it to the fluoridation effort.

**Role of Health Foundation**

The Health Foundation of Central Massachusetts was more than just a funding source for oral health efforts; it led the fluoridation effort in Worcester in 2001. It also appears to be the impetus for the inception of the Central MA Oral Health Initiative.

The Central Massachusetts Oral Health Initiative (CMOH) was formed by the Worcester District Dental Society and consisted of a group of 14 health-related organizations that were collaborating on a model for oral health services. The inception of this group appeared to be in 2000 in order to secure funding for that model. These organizations included the Worcester District Dental Society, Quinsigamond Community College, The Great Brook Valley Health Care Center, The Family Center of Worcester,
the Massachusetts Dental Society, University of Massachusetts Memorial Healthcare Inc, Massachusetts Department of Public Health, The Worcester District Dental Hygienists Association, the Worcester District Medical Society, the Worcester Department of Public Health and Code Enforcement, the University of Massachusetts Medical School’s Office of Community Programs, the Worcester Council on Aging, the Worcester public schools and the Massachusetts Coalition for Oral Health. John Gusha, DMD of the Worcester District Dental Society led the initiative.

Long before the announcement that the Central Massachusetts Oral Health Initiative was awarded major funding by the Health Foundation of Central Massachusetts for a comprehensive oral health effort, a smaller grant of $72,996 was awarded by the Health Foundation of Central Massachusetts to the Central Massachusetts Oral Health Initiative (CMOH) the purpose of which was to provide support for a planning process for pilot projects. One of the objectives of the pilot was to educate the Worcester community about the benefits, safety and efficacy of water fluoridation and to gain support for the upward adjustment of the fluoride content of the City of Worcester’s water supply.

CMOH issued an RFP for a “Fluoride Education Campaign for Worcester.” The proposals were actually due by February 9, 2001 with the expected date of selection in March 2001. The RFP stated that the earliest beginning date was June 2001.

The RFP outlined what the campaign should address and included a review of voter history, demographics and surveys, identification of key advocates and opponents of the issue in Worcester, development of key messages to countermand the opposition and key advocacy messages marketable to the various racial and ethnic populations in
Worcester, development of a communication plan to specific target audiences, development of collateral pieces, such as flyers, brochures, media placement and a timeline and budget. This was considered to be Phase I. The remaining items required were identified as Phase II and included assistance in securing the services of an ad agency to refine the campaign message, assisting in the management of the implementation of the plan, revision of the plan if necessary and budget.

For Phase I, Corrigan Associates was chosen as the vendor. For Phase II, the winning bid was Robertson Associates and their proposed budget of $416,365 for implementation of the plan was accepted by Jan Yost and the Foundation. This happened during the spring of 2001. Needless to say, this campaign was relatively long and also expensive. That being said, the campaign was very organized as well.

According to an article in the *Worcester Telegram and Gazette* by Bob Kievra in May 2001, the Health Foundation’s awarded more than $969,000 to improve the oral health of area residents to the CMOHI. The prior year the Foundation had committed $161,000 for a planning grant as well as $81,000 to the Montachusett Opportunity Council for the planning of an oral health pilot project in northern Worcester County. With these awards the total awarded by the Foundation was more than $1 million, making oral health funding more than half of the year’s funding budget. The article described the oral health problem as one of access for the most part and reiterated the findings of the special legislative commission the prior year. This report termed the problem of oral health a crisis in Massachusetts noting that more than 2.3 million residents lack dental insurance, about four times as many those without health insurance. Yost, the Foundation’s president and CEO was quoted as stating, “among children, tooth
decay is more common than asthma, but is preventable and a neglected epidemic that disproportionately affects low-income and minority children.\(^{107}\)

The proposed projects from the funds included the recruitment of volunteer dentists and hygienists to man a renovated clinic at Quinsigamond Community College and plans to have dentists and hygienists volunteer at Worcester’s free care clinics or in their own offices. Other components of the award included a fluoride education campaign, the recruitment of dentists to the area, school-based prevention and screening programs, greater application of dental sealants, and regulatory changes that encourage more dentists to participate in state-sponsored dental insurance programs.\(^{108}\)

**The Fluoridation Order**

Proponents of fluoridation that have dealt with fluoridation referenda generally believe that there is a “right” time to order fluoridation so as not to allow too little or too much time for a fluoridation campaign. They know that they need to allow time to work with Board of Health members to secure their support and to make the order. They understand that the law allows opponents ninety days to collect the required amount of signatures for a referendum. They also generally believe that a longer public campaign does not equate to a win. Personal notes of proponents of fluoridation in the Worcester campaign thought carefully about the timing of the order and noted that they would like the board order to be on or around June 8, 2001. This would allow a ninety-day window for signature gathering and in time for the two month prior to the election deadline for signatures to be submitted in order to place an issue on the ballot.\(^{109}\)
The public learned of the fluoridation order in a 5/31/01 article by Monahan in the Telegram Gazette titled “Board Plans Fluoride Vote-Public Distaste won’t stop action.” The article begins by stating “despite decades of local opposition, the city health board is set to vote Monday on an order to begin adding fluoride to the Worcester water supply.” The article describes the basic process in Massachusetts whereby a health board must vote and order fluoridation before it can be implemented and the petition process that can stop implementation by requiring a public referendum before implementation. It also introduces two of the major opponents of fluoridation in Worcester. Deborah Moore, a woman described as organizing the 1996 referendum opposition and Deidre Staples who both indicate their intent to file a petition to stop implementation as well as their discontent that this issue is being brought up by the health board again. Mr. Francis Birch who is the Chief Sanitarian for the city indicates that he feels that fluoridation has been proven to be safe and effective. He states” Over 50 million Americans have their water fluoridated. There is no question that it slows down and prevents tooth decay. It has been in use for so many years by so many people, any side effects would have been seen by now.” He also added that opinions on fluoridation do vary widely.  

In June, the members of the Worcester Board of Health voted 3-1 to order fluoridation. According to an article by Monahan in the Telegram and Gazette, opponents planned to gather signatures for a petition to overturn the vote, and proponents intended to use the grant money from the sale of Central Massachusetts Health Care to for profit companies for their campaign in support of fluoridation. The article also stated that using the funds from the Foundation would take away from spending on dental treatment in the community, one of the uses discussed in a previous Gazette article. According to the
article, this money for treatment was needed because of the lack of dentists participating due to low payment in the Mass Health program, the Medicaid program offered through the state and federal government. The article also quotes Dr Convery, a member of the Health Board as saying “There are questions in my mind whether the effects outweigh the harm” and his concerns that the fluoride used in water supplies is not pharmaceutical quality and there are questions about is purity. A local dentist, Dr. Abraham Haddad, was quoted as a spokesperson for proponents. He alluded to the effectiveness of fluoride specifically that fluoride would reduce cavities in children by up to 60% and adults by 35%. He also indicates that there is needless suffering from decay since it is easily prevented. 111

Planning the Campaign

Early campaign planning had begun prior to the fluoridation order and included forming a sub-committee of CMOHI that would work specifically on the fluoridation effort. This group would also be charged with soliciting endorsements for the “Fluoride Education Campaign” as well as participating in the planning and implementation effort.

As stated previously, Corrigan Associates had been retained for Phase I of the campaign, which included research and development of all campaign materials. The agenda for an April 23, 2001 meeting of the proponent group which included Corrigan included a discussion on how the Massachusetts Dental Society and the local Worcester group could collaborate on the campaign, how to educate local physicians and get their support and ultimately get their patients to support the measure, a discussion of a draft letter of endorsement as well as discussion of groups already endorsing the campaign, groups likely to endorse the campaign and when the endorsements would take place. In
addition, Corrigan Associates planned on bringing the public opinion data collected and
other research as well as messaging, branding taglines and collateral, which were to be
tested prior to the April 23, 2001 meeting. 112

Even before that meeting some members of the group had met to discuss potential
activities that they would like included in the campaign. This included four forums in the
fall to be sponsored by the Community Wellness Coalition where an expert panel would
make a presentation. At that time the Massachusetts Public Health Association had
already agreed to facilitate these events. Other smaller scale presentations by hygienists
to groups of 50 or less were being discussed, as were events at the Fallon Clinic. These
events included presentations at the Osteoporosis Support Group of Central
Massachusetts in September and October, Community Education Forums in late
September, continuing education programs for nurses and a Grand Round for physicians
at UMASS Memorial in May. 113

By June of 2001, Kathy Robertson was retained for Phase II of the project. At that
time some members of the group were becoming concerned that the focus of the
campaign thus far had been on the media campaign and not the grass root organizing. In
addition, they were concerned that the group had been characterized as political and a
Goliath. The group was hoping to focus more on educating people where they naturally
congregate in the hopes of being better received. The creation of a website was
mentioned as being important although at that time Yost appeared to be having some
reservations surrounding parts of the campaign proposed by Corrigan. She stated that she
believed, “We would better spend our time doing other things and referencing quality
websites already available from credible sources. Again, a slick website looks like a Goliath!” 114

When Kathy Robertson came on board in June she was enthusiastic and provided the group with recommendations for a full-scale public education and community outreach campaign. She was confident that they could win although she said that they needed “to start now and define the debate” and that “free and paid media are key components to achieving victory but more important is community organizing and identification of the targeting of supporters.” She described the purpose of the effort as threefold:

- To increase awareness among residents of the significance of dental decay in the city
- To create an awareness of the benefits of fluoride and fight misinformation disseminated by opponents
- To identify and get out voters on election day that support fluoridation

She acknowledged that “the election would not be a high turnout election because there were few contested races and fluoridation may be the draw that brought people out.” Therefore community outreach and engagement were key. She recommended, “paid media be used to introduce the issue to voters.” She thought that “paid media should be brought in selectively and should be started immediately to start educating targeted constituencies who likely would have been influenced by information.” She believed “fluoride supporters could define this debate by introducing their arguments first, leaving the anti-fluoride groups to respond and fight on our battlefield.” 115
Robertson had concluded from the benchmark polling information in April that the first message that needed to be conveyed in this campaign is that dental disease is a real problem and is totally preventable. The issue needed to brought on people’s radar screen immediately so that they could pay attention to the real issues, not the process questions. She stated “the message at this point has nothing to do with fluoride or crisis-it is bad teeth and the human and financial costs of bad teeth- a senior talking about the pain and fear of periodontal disease; apparent talking about his or her child with the kick phrase of “and it was totally preventable.  

She also mentioned reinforcing this message with op Ed pieces, letters to the editor with the focus being on dental problems, not solutions. Her suggested timeline:
<table>
<thead>
<tr>
<th>Date Range</th>
<th>Tasks</th>
</tr>
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</table>
| June 11, 2001-July 4, 2001       | Develop free and paid media campaign. Begin paid media campaign in Catholic Free Press, Jewish Chronicle, Vocero and Senior Advocate  
Fine tune campaign strategy  
Community Relations-Identify and meet with allies/community organizations. Get schedule of events.  
Consider hiring outreach worker  
Work on structure and staffing |
| July 4, 2001- Labor Day (quiet period) | Coalition Building- Identify and engage key community activists to access membership and win support  
Paid Media- Finalize for an October start  
Free Media –complete plan  
Community Organization – Begin outreach to seniors and a full scale outreach effort for post-labor Day |
| Labor Day- Election Day             | Step Up outreach  
Step Up free media  
Implement full paid media drive  
Continue tracking  
Targeted mail distribution to seniors and woman Direct education/outreach through mail and phone banks.  
Coordinate election day program including heavy calling supporters to ensure they vote |

*The Signature Drive*

The opponents of fluoridation spent the 90 days after the fluoridation order collecting the required signatures. As they collected these signatures they were not only trying to get the issue on the ballot but also hoped to garner support for a “No” vote if there was a November referendum. According to a July 3, 2001 article by Monahan in the *Telegram and Gazette* fluoride opponents were at free concerts, supermarket sidewalks and local malls trying to get the 9,200 signatures required to get this on the November ballot. Diedre Staples, one of the organizers of the petition drive was quoted as saying, “We’ve been getting a lot of resistance from some of the stores, including Price Chopper markets where managers have asked citizens not to gather signatures.” Staples said the
group had contacted the Central Massachusetts Office of the American Civil Liberties Union of Massachusetts asking of rights to gather petitions outside supermarkets. She also added that most supermarkets had been accommodating and some such as the Living Earth, a specialty store that features organic and health foods, had agreed to have a petition set up at the store for customers to sign. Ms Staples noted that the group could use help in the petition drive and that they had just established a phone number for people to call to volunteer or get petitions. She also stressed that even those who are for fluoride are signing it because they think that the ballot is fair and gives people choice. She was quoted as saying, “Some proponents feel having three people decide this instead of the entire citizenry is unfair” referring to the Massachusetts law that allows the board of health members to make the decision to order fluoridation. 117

By the end of August 2001, having only one and half weeks left to the deadline for collecting signatures, more than 7,000 signatures had been submitted to the city clerk for certification. Deborah Moore told the Telegram and Gazette “that many people signing the petitions were “angered” that they had to sign the petition so soon after it was rejected by voters.” “It was only five years ago that the people spoke very clearly about their wishes, and it is an affront to these people that this has come up again.” 118

By September 5, 2001, Worcester Citizens for Total Health, the main opponent group collected and submitted more than 15,000 signatures for certification surpassing the 9,200 signatures required. One city councilor noted that the number of people who signed the petition was more than the number of people who vote in most municipal elections “if that isn’t a sign to tell us how serious an issue this is, I don’t know what is,” Councilor Lukes said. Councilor Lukes went on to urge a full city council vote on the issue. 119
**September through Election Day**

*Fall 2001 - The “Campaign”* -- In the end of September 2001, the City Council’s Health Committee voted 2-1 in favor of fluoridating the town’s water supply. Two of Worcester’s Councilors at Large Dennis L. Irish and Juan Gomez voted for the measure and District Councilor Michael Perotto voted against it. Approximately 70 people attended this hearing with both proponents and opponents speaking out.

In early October of 2001 the entire City Council took a non-binding resolution on fluoridation. The vote was ten to two in favor of fluoridation, with Perotto and Lukes against it.

*Other Efforts* -- During the second week in October both sides of the issues advertised, held public forums, had radio appearances and had sign–holding events.

**Proponents**

On October 16, 2001, Proponents of fluoridation (The Central MA Oral Health Initiative) sponsored a Fluoride Education Public Forum at Quinsigamond Community College. The format included a moderator with a keynote speaker and a panel of seven speakers in favor of fluoridation. There was also an open forum, which allowed for questions from the audience.

The Central MA Oral Health Foundation had also begun to run television ads on local T.V. stations with endorsements from a number of public health agencies and the slogan ”Got Teeth? Get Fluoride.” They also ran a program about the benefits of fluoride on the local cable TV show. The show ran on Tuesday and Friday from October 29th –
November 6, 2001. Several advertisements ran on local TV stations from the middle of August through November 6, 2001. A review of the media schedule from August through Election Day indicated that proponents planned to air eight different television advertisements. They were run daily and each one aired for more than a week with some airing 21 days. On many days two different advertisements were aired. Radio advertisements ran during the same time period and the content and schedule of those advertisements corresponded with the TV commercials running on the same days.  

Other pro fluoride strategies included flyers and brochures that were distributed to dental offices for their patients. This started during the last week of August and was ongoing throughout the remainder of the campaign. Dentists were also given signs for their waiting rooms that stated, “This office recommends Water Fluoridation for Healthier Teeth.”

**Opponents**

Opponents had lawn signs that read “Fluoridation, If there’s any doubt, leave it out! Vote No.” The Worcester Magazine reported on October 25, 2001 that there had been a number of anti-fluoride lawn signs that were “stolen” from the well-manicured lawns of the West Side of Worcester although these charges were not substantiated.  

Other of the many grassroots efforts used by opponents included phone banks urging people to vote against fluoridation. Free media coverage for the opponents was a talk show run by Former Mayor Jordan Levy on a local AM radio station. Levy helped the opponents cause by openly voicing his No stand on fluoridation and portraying the
controversy as a David vs. Goliath battle because of the sheer number of dollars available to proponents in comparison to opponents.  

Venues for spreading their word included the Worcester Rotary Club Rockets meeting where Konnie Lukes (City Council member) discussed her opposition to fluoridation. Several speakers spoke against including Debra Moore from Worcester Citizens for Total Health. Debra’s platform was “If there is any doubt leave it out” and brought two gentlemen in to discuss. They were Myron Coplan and Dr. Norman Mancuso both who had experience in a 1997 fluoridation effort in Natick. They claimed that Natick had put together a group of five scientists who were charged with studying the issue in 1997. They claimed the group spent 750 man-hours and concluded that after the study four out of five of them were opposed to fluoridation. Their arguments included that fluoride is not as effective as proponents believe since cavity rates are decreasing in both fluoridated and non-fluoridated communities and that too little is known about the side effects of fluoridation.

They also held fund-raisers one of which was at the Bijou Cinema Café that featured a presentation by Stephen Dean, president of Massachusetts Communities for Pure Water, a leading opponent of fluoridation from Springfield. This presentation was covered by the Telegram and Gazette. Stephen Dean’s basic arguments against fluoridation included that 95% of the people in the world do not have fluoride in their drinking water and that fluoride is an “industrial waste” that is classified as a toxic chemical by the EPA. He went on to say that the real problem is that only a handful of dentists in Worcester accept state subsidized dental insurance. He said, ”Don’t blame the public for not fluoridating the water supply when they won’t treat the cause of the crisis:
dentists who won’t treat poor children. It is disingenuous for dentists to refuse to provide treatment to the poor while saying they want fluoridation. Access is the real issue.”

The Telegram and Gazette also reported on a “debate” being held by Worcester Citizens for Total Health, the main fluoridation opponent group. Newspaper reports about the debate started on October 17th when the opponents of fluoridation accused proponents of not wanting to debate them. In fact, it is generally said by proponents of fluoridation that it is unwise to debate antifluoridationists since the scientific facts are indisputable and opponents will lie and use scare tactics against proponents in a debate. For this reason, proponents believe they never come out on top in a debate and prefer to answer questions in a more controlled environment. In this particular article, opponents of fluoridation said that they had gone through an intermediary two months prior to make the debate offer and had been waiting for a response. Proponents of fluoridation said that they had just received the invitation one week before and were trying to get speakers to represent their side. In the end, no actual debate was held. Proponents did not engage the opponents in the debate but opponents had videotaped the presentation given on October 16th and attempted to refute some of their arguments point by point.

The opponent “debate” was at Clark University and approximately 75 people attended. The lead speakers were Peter Connett, a chemistry professor from St. Lawrence University in New York and Dr. Hardy Limeback, a leading Canadian dentist both who strongly opposed fluoridation and often spoke out around the country against fluoridation. Dr Limeback was identified as a college professor and a past president of the Canadian Association for Dental Research who had converted to the opponent side. Mr. Connett explained that there is a reason why so few dentists oppose the measure as
Dr. Limeback does. That reason is that they receive a narrow education that does not expose them to information about the harmful effects of fluoride on the rest of the body. Both refuted the arguments about the effectiveness of fluoridation saying that European countries do not allow fluoridation and that the incidence of tooth decay is roughly equal to that of the US. Mr. Connett argued that poorer populations are where the US falls short in oral health and the reason for that is that these poor populations have the worst dental hygiene in the Western World. Mr. Connett also coined a new slogan for the fluoridation campaign; it was “Got Brains? Avoid Fluoride.”

News coverage also noted that the entire opponent campaign up to Election Day cost approximately $5,196.00. The group indicated that most of its spending went to postage, printing and brochures, bumper stickers and a few radio and television spots. They relied heavily on 100 volunteers many of whom held signs on Election Day.

Public Opinion

One of the requirements of the proposal issued by the Foundation was for the chosen vendor to assess the public opinion of fluoridating Worcester’s water supply as well as test some of the messages that are often used by proponents and opponents of fluoridation. This information was to be used for the proponents’ ensuing campaign.

In an executive summary of the first polling results the pollsters noted, “There is a significant lack of public recognition of dental disease as a major public health problem. Even among supporters of fluoridation information concerning the lifelong benefits of fluoride is in short supply. The campaign should begin with an urgent public education message about the dangers of dental decay, specifically the higher Worcester figures for
dental disease and then move into a strong public education campaign stressing that everyone, including the poor, needs fluoride all through their life and that both nature and science agree that fluoride is the answer.” They ended the summary by saying, “this is a teachable moment, the lack of information about the issue is significant, and the public is in general not politicized and open to information. This is a complicated argument that has to stress the organic and scientific proofs in an informed and professional way to an audience that is not to be patronized.” The following are some examples of the polling information that led to the group’s assessment.\(^{129}\)

*The Nature of the Problem*

<table>
<thead>
<tr>
<th>How serious a threat to public health do you think the following are?</th>
<th>Very Serious</th>
<th>Somewhat Serious</th>
<th>Not Very Serious</th>
<th>Not Serious At All</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS</td>
<td>71%</td>
<td>20%</td>
<td>4%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>59%</td>
<td>32%</td>
<td>6%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Dental Disease</td>
<td>25%</td>
<td>42%</td>
<td>25%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Smoking</td>
<td>69%</td>
<td>20%</td>
<td>6%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>54%</td>
<td>35%</td>
<td>7%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Source: April 2001 report to Corrigan Communications by Louis Di Natale*

*Dental History*

Of those polled more than 77% had seen a dentist in the last 6 months with 89% of all respondents seeing a dentist in the last year. Of those seeing a dentist, 71% indicated that they had a cleaning/check-up at their last visit. The following questions were asked:
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Maybe/Not sure</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>84%</td>
<td>13%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>26%</td>
<td>59%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>70%</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28%</td>
<td>71%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: April 2001 report to Corrigan Communications by Louis Di Natale

Of those answering the above questions 33% had children under 18 living at home with 82% indicating they had either one or two children under the age of 18.

Support of Fluoridation

<table>
<thead>
<tr>
<th>How strongly would you support or oppose fluoridating Worcester’s water supply?</th>
<th>Strongly Support</th>
<th>Somewhat Support</th>
<th>Somewhat Oppose</th>
<th>Strongly Oppose</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>41%</td>
<td>37%</td>
<td>6%</td>
<td>13%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

Source: April 2001 report to Corrigan Communications by Louis Di Natale

Messages

Those who opposed fluoridation were asked why. The reasons were then classified with a full 40% of those opposed indicating that they did not want it forced upon them. This was the only reason that proved to be statistically significant. The only other reason that was above ten percent was that it could be toxic. Thirteen percent did actually indicate that they did not know why they opposed it. The remaining answers included various negative health effects, that it was a waste of money and that it was available in other ways.
Those who were opposed or didn’t know were asked if statements that summarized the opinions of those that supported fluoridation would change their opinion on the measure. The following is a list of those statements and their corresponding values. In summary, it can be said that almost none of the statements commonly used by proponents would either change or have an effect on the opinion of those who opposed fluoridation.
<table>
<thead>
<tr>
<th></th>
<th>Helped</th>
<th>Have No Effect</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoridation is an element, which occurs naturally in drinking water. There have been no adverse health consequences in communities where the naturally occurring fluoride concentration is 2-3 times higher than what is recommended for the best dental health</td>
<td>11%</td>
<td>86%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>13%</td>
<td>85%</td>
<td>2%</td>
</tr>
<tr>
<td>Fluoride can reduce the amount of cavities in children by 35%</td>
<td>20%</td>
<td>78%</td>
<td>2%</td>
</tr>
<tr>
<td>Fluoridation can reduce the amount of cavities in adults by 60% Over 360 million people in approximately 60 countries worldwide are protected by fluoridation, with over 10,000 communities and 145 million people in the U.S. alone</td>
<td>21%</td>
<td>78%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>18%</td>
<td>80%</td>
<td>2%</td>
</tr>
<tr>
<td>Forty two of the fifty largest cities in the US including Boston and every community served by the MWRA are supplied with fluoridated water</td>
<td>19%</td>
<td>78%</td>
<td>3%</td>
</tr>
<tr>
<td>More than 80 national and international respected organizations support fluoridation including the American Dental Association, the American Medical Association, the American Academy of Pediatrics, the Centers of Disease Control and Prevention, and the U.S. Surgeon general</td>
<td>24%</td>
<td>75%</td>
<td>1%</td>
</tr>
<tr>
<td>Water has been fluoridated for more than fifty years</td>
<td>19%</td>
<td>78%</td>
<td>3%</td>
</tr>
<tr>
<td>Fluoridation is more cost-effective and practical than other supplements such as tablets, drops or lozenges</td>
<td>22%</td>
<td>76%</td>
<td>2%</td>
</tr>
<tr>
<td>Fluoridating a city’s water supply can reduce dental disease for Medicaid recipients, which would save tax dollars One of the leading causes of student absenteeism and loss of work hours for adults is dental decay</td>
<td>25%</td>
<td>73%</td>
<td>2%</td>
</tr>
<tr>
<td>To provide protection from dental decay, the amount of fluoride that needs to be in the water is 1 part per million, comparable to 1 inch in 16 mile</td>
<td>11%</td>
<td>89%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>13%</td>
<td>85%</td>
<td>2%</td>
</tr>
<tr>
<td>It costs 50 cents per person per year to provide fluoride in water… over a person’s lifetime, that’s about the same as a cost of one filling</td>
<td>21%</td>
<td>76%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: April 2001 report to Corrigan Communications by Louis Di Natale
For all of these statements the percentage that indicated that the statement helped change their opinion was 11%-25% with between 73%-86% indicating that it had no effect on their opinion.

Questions were asked of those indicating that they supported fluoridation. Of those that supported fluoridation 61% answered that the reason that they supported it was that it reduced cavities. And 15% answering that it provides benefits to everyone. Other answers included medical and scientific support 9%, most cost effective 6%, don’t know 6%, occurs naturally 2%, millions worldwide protected 1% and fluoridation in US for 50 years 1%.

Respondents were asked other questions and were read statements and asked to answer accordingly. When asked if they would be more likely or less likely to vote for someone who supports fluoridation or would it make a difference 63% indicated that it would make no difference. Interesting to note was that 74% of respondents strongly agreed and 19% agreed that putting fluoridation on the ballot is the way to give people choice.

The same firm conducted three additional surveys prior to the vote, one each in August, October and, finally, on November 1, immediately before the election and after most of the campaign was completed. The sample size for these surveys was 200 with the same firm conducting the surveys. The data located did not include the level of confidence of this survey nor if any of the changes was statistically significant but an anecdotal review of the data is interesting.

On the question asking, “How much do you know about fluoridation programs or ideas” there was a 7.6% increase in those indicating that they knew a great deal, a 2.1% increase in those answering quite a bit, a .6% increase answering something and also a
6.1% decrease and a 6.6% decrease in those who answered a little and not much. This apparent change in knowledge however did not translate into a corresponding belief about the seriousness of dental disease in Worcester. In fact, the percentage of those indicating that that dental disease was very serious decreased from 25% to 12.9% and the percentage that indicated somewhat serious decreased from 42% to 34.8%. The percent that answered not serious at all increased by 6% from 3% to 9% and those that didn’t know increased from 3% to 18.4%.

In addition, knowledge did not translate into increased support for fluoridation. Those who strongly supported fluoridation decreased by more than ten percentage points (there were two questions on the April survey that asked about support and the answers were 41% and 48% with the November 1 survey showing 30.8%. Those who somewhat supported also decreased from 34% and 37% to 30.3%. Those who opposed the measure increased with those who somewhat opposed increasing from 5% and 6% to 12.9% and those who strongly opposed increased from 13% and 12% to 19.4%. Those who didn’t know increased from 1% and 4% to 6.0 % while a small percentage refused to answer on the final survey. A question was also asked on the second survey about the degree to which the scientific evidence supported fluoridation with 28.9% and 28.4% strongly agreeing and somewhat agreeing respectively and 17.4% and 14.4% somewhat disagreeing or strongly disagreeing with 10% answering don’t know.
The Final Vote

In the end, the voters of Worcester voted against fluoridation. The final vote was 56% against fluoridation and 44% supporting it. In total there were 12,906 votes against fluoridation and 9,980 votes for fluoridation. In addition, a significant number of voters did not answer the question. The percentage of voters actually voting in Worcester’s election in 2001 was only 27.69%.

Worcester Media Analysis

In Worcester, the major newspaper is the Telegram and Gazette, a daily newspaper with a Sunday edition.

The following analysis includes the newspaper articles, editorial and opinion pieces as well as letters to the editor found in a search using Lexus Nexus and an Internet search. In addition, Jan Yost of the Central MA Health Foundation provided access to all of her archival documents related to fluoridation including advertisements, documents printed in alternative media and internal documents.

Newspaper Coverage

Five authors wrote the news articles. In total, there were nineteen articles; seventeen of these were written prior to the vote and the remainder of the articles were written just after Election Day. The authors were John J. Monahan who wrote ten articles, Nick Kotsopoulos, who wrote three articles, and Martin Littrell, Bob Kievra, Lee Hammel, Richard Nangle and Andrew O’Connor who each wrote one article.
In terms of the volume of the articles that presented both sides of the issue, it would appear that coverage by the local newspaper was fair. Of the seventeen articles written prior to the election, twelve presented at least one argument for those on each side of the issue within the article. Of the remainder, one article on May 31, 2001 by Bob Kievra never mentioned fluoridation at all but rather talked about the funding available from the Central MA Health Foundation that was donated to fight tooth decay. Another article on the same day titled “Board Plans Fluoride Vote” by John Monahan did in fact provide arguments both in favor and against the measure. Two articles one on 7/31/01 and another on 9/05/01 by Monahan and Kotsopoulos provided no arguments in support or against fluoridation. Instead these articles focused on the controversy surrounding the process of gathering and submitting the number of petitions required to put fluoridation on the ballot. Two other articles by Monahan on 8/24/01 and 10/17/01 provided arguments for both sides but in both cases the opponent argument came from a proponent restating the opponents’ argument.

The first article surrounding this fluoridation referendum was on 12/6/2000 by Kotsopoulos and was titled “Council revisits fluoridation issue.” The main topic of this article was the consideration of a fluoridation order by the Worcester’s Board of Health. This consideration according to Kotsopoulos came from a request of the City Council for the board to provide recommendations on the problem of tooth decay in Worcester children. He starts the issue with “Four years after voters resoundingly rejected fluoridation of the public water supply, the City council appears poised to resurrect the issue.” This opening uses a death metaphor implying that a dead issue has been brought back to life by the City Council against the wishes of the voters. Kotsopoulos goes on to
explain that the recommendation has been given by local public health officials to fluoridate Worcester’s water supply.\footnote{131}

The article quotes several elected and appointed political figures. The author quotes Joseph McCarthy, the deputy commissioner of public health and code enforcement regarding the recommendation. Kotsopoulos writes, “Mr. McCarthy said the prevalence and severity of dental problems among children is all too common in the city, even though tooth decay is a largely preventable disease. He said while some initiatives are in place locally to address the problem his department agrees with Dr. C. Everett Koop former U.S. Surgeon General, that fluoridation is the single most important commitment a community can make to the oral health of its children.” He quotes McCarthy as saying fluoridation is “a safe, beneficial and cost-effective public health measure.” Kotsopoulos goes on to say that fluoridation has been a “highly charged and emotional issue” and that voters have rejected it three times since 1963. In the body of the article he gives more detail on the 1996 decision, which also involved a referendum.\footnote{132}

He quotes two city council members Dennis Irish and Konstanina Lukes. Dennis Irish was the Councilor who requested the report and was the chair of the council’s Health Committee. He said that he intended at least one public hearing on the result of the report. Ms. Lukes was quoted as saying “this almost shows the intent of the government to subvert the voters.” Kotsopoulos wrote that Mayor Raymond Mariano also promised public hearings and stated, “We’re not going to sandbag anybody on this and we’re not going to have certain groups get preferential treatment either.” One other opponent of fluoridation and city resident, Michael Troiano was quoted as saying “City
councilors are elected to set policy for the city, and they are not elected to make medicinal decisions for us.” He added, “Fluoride is available to anyone who wants it. We don’t need it coming into our homes from our faucets.” He also indicates that other opponents contend that fluoride is “a toxic substance that poses public health risks” and that “by distributing it in the water supply, the city would force fluoride treatments on residents who might not want them.”

The framing of the arguments in this article reflects the framing of future arguments used by both sides with proponents framing the issue from an instrumental perspective and opponents from an expressive perspective. The thrust of this article focused on the views of local political figures and the history surrounding this issue in Worcester with the arguments for advocates on either side playing a lesser role. Clearly, the quotes from the politicians involved indicate the importance of choice, equity and fairness of the process while the public health official seems to emphasize that fluoridation is a safe and effective way to solve the oral health problem.

The next mention of fluoride in the newspapers was not until the end of May in 2001. One article by Bob Kievra titled “$969,000 donated to fight tooth decay—Local foundation joins dental ‘crisis’ war,” described the significant donation by the Health Foundation of Central MA to the Central MA Oral Health Initiative and the programs to be implemented with funds. The author described both groups, explaining that the Central MA Oral Health Initiative was a group of 14 health related organizations collaborating on a model for oral health services and listing all its member groups. The money from the Central MA Health Foundation (described as being created from the proceeds of a sale of
a non-profit health maintenance organization to a for profit company) was said to be for programs focused primarily on children and the uninsured elderly.\textsuperscript{134}

The article described the cause of the oral health problem as primarily one of access since very few dentists in the Worcester area accept Medicaid. These dentists do not accept Medicaid because of the program’s lower than market rate reimbursement and a state requirement that does not allow them to limit the number of Medicaid patients they see. The article reiterated the findings of a special legislative commission the prior year, which termed the problem of oral health a “crisis” in Massachusetts. The report also noted that more than 2.3 million residents lack dental insurance, about four times as many as those without health insurance. The article also quoted Jan Yost the Foundation’s president and CEO who said that “among children, tooth decay is more common than asthma, but is preventable, a “neglected epidemic” that disproportionately affects low-income and minority children.”\textsuperscript{135}

The article described the projects or solutions to the oral health problem that would be funded. These included the recruitment of volunteer dentists and hygienists to man a renovated clinic at Quinsigamond Community College and plans to have dentists and hygienists volunteer at Worcester’s free care clinics or in their own offices. Dr. John Gusha, a Holden dentist who was said to be leading this initiative, Lizette Yarzebski, a dental manager at Great Brook Valley Health Center and Sandra Kurtinitis, the president of Quinsigamond Community Health Center were all quoted and were all agreement that the program would help increase access to dentists in the community. Other components of the award described by Kievra included a fluoride education campaign (the only mention of fluoride in the article), the recruitment of dentists to the area, school-based
prevention and screening programs, greater application of dental sealants, and regulatory changes that encourage more dentists to participate in state-sponsored dental insurance programs.  

This article provided the reader with an overview of the oral health problem according to advocates of the issue. These advocates were clearly trying to convey a sense of the severity of the problem, calling it a “crisis” and a “neglected epidemic”, in the hopes that a public understanding of the urgency of the problem would translate to votes for fluoridation. The article did not however explain why tooth decay was so serious by explaining the implications of poor oral health. In addition, the article did not mention fluoridation as a solution to this problem. Rather the problem was characterized as being caused by a lack of dental insurance and access to dentists accepting Medicaid. The solutions presented were in that realm as well. In addition, the problem was framed as one that predominantly affected low income and minority individuals, a group that may in fact cause support for oral health issues to decrease as noted in previous research by Frameworks.

The other May 31, 2001 article by John Monahan was titled, “Board Plans Fluoride Vote-Public Distaste won’t stop action,” and covered the potential upcoming board of health order for fluoridation. It began by stating, “despite decades of local opposition, the city health board is set to vote Monday on an order to begin adding fluoride to the Worcester water supply.” The article describes the basic process in MA whereby a health board must vote and order fluoridation before it can be implemented and the petition process that can stop implementation by requiring a public referendum before implementation. It also introduces two of the major opponents of fluoridation in
Worcester. Deborah Moore, a woman described as organizing the 1996 referendum opposition and Deidre Staples who both indicate their intent to file a petition to stop implementation as well as their discontent that this issue is being brought up by the health board again. Monahan quotes Mr. Francis Birch who is the Chief Sanitarian for the city who indicates that he feels that fluoridation has been proven to be safe and effective. Birch stated, “Over 50 million Americans have their water fluoridated. There is no question that it slows down and prevents tooth decay. It has been in use for so many years by so many people, any side effects would have been seen by now.” He also added that opinions on fluoridation do vary widely. Monahan writes, “While proponents of fluoride claim it can help prevent tooth decay when young children are given steady doses in drinking water, opponents say it can cause a range of health problems and that it can be a toxic substance.”

The focus of this article also was on the political process quoting local officials such as Chief Sanitarian Francis Birch, Public Health Commissioner Dr. Arnold Gurwitz, Deputy Public Health Commissioner Joseph McCarthy and City Manager Thomas Hoover who all discussed the process required to implement water fluoridation and the fact that the Board of Health intended to start that process by ordering fluoridation. Opponents, Moore and Staples, did not present arguments against the measure but rather their intent to follow the process necessary to stop it.

The topic for a June 5, 2001 Monahan article was the board of health fluoridation order and the probability of a signature drive. It was titled “Fluoride ordered for city-Opponents plan referendum drive.” The piece indicates that the Board of Health had voted 3-1 to fluoridate the city’s water supply. Monahan states that this move has set up
“what could become an explosive issue in this fall’s municipal election.” Monahan indicates that both the mayor and City Councilor at Large Konstantina Lukes urged the health board not to issue a fluoridation order because voters have voted against fluoridation three times. Monahan indicated that proponents urged the health board to begin fluoridating to help curb tooth decay while many opponents in the audience said that the “health risks of fluoridation are too great to limit the issue to a single one hour public comment period.”

Monahan once again indicated that opponents intend to gather the appropriate signatures to block the order and put the issue to ballot. He also quoted Dr. Convery, the only member of the Board of health to vote against the measure as saying, “There are questions in my mind whether the effects outweigh the harm.” Monahan also wrote that Convery said that the fluoride used in water supplies is not pharmaceutical quality and there are questions about its purity. He also wrote that Mayor Mariano urged the board to wait to order fluoridation and instead an advisory question should be put to the voters in the fall. Monahan also quoted Lukes indicating that she said that the $1 million dollars donated by the Central MA Health Foundation would be “flushed down the toilet” because Worcester voters “clearly are opposed to adding fluoride to the water supply.”

Monahan also says that proponents are going to use some of the recently announced $969,000 grant for improved dental care and for an election campaign in favor of fluoridation. He also describes where that money came from. He stated that Yost, the CEO of the Central MA Health Foundation, said that these funds came about because of state laws regulating the sale of non-profit corporations to for-profit companies and that some of the nonprofits assets must be used for “community health programs.” He said
that she also acknowledged that the funds used for this campaign would take away from the funds used for the treatment programs described in previous articles and then discussed the low Medicaid fees and the small number of providers who accept the public insurance program. Monahan also quotes Dr. Abraham Haddad, a dentist in the city who told the board fluoride would reduce the number of cavities in city children by up to 60 percent, and in adults by 35% and quotes Haddad as stating, “It’s tragic that people suffer needlessly from decay and oral diseases. It’s so easily preventable. I would think this community would not only accept fluoridation but would demand it.”

Once again this article reported predominantly on the political process. Also, this article set the stage for future opponent arguments, which focused on the large amount of money that was to be utilized in this “campaign” for fluoridation. There was a quick mention of the arguments on either side with opponent arguments focusing on health risks and the will of the people and proponent arguments focusing on the effectiveness of fluoridation.

“Fluoride proponents now better-funded” was written by Monahan and published on June 6, 2001. The topic of this article was the continued fight between opponents and proponents. He opens this article with a statement indicating that proponents have several hundred thousand dollars available to them and are determined to overcome longstanding opposition to fluoridation. He goes on to say that opponents are ready to begin passing petitions around. He also says that opponents expect voters to once again “reject fluoridation as a means of fighting tooth decay, based on concerns that it has toxic properties and may contribute to an array of health problems.” He also notes
that opponents are tapping the same organization of volunteers that defeated fluoridation in the past and are raising campaign funds. 142

Two proponent leaders Jan Yost and Lemuel Higgins, a city dentist and co-chairman of the Worcester District Dental Society’s Fluoride Committee received quite a bit of focus by Monahan. He notes that Yost has indicated that about $400,000 of the $1 million dollar grant will be used to support the fluoridation campaign and the other $600,000 will be used to establish a dental clinic at Quinsigamond Community College. He once again states that the money came from the sale of a non-profit to a for profit company. He also says that Yost said that the organization plans numerous public forums and plans to meet with local neighborhood and professional groups to promote public support for fluoridation of the water supply if it reaches the ballot and that she also expected a media campaign. Monahan wrote that Higgins said that he expected “a very different kind of debate over fluoride this time around” and that he expects the dental society to work with the health foundation “to defeat the ballot initiative and will focus on attacking the credibility of opponents and convincing people that fluoride is safe and effective”. He quotes Higgins as stating, “What it comes down to in Worcester is the public has paid dearly due to the unqualified few who have had the dominant voice. This is going to change now. The dental profession and the medical groups have decided we are not going to let them have the dominant voice any more. We are sick and tired of hearing all their scare tactics.” Higgins also repeated the opponent argument saying that people have responded to warnings about the toxicity of fluoride and that they have not heard enough about its relative safety and effectiveness and have played it safe and voted against fluoridation. Higgins is then quoted as saying, “Now we are going to take the
Monahan then ends the article by quoting an opponent, City Councilor at Large Lukes who says that the pro-fluoride campaign will have trouble overcoming public concerns that fluoride is being forced on the community in light of the 1996 margin of defeat. Monahan then quotes Lukes as stating that she expects the ballot issue to be a “David and Goliath” contest with the pro-fluoride group spending large amounts of money to defeat a grass-roots opposition. Lukes then predicted, “David will win.”

This article continued Monahan’s framing of the Health Foundation as “big business” while implying that opponents are the underdogs. In addition by providing some of these quotes by proponents and opponents the controversy seems to not only be continued but also stirred up or ignited. It is also interesting to note that Lemuel Higgins, a leading proponent, dentist and “expert” raises the issue of opponents being “unqualified” and insinuated that their claims about fluoridation were simply untrue and that “the truth” would prevail. Higgins clearly framed this issue as a scientific one and one of professional credibility. For their part, opponents used a common metaphor to imply that the fight was not only about putting something potentially dangerous in the water but also about proponents with big money trying to impose their will on the average citizen.

The next article on the issue did not appear until July 3, 2001. The topic of the article was the gathering of petitions by opponents. It was also authored by Monahan and was titled “Organizers work hard with fluoride petitions” with a second page title of “Voters would get final decision.” This article described the difficulties that opponents
were encountering in trying to collect the 9,200 signatures required to get fluoridation on the ballot. The opponent group now had the name of “Worcester Citizens for Total Health” and according to Monahan, “greeting by greeting, signature by signature, at free concerts, supermarket sidewalks and local malls”, had been bringing their campaign to the streets.  

Monahan then states, “Meanwhile, fluoride proponents, including the Worcester District Dental Society and Community Health Foundation, have been working quietly in the background. CHF is prepared to bankroll a pro-fluoride election campaign. He once again quotes Higgins as stating, “there isn’t much to tell” and that if the issue makes it to the ballot, Monahan says that Higgins indicated that the “pro-fluoride forces” may have only two months to execute a campaign to persuade voters to vote for fluoridation.”

Monahan gives Staples, one of the organizers of the petition drive, the remaining space in the article saying that Staples has said that collecting this amount of signatures is “a daunting chore” and that she has been getting some resistance from some of the stores and have contacted the American Civil Liberties Union to determine what their rights are to gather petitions outside of supermarkets. Monahan also writes that Staples also indicates that volunteers are passing petitions from “person to person” and that the timing is difficult because many people are on vacation. He writes that she says that the group can use more help and volunteers. Monahan then includes the phone number given by Staples to either volunteer or get copies of the petition. Monahan then writes” Ms. Staples said the group is not asking people to take a position on fluoride, but rather whether residents should get the chance to make their own choice at the ballot box.” He ends the article with a quote from Staples who says” A lot of people who are for fluoride are
signing it too, because they think it should go on the ballot just to be fair and give people a choice. Some proponents feel having three people decide instead of the entire citizenry is unfair.”

In this article Monahan implies that the Foundation/proponents are conducting some sort of stealth backroom operation while the opponent group is forced to work hard to collect signatures contributing to the framing of the Health Foundation as a large and wealthy organization trying to impose its power on the public. In reality, the processes described in this article (i.e. the gathering of signatures for a referendum) represent the outcome of other fluoridation battles held long ago whereby opponents were able to establish legislation requiring referenda to implement fluoridation. This in essence expanded the scope of conflict from the scientific arena to the political arena. Proponents were also able to place some restriction on that expansion by requiring opponents to collect signatures in order to hold a referendum. Current law also allows the board of health to order fluoridation every two years regardless of other unsuccessful referenda. In other words, although the process is perfectly legal and the referendum process likely benefits opponents, the opponents to water fluoridation were able to frame this as another example of government imposing legal and bureaucratic processes that are contrary to the good and the wishes of the public. It is also interesting o note that the opponent group has also chosen to name its group “Worcester Citizens for Total Health” implying that their concern is for “larger” more “comprehensive” health issues versus “only” oral health which may not be deemed as important to the public at large.

On August 24, 2001 Monahan wrote another article, “Dental experts make case for fluoride with the second page titled “Fluoride opponents seeking signatures.” The
topic of this article was a press gathering conducted by proponents. The first half of the article focused on the testimony of dental experts at the gathering. Monahan states, “Members of the panel said they and others have been “appalled” by the lack of access to families who depend on state subsidized health insurance in Worcester. A vast majority of dentists in the city have boycotted the health insurance because they claim the reimbursements for services are inadequate.” In this article he quotes proponents, Jan Yost and Myron Allukian, a dentist and director of oral health programs for the Boston Public Health Commission. According to Monahan, Allukian indicated to the audience that there was a dramatic improvement in oral health of Boston area children when fluoride had been added to Boston’s water supply decades before. Monahan also indicated that Allukian had said that “people who do not want to drink water with added fluoride would not be forced to consume it because they can “drink bottled water” without fluoride or could attach home treatment systems to remove fluoride. It was not stated whether this was in response to a question or whether Allukian offered up this information to the crowd on his own. Monahan also indicated that there had been two press releases from the Central MA Oral Health Initiative, the group who had received the funding, and the Central MA Health Foundation, the group that dispersed the funding, that complained that “politics was keeping fluoride out of the city water supplies, despite studies that show it is effective.” He also said that the Health Foundation had begun airing radio and television ads claiming that there is a dental health “crisis” in Worcester. He said that Foundation cited recommendations from a Center for Disease Control and Prevention regarding the effectiveness of water fluoridation in comparison to other modalities such as toothpaste but also noted that the report did not address the safety of
fluoride. He quotes Yost as saying, “Yet again we have experts in the health professions pointing to fluoride as safe, natural and an effective way to fight tooth decay. It is time for the people of Worcester to put aside the scare tactics and the half truths opponents have voiced over the years and to rely instead on science.”

Monahan added that opponents were continuing to gather signatures and said that grass roots organizers of the antifluoridation effort had collected more than 7,000 of the 9,200 required. According to Monahan, Deborah Moore, an organizer, said that many people who are signing petitions are “angered” that they have to face the issue so soon. He ends the article quoting Moore who said, “It was only five years ago the people spoke very clearly about their wishes and it is an affront to these people that this has come up again.”

On September 5, 2001, Nick Kotsopoulos authored an article titled “Fluoride foes submit petitions- Council takes stand Oct.9.” This article provided no scientific or other arguments on either side of the issue but rather reported that more than the number of required signatures (15,000) had been collected and submitted for certification and that likely the measure would go to the ballot. The article also indicates that the City Council plans to take a stand on October 9 and the City Council Health Committee plans on presenting its recommendation to the entire council. The Health Committee planned on holding a public hearing on September 24, 2001 prior to the October 9, 2001 date. Councilor Lukes urged the other councilors to give a sense as to where they stand on the issue saying that the voters had a right to know and that they would be “ducking the issue” to do otherwise. Kotsopoulos indicates that Lukes pointed out that the number of signatures collected by opponents is more than the number of people who vote in most
municipal elections. He quotes her as stating “If that isn’t a sign to us how serious an issue this is, I don’t know what is.” Mayor Mariano also indicated that the public would have a chance to speak for the first hour of the October 9 meeting. 150

Monahan also had a piece on September 5, 2001, which acknowledged the certification of the submission of the signatures and once again repeated the opponents’ complaint that they were being “forced” to go through the arduous process of collecting signatures and waging a campaign to prevent fluoridation. According to Monahan, organizers said that more than 100 volunteers had spent the summer standing in front of supermarkets and public parks seeking signatures. This article included the following quotes from opponents such as Patrice Goldman. Goldman, an organizer, was quoted as saying “The people of Worcester didn’t want fluoridation thirty years ago. They didn’t want it twenty years ago. They didn’t want it five years ago and we don’t want it today.” She also stated that local dentists, city officials and health groups have “turned their backs on our children by failing to provide them with” proper dental hygiene education” and access to affordable care. Monahan went on to quote her as stating “We need better solutions for our children, they deserve better. Fluoridation is just an excuse for dentists not to provide dental services to the poor.” Monahan wrote that opponents said that they were presenting programs on local cable access programs with experts who are critical of fluoridation. Monahan indicated they are doing this because there was little money for advertising. He also stated that they had been holding signs at City Hall, which said, “just say no to drugs in the water” and “let the will of the voters stand.” He then adds that opponents contend that fluoride has toxic properties, can lead to health problems and over exposure can actually damage teeth. Monahan goes on to quote Yost of the Health
Foundation as stating, “We were always preparing to educate people in Worcester about the benefits of fluoride and we will continue to do that.” She also is quoted as saying that the first wave of ads, some which carry a photo of a child’s mouth full of rotting teeth, are aimed at “making people aware that there is an oral health crisis.”

Monahan then writes about the $400,000 that the Foundation has given saying that this is an amount that is heavily criticized by opponents. He also adds that a study was released earlier in the year which indicates only five of one hundred twenty dentists accept state subsidized insurance to pay for fluoride treatments and other services for low income families and that fluoride opponents maintain that this is evidence that area dentists want fluoridation as a substitute for dental care. He ends with a quote from an opponent, Christine Bogian, who said, “Keeping the water pure is very important. I don’t think fluoride is something I should be drinking every day for the rest of my life.”

This article by Monahan reinforces the frame normally used to process information about health care in generally but especially about oral health. That is that oral health is an individual issue that can be solved by educating individuals on the importance of brushing and flossing and by providing children with access to dentists. It also plays on many people’s perceptions about physicians and dentists especially dentists. That is that they are greedy and interested in their own pocketbooks rather than the welfare of the patients they treat.

The next article was a very short one by Martin Luttrell on September 11, 2001 titled “Fluoridation will go to vote”. The article states that signatures have been collected and certified and therefore there will be a vote on the issue in November. Luttrell quotes
Deirdre Staples from Citizens for Total Health as stating, "This confirms what our petitioners have strongly felt, that the citizens of Worcester strongly oppose being medicated against their will, for any reason at all, and that they will not be swayed or bought by an outrageously expensive, professional relations campaign."153

Luttrell then adds, “Proponents of fluoridation believe it will reduce tooth decay” and quotes Yost as saying, “That’s fine for the voters to decide. That is the process in Massachusetts. We believe the scientific documentation is clear on the matter. We’re perfectly happy for the educational process to begin. We look forward to it.” 154

These initial articles although clearly attempting to give credence to both opponents and proponents of the issue do begin to create and reinforce specific frames in the minds of readers. They also tend to focus on the controversy itself rather than the content of the arguments behind the controversy. Readers however can get a flavor of the nature of the arguments from either side from reading most of them.

In at least seven articles the large amount of money available to the proponents’ campaign and the source of that money i.e. from the sale of a non-profit company (good) to a for-profit company (bad) is mentioned giving the reader the feeling that this fight will be unfair. Several of the quotes by opponents indicate that they have latched onto that concept and have actually used it in their arguments. The reader walks away thinking proponents can be compared to “big business” while the opponents are “underdogs” who are unfairly being asked to collect these signatures. This characterization of proponents may also reinforce more recent negative cultural perceptions of big business, insurance companies and corporate America in general. Even if this money is to be used for a good
cause negative perceptions may cause the average citizen to be wary of the intentions and to see something sinister in the charitable contribution.

Proponents used the lack of access to dental services for poor children under Medicaid several times as supporting evidence for the need for fluoridation. They also indicate the high treatment needs of this population even using pictures of the children with the most extreme needs.

Both the authors in their reporting of opponent arguments and the opponents in their arguments used that same argument as a reason that fluoridation is not necessary. They did this by implying that if the access problem was solved there would be no reason to fluoridate the water supply.

After the signatures were certified and it was certain that there would be a referendum in November the remaining newspaper articles prior to the election changed their focus. As of mid September the articles focused on the opposing arguments and moved away from the political process and elected officials. For sure, the champions on either side, Yost and Staples were mentioned often. In addition, both sides had gained backers and these people were quoted as well. In total from September 25, 2001 to November 3, 2001 there were seven articles written.

The first on September 25, 2001 was written by Lee Hammel and was titled “Panel favors fluoridation-Opponents, proponents speak out at city hearing.” The article noted that that City Council’s Health Committee had voted 2-1 in favor of fluoridation but for the most part the article summarized points made by both sides in favor or against fluoridation during the open hearing. Hammel said that there were approximately 70 people at the hearing.
Opponents quoted included Councilor Perotto, Deborah Moore, founder of Worcester Citizens for Total Health, Christine Bogian, also quoted in another article, and Bruce Henry, a Worcester State College professor emeritus. The following are arguments used by these opponents and reported by Hammel. Perotto indicated that the council was ignoring voter’s desires in recommending fluoridation and that although he chooses fluoride treatment for his children; he wants to preserve the rights of others not to be exposed to fluoride. Deborah Moore was again said that there is evidence that fluoride is unsafe and added that local dentist and doctors are united because of peer pressure and even jeopardy to the professional licenses of anyone who would speak against fluoridation. This particular comment was challenged by Dr. James Broadhurst, co-chairman of the Worcester District’s Medical Society’s public health committee. According to Hammel, Moore also told the crowd that the fluoride added to the water supply is “an unrefined toxic industrial waste product” recovered from the air filters of fertilizer plants. She said that it would add arsenic, mercury, and lead to the drinking water supply. Bogian suggested the amount of fluoride is uncontrollable and depends on how much water each person drinks and then added that those who cannot afford to buy bottle water will be unfairly affected because they will be less able than others to escape its effects. Hammel also reported that Bruce Henry reminded the audience that for decades scientists have been discovering miracle cures only to discover a “dark side” to them in ensuing years. He also said that the less the air, soil, and water are tampered with, the better and also suggested that the removal of soft drink machines from schools is a less complex way of improving dental health.
In addition to the choice argument, opponent arguments as characterized by Hammel seem to imply that in fact fluoridation is not safe. In addition, claims that dentists are only united in their support of fluoridation because of fear of retaliation by their peers makes the experts who strongly advocate for fluoridation appear controlling and sinister. The opponents also suggest an alternative to fluoridation which they contend would improve oral health (the removal of soft drink machines from school). This in effect helps to reinforce that eliminating tooth decay is a matter of eliminating sugar in ones diet, reinforcing the notion that there is no need for a governmental intervention of this nature. This solution also seems to coincide with a move to remove the soda machines as a solution to the obesity problem in young children, a “hot” topic of the day.

The reporting of this exchange with regards to the safety of fluoridation on the opponents’ side as well as the proponent side seems to support Nelkin’s observation about scientific controversy and the role of “experts”. This is a clear example of both sides citing facts and figures to argue their point with no likelihood of agreement on the science in the current debate or even future debates. Often this leads to a dismissal of the facts on either side in favor of values. On the proponent side Councilor Gomez spoke in favor of the measure, as did Dr. Wayne Glazier, chairman of the Health Foundation of Central Massachusetts, Dr. Franklin Loew, head of Becker College, Dr. Mathew Collins of the Family Health Center and William Kelleher, a businessman. According to Hammel, Gomez challenged Councilor Perotto’s argument that the group was ignoring voters’ desires in recommending fluoridation. He said that Gomez told the crowd that it would be a “dereliction of duty” not to reconsider developments in the last five years including the support of the Department of Public Health, the National Institutes of
Health, the U.S. Surgeon General and the Centers for Disease Control. Glazier listed several other professional medical associations that support fluoridation and added that they support the measure based on “scientific data that has accumulated over 50 years” and that he had concluded that fluoridation is “safe and effective.” He added that opinion to the contrary is “isolated” and “unsubstantiated.” Loew was said by Hammel to compare those opposed to fluoridation as similar to “people who believe the world is flat.” Collins stated, “I am astounded by the amount of dental cavities. The best thing I can do for my patients is stand up in favor of fluoridation.” Kelleher said that fluoride is less than 50 cents per resident per year while a filling is $80.00. As a businessman paying for benefits, he would like to see unnecessary overhead cut. 156

Monahan was back for an October 17, 2001 article titled “Fluoridation debate agenda remains debatable.” This article summarized the efforts to gain public visibility by those on both sides of the issue. Monahan indicated that the Health Foundation had held a forum the previous night featuring local advocates and a former federal public health researcher, Dr. Hershel Horowitz. Monahan said that Horowitz, a dentist, said that fluoride in water, toothpaste dental sealants and dietary supplements account for most of the dramatic reduction in tooth decay in the US since the early 1900s and there is no credible evidence associating fluoride with any disease or medical condition. Joyce Cooney, a professor of dental hygiene at Quinsigamond Community College was said to add that many people don’t realize how serious tooth decay is for poor children in the city. 157

Monahan states that both sides clashed on a local radio show but Monahan did not elaborate on the arguments presented or the discussion. He also indicated that there was a
debate sponsored by opponents coming up and that it was still unclear if the proponents’ side “will accept the offer to debate.” He said that Yost indicated that she received the invitation late and therefore was having difficulty-arranging speakers especially for a Saturday night. Moore on the other hand said the offer was made months before and in fact had been in contact with Yost herself the prior week. Moore added that she wasn’t sure if the opponent group would “accept the challenge.” Monahan also indicated that both groups had used other means of getting their message out. The proponents had launched their ad campaign on local cable television and had been promoting fluoridation with the tag line” Got teeth? Get fluoride.” Opponents he said had been planting lawn signs saying, “Fluoridation, if there’s any doubt, leave it out! Vote No and are also running phone banks urging people to vote against fluoride. 158

Richard Nangle reported on the debate attended by approximately 75 people in an article titled “Fluoride opponents debate videotape- Proponents absent at forum. He began the article with comments from Deborah Moore of the antifluoride group who said that proponents typically don’t show up for debates. She said, “they consider this issue not debatable. Yost on the other hand said she couldn’t find speakers on the short notice she was given. This article appeared with a picture of Dr. Hardy Limeback, a Canadian dentist at a podium speaking about fluoridation. Within the body of the article Nangle indicates that Limeback is a college professor and the past president of the Canadian Association for Dental Research and sates that Limeback is a convert to the antifluoridation side and is one of the few dentists to speak out against fluoride. Limeback said that he used to promote the use of fluorides with his patients and dentists but sys that
he has noticed that those drinking fluoridated water have “white spots on their teeth indicating fluorosis”. ¹⁵⁹

Nangle also introduces Paul Connett, a Saint Lawrence chemistry professor who spoke about the harmful effects of fluoridation and also said that many European countries do not allow fluoridation and that the incidence of tooth decay is roughly equal to that of the United States. He said that the US falls short in its poorer populations, who he said had “the worst dental hygiene in the Western world”. Connett came up with his own slogan for the fluoridation campaign” Got Brains? Avoid Fluoride.”¹⁶⁰

To counterbalance the opponent arguments, Nangle stated that Dr. Herschel Horowitz, a consultant for the ADA had been at a forum earlier in the week and had indicated that most of the dramatic reduction in tooth decay was due to fluoride and Nangle also added that 135 communities in MA are currently fluoridated.¹⁶¹

It is interesting to note that none of the debates or forums could be described as having high attendance. Most of those attending were likely intimately involved with the campaign on either side with little likelihood of having a change of heart. However, these events were reported on by the local media giving an opportunity on either side for their story to be told.

On October 23, 2001 Monahan authored an article titled, “Fluoridation gets endorsement from labor leaders.” This article covered the Central Massachusetts AFL-CIO’s endorsement of fluoridation as well an opponents’ fundraiser held at a local restaurant. The substance of the arguments as reported remained the same although new advocates were brought in on either side representing organizations slightly different than the “usual suspects.” On the proponents side the Worcester- Fitchburg Building Trades
Council and the Central MA AFL-CIO came on board, groups that represented a more blue collar population than those speaking for fluoridation to date. Until now, most quotes from proponents had been from either Yost or from those in the health professions, primarily a white-collar crowd. Joseph Carlson of the AFL-CIO was quoted as saying, “As we have reviewed all the documentation and statistical data we found that in communities that have long been treated with fluoride, children have better condition of their teeth. He added,” There doesn’t seem to be much of a downside to the rest of the community.” Monahan also said that Carlson felt that when attending a recent city council meeting that he felt that some of the objections seemed like “scare tactics and information that did not hold up.” Monahan also reported that Carlson said that while opponents object to people not having choice on having fluoride put in their water; his concern is that many lower income families don’t have a choice of getting dental care because state sponsored dental insurance won’t pay enough for dentist visits and treatment. Michael Coonan of the Worcester Fitchburg Building Trades Council was quoted as saying that his support for fluoridated water coincides with the labor’s tradition of “standing for the most vulnerable in our society”. He also reported Coonan as saying his union members continue to face rising cost for dental insurance and that they believe that their members will receive dental benefits and insurance costs will be less. This endorsement and its accompanying arguments may have been an attempt to expand the supporting organizations from traditional groups of interest i.e. health organizations and other advocates for the poor (focus on these groups may actually constrict support expansion) to include those who were working and having trouble affording their household and personal expenses.
Monahan also reported on a fundraiser by opponents at the Bijou Cinema café, which featured a presentation by leading fluoridation opponents from other parts of the state. Monahan reported Stephen Dean, president of Massachusetts Communities for Pure Water as saying the following:

1. All the endorsements in the world haven’t convinced the rest of the world, that fluoridation is worthwhile.
2. Fluoride is an “industrial waste” that is classified as a toxic contaminant by the US Environmental Protection agency.
3. The problem is a lack of access to dental care for low-income children, not a lack of fluoridated water.
4. “Don’t blame the public for not fluoridating the water supply when they won’t treat the cause of the crisis: dentists who won’t treat poor children. It’s disingenuous for dentists to refuse to provide treatment to the poor while saying they want fluoridation. Access is the real issue.”

The next article also by Monahan was on October 27, 2001 and was titled “Fluoride foes call rival’s claims “misleading”.” This article began by saying that fluoridation opponents had said that the information being disseminated by the Central MA oral Health Initiative was misleading and false and was being used in an attempt to persuade voters to approve fluoridation. Proponents he said defended their positions and say that opponents are singling out individual studies instead of a “preponderance of the evidence.” The remainder of the article is a scientific back and forth between Yost, a lead
proponent and Linda Zambarano a member of the opponent group. Zambarano is identified as a psychologist and mother of two.  

Monahan provides quotes from both citing scientific studies and statistics regarding the effectiveness with what appears to be conflicting information at least to the average reader. The two disagree on the number of countries fluoridating and the comparison of Worcester decay rates with other neighboring cities and towns versus Boston or other cities. Zambarano was also said to be critical of the television and media ads showing a child’s open mouth in which the teeth are almost entirely black and rotted away saying that this type of decay is caused from the bottle and not a lack of fluoride. Zambarano questioned the use of an endorsement by the Consumer’s Union, the producer of Consumer Reports saying that this research and the associated endorsement were in 1978. Monahan gave the last paragraph to Yost who noted that opponents refer to fluoride as “toxic” even though it will not cause acute toxicity when diluted in water at recommended concentrations and backed herself up with an Institute of Medicine Report done in 1974. The story ended with Yost stating, “We stand by the Centers for Disease Control, who issued a reaffirmation in August of 2001 of the safety and efficacy of fluoridation, and we think if anyone has a question, they should call their doctor and their dentist.”

This scientific back and forth described by Monahan is a classic example of what often happens during disputes surrounding technical issues. Both sides proclaim that their “facts” are the correct ones and the average reader/listener is left to decide not on the “facts” but by other means. This may include the credibility of those presenting the
argument, ones feelings toward risk, ones worldview about the role of government, or some combination of these or other criteria.

Monahan wrote one more article prior to the election, on November 2. This article was a summary of the activity to date once again explaining the legal process of fluoridating a community. He also gave a description of the proponents and the opponents. Of the Central MA Health Foundation, he said they planned to spend $400,000 from a community health fund on television, radio and print advertisements and public relations to try to persuade voters to support fluoridation. Of the opponents he said that they were an “equally determined grassroots opposition group” who collected more than 9,000 signatures to put this issue to ballot. He once gain summarized the arguments of the opposing camps quoting both groups who added no new arguments to the mix.166

On November 3 Andrew O’Connor wrote his first and only article on the issue titled, “Fluoride advocated for seniors.” This article covered an event by proponents at a flu shot clinic conducted in a senior housing complex. According to O’Connor, there were two speakers, Jan Yost of the Health Foundation and City Councilor Janice Nadeau who both told the group that people are living longer and that preventive measures are important for a healthy life and that fluoride is not just for children. Nadeau was quoted as saying, “The oral health crisis exists among the senior population too. Forty-eight percent of adults have lost teeth to tooth decay and 22 percent of Worcester’s seniors have no teeth at all.” Yost compared fluoridation to a preventive measure like flu shots. O’Connor also quoted one senior, John Rano, who was against the measure and stated, “I take 16 different medications a day. I asked my doctor how I’ll know if the fluoride
won’t affect my other medication?” O’Connor then ended the article saying that people will be able to vote on the issue on Tuesday. 167

One day after the election, Monahan summarized the results of the election in an article titled, “Voters: “No” to fluoridation- Proposal rejected by wide margin” with the second page headline reading “Dental health remains a prime goal.” Monahan indicated that the measure was defeated “despite a $400,000 campaign aimed at convincing residents that fluoride would reduce dental decay among children.” Monahan said that opponents had operated on a “shoestring budget.” Monahan indicated how happy the opponent group was saying that city health officials and hundreds of local doctors and dentists had opposed them. He quoted Moore, a leader of the opponent group as saying, “I think what this means is you can try to buy votes with money, but you can’t buy the truth. People used their gut instincts. They don’t want a chemical in their water, and they are angry that their rights would be violated to control their own medication.” Monahan quoted Wayne Glazier of the Health Foundation who said in response to opponents’ claims that advocates of fluoride would try to put it on the ballot again that he highly doubted it. He stated, “We respect the majority opinion of voters” and indicated that this wasn’t just about fluoridation but “to educate the public about the serious dental problems facing the children in the city.” 168

Monahan said in the article that the Health Foundation had spent more than $250,000 on advertising and political consultants (more than $157,000 to a research consulting firm) even before the final weekend “blitz” while Worcester Citizens for Total Health, which led the antifluoride campaign, had spent $5,196 on its campaign. Most of this money according to Monahan went to postage, printing brochures and bumper
stickers, and a few radio and television spots. He noted that the effort relied heavily on 100 volunteers.

Monahan ended the article by saying that both Yost and Glazier said that they hoped to move forward and work with the opponent groups and others to provide better access to dentists and dental care. 169

**Editorials**

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<th>Title</th>
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<td>12/12/000</td>
<td>Thorny health, policy issue back on city agenda</td>
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<td>11/03/01</td>
<td>Public health initiative deserves support</td>
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Five editorials were written in the Telegram and Gazette from December 2000 to November 3, 2001 with four of them taking place in the five months before the election. There were three editorials in the month after the election that mentioned fluoridation.

The first editorial in December of 2000 made the following assertions:

1. Scientific evidence of the effectiveness of fluoridation is unassailable.
2. The safety of fluoridation is not in doubt.
3. There are alternative means of administering fluoride many of which have already been started locally.
4. Dental problems can compromise children’s general health too and are a critical issue in Worcester.
5. The children that have the greatest problems are those limited by financial constraints, language barriers etc.

6. Fluoridation has been a highly charged and emotional issue for years and voters have rejected it three times largely based on safety concerns that have been shown to be groundless by a large and growing body of scientific research.

Last, the writers stated that the public policy issue remains clouded and whether the health considerations will be sufficient to persuade the people to accept fluoride will be determined as the debate unfolds. 170

This editorial was generally supportive of fluoridation although in their support the authors did mention that there are other means of delivering fluoride which were ongoing in the community. The arguments presented were the same as those generally used by fluoridation advocates. These arguments are instrumental in nature focusing primarily on the science. It is interesting to note that these editors make claims that there is no question about the safety and efficacy of fluoridation and that allegations to the contrary are not true. No other opponent arguments were mentioned.

The editorial on June 6, 2001 uses the metaphor “water bomb” to describe the impact of fluoride on the political scene implying that a “war” will ensue when both sides of this issue begin their campaigns. They also describe the Board of health’s order as a “bold stroke” also conveying the sense of emotional charge this issue has within Worcester. 171

The editorial board indicates that the Health Foundation is prepared to make “the scientific case.” They also add that the effectiveness of fluoride was” established beyond serious question more than fifty years ago.” They go on to say, “At about 50 cents per
person per year, the lifetime cost is comparable to one dental filling.” They discount the potential danger of fluoride as stated by opponents saying, “350 million people in sixty countries drink fluoridated water including 145 million in 10,000 communities in the United States The board indicates that fluoride has been rejected three times in Worcester and note, “the debate has centered around safety concerns that have persisted despite having been shown to be groundless by a large and growing body of scientific research.”

They again acknowledge that this would be a daunting challenge for advocates of fluoridation and state, “the truly controversial aspect of fluoridation is not a matter of science but of public policy. There is room for honest disagreement about whether it is appropriate to use the water supply of all residents to deliver fluoride- or any other medication or health supplement, for that matter-that mainly benefits a small portion of the population.”

This editorial is once again supportive of fluoridation using the same arguments as the previous editorial. In this article they do also acknowledge that there is a question about whether fluoridation is an appropriate function of government however it appears that they discount this argument in favor of the scientific argument thereby narrowing the focus of the debate.

The editorial board endorsed the decision of the health board to order fluoridation on August 24, 2001 saying it was “the proper course.” In this editorial they state the following:

1. Questions about whether to add fluoride to the water supply or administer it in some other way are unlikely to be resolved any time soon
2. There is little room for serious dispute over the other aspects of the fluoridation debate. Namely that tooth decay is a serious public health concern in Worcester with the greatest impact on lower socioeconomic groups, beyond any reasonable doubt fluoridation is highly effective in preventing tooth decay and the safety of fluoridation has no credible scientific basis.

They then state that this year’s debate in Worcester will be different than years past because “the public debate this year is likely to be informed by more science and less speculation and emotion than in the past.” The board states that this is because fluoridation has been adopted as a key issue by the Health Foundation, which intends to play a role in laying out the scientific facts about fluoridation. These educational efforts are intended to “counterbalance a campaign by fluoridation opponents. They end the editorial by once again stating that there is room for honest disagreement about the appropriateness of fluoridation from a public policy perspective but add, “The philosophical question is trumped by social reality.” They then go on to say that the other options for administering fluoride are not options for those in low income families and that these children although only 25% of the population, likely experience 80% of all tooth decay. They end the editorial stating, “The science and sociology of fluoridation are clear. Worcester residents should reject efforts to block this safe effective public health measure.”

The authors of this editorial likely view this issue from an instrumental perspective, believing as most public health professionals that if the public can be educated on the science of fluoridation, they clearly will support it. The authors assume it is a lack of understanding rather than perhaps a disagreement over the appropriate role of
government or any other of the arguments stated by opponents. They believe that an “educational” campaign on the “facts” will help in ensuring the success of this fluoridation effort in Worcester.

On October 1, 2001 the editorial board writes of their agreement with the City Council’s favorable recommendation for fluoridation. The board presents the same arguments as in the prior editorials including statements about the safety of fluoridation, the number of communities that currently benefit from fluoridation, its low cost and the importance of fluoridation for low-income residents. They again state that this year’s initiative is different because of the significant oral health education effort by the Health Foundation, which will make voters going to the polls “far better informed about the safety and benefits of fluoridation than in the past.”

Finally, on November 3, 2001, the editorial board gives its support to fluoridation exclaiming, “This worthy public health initiative deserves Worcester’s support.” They briefly discuss the difficulty in assessing the claims and counterclaims for a layperson saying that in part one’s decision must depend on the credibility of the proponents and opponents. They go on to list several of the organizations and professional groups who endorse fluoridation and its safety and effectiveness and the fact that this support is based on a half century of data with no “toxic” consequences. They then go on to say that although fluoridation is not “a panacea or a substitute for good oral hygiene” it is highly beneficial especially for low-income children. In giving their support for fluoridation the editors use instrumental arguments i.e. fluoride is safe and effective. They attempt to provide support for these arguments by noting the many “credible” professional and scientific organizations that also support their view, a common tactic used by issue
advocates. In addition, they do clearly note that fluoridation is most beneficial for low-income populations. The recognition of “special populations” may help or hinder ones case since voters may either be sympathetic to this population or may in fact “blame” them for their own condition. In addition, the editors in an attempt to note that fluoride will not “cure” the problem revert back to an individual frame saying that fluoridation is “not a substitute for good oral hygiene” which may inadvertently blame the person for their condition i.e. if they only took better care of themselves or their children”.

**Opinion Columns and Guest Editorials**

Opinion columns are interesting to look at because unlike newspaper articles, which generally attempt not to reveal the writer’s, bias or an editorial, which gives an opinion, but generally speaking tries to be politically correct in its opinion, columnists can give their opinion in a more dramatic way. Columnists often take on a tone of sarcasm often trying to invoke strong feelings from the reader.

Jim Dempsey’s column on June 11, 2001 indicated that Dempsey thought that the fact that this issue was still under discussion was absurd. The column was titled, "A debate that never loses its bite- Repetitious battles in long fluoride war.” Dempsey’s first paragraph consisted of “Pamplona has the running of the bulls, Capistrano has the return of the swallow, Oberammergau has its passion play and Worcester has its perennial battle of the fluoride wackos.” Dempsey adds phrases like “Worcester just loves the smell of a fluoride debate in the morning.” He then goes on to talk about the “controversy”, which he also puts in quotes saying except for in Worcester fluoridation is “actually about as controversial as the flush toilet, or adding chlorine to public swimming pools.” He goes
on to discuss the long history of contentious fluoride debates in Worcester and adds the arguments have remained the same for almost the past fifty years as has the result. He mocks the arguments used by antifluoridationists with a story about a dentist Max Ginns who he called “one of the most vociferous soldiers in the antifluoride jihad” who at a fundraiser in neighboring Shrewsbury “brought his own pristine water rather than drink the fluoridated poison of Shrewsbury, and said that he ate the food prepared in fluoridated water with some hesitation.” Dempsey says of the opponents’ attempts to criticize the Worcester’s Board of Health for ordering fluoridation as characterized “like they were some kind of beer hall putsch. The truth is that the board has the authority to order fluoridation.” He calls opponents “zealous.” He adds as “a newsflash that has nothing to do with anything you can drop into your next cocktail conversation- the Guinness stout that is brewed in Dublin has six times the amount of fluoride as that brewed in England.”

Dempsey goes on to say that bringing fluoride to Worcester “is about as easy as bringing a bunch of vegans on a field trip to a slaughterhouse” and ends the column by quoting a public health director twenty years earlier who said, “I expect that Worcester will probably be the last community in the state to do it, if it ever does.”

Clearly, Dempsey supports the fluoridation measure but rather than say so directly he chooses to “make fun” of the whole conflict stating in fact that this is really not a controversial issue and shouldn’t be. He also implies that the opponents are not credible nor are their arguments using metaphors to make his case.
Robert Nemeth authored “Fluoride is the answer to an oral health crisis” on August 26, 2001. Nemeth’s column appears regularly in the Sunday Telegram and Gazette.

Nemeth’s article was stylistically more like an editorial or news article with the exception of a few comments like “None of the facts has prevented opponents- special interests, pseudo-scientists, demagogues and ordinary people misled by fear-mongering- from absurd arguments against fluoridation.” Nemeth’s column actually sounds more like the traditional arguments of fluoride proponents as he adds that the allegations that fluoride is a poison which causes multiple health ailments is false and says less diplomatically than proponents, “there are even more off the wall allegations promulgated by claptrap literature. They frequently find their way to letters to the editor columns.” He does however for the majority of the article provide facts about the oral health problem in Worcester (he says that a Special Legislative Commission calls it an “oral health crisis”) and the efforts of The Central MA Health Foundation. He also gives factual information about the number people in the US and worldwide who drink fluoridated water and even gives some examples of some of the largest of the 10,000 communities in the US that are fluoridated. He explains that fluoride is found “naturally in all soils, plants and animals and that fluoridation is simply an adjustment of this amount.180

The next column found on fluoridation was September 12, 2001 by Kenneth Moynihan who also has a regular column in the Telegram and Gazette. Moynihan’s first column on the issue was titled “Fluoridation is a heavy load for politicians.” Moynihan's column is more even handed in its coverage of the issue primarily focusing on the political aspects of the issue i.e. what does the fact that in one of Worcester’s major districts that all candidates running refuse to endorse the measure mean when translated
to public opinion, how will the fact that there is much more money available for the campaign translate to election results, will this year be any different than other years? He gives his opinion on what will need to be done by proponents to win this ballot initiative. These are some of Moynihan’s observations:

1. “If the pro-fluoridation coalition is going to change many minds, it will have to find a way to avoid the unattractive tone of a parent telling a child, “do as I say, because I know better than you what’s good for you.” It’s a problem that always bedevils people who try to bring their professional expertise into the political arena. Expertise serves as the basis of a claim to authority, but that claim can be interpreted as an arrogant assertion of superiority.”

2. “Associated with this danger is another one, into which proponents have already stumbled. People with open minds are not going to be impressed with attempts to ridicule or insult those who oppose fluoridation. If anything, such personal attacks only intensify the determination of the opponents to achieve a smashing victory.

3. To succeed in this campaign, advocates need to understand the skepticism about whether fluoride is in fact dangerous and will “somehow need to persuade people to put some faith- as they normally do-in the broad mainstream of scientific and medical opinion.”

Moynihan also discusses that one of the most powerful arguments for fluoridation is that it would have a dramatically positive effect on the dental health of poor children. He adds a quote from an unnamed dentist who said” I would think this community would
not only accept fluoridation but would demand it…It’s about choosing to give those
without adequate dental insurance or no dental insurance a cost- effective and practical
way of maintaining good oral health.” Moynihan goes on to say that using this argument
will require the proponents to come up with a counter argument to opponent’s
accusations that fluoridation is an excuse for dentists no to provide services to the poor
since there are only a few who actually accept their insurance now. He ends the piece
by saying that how the members of the city council vote on October 9 will give a better
idea of “high a hill the fluoridation reformers have yet to climb.”

Moynihan’s column in fact poses questions related to change, the expansion of
conflict, and the use of problem definition and framing. He asks how monetary resources
on either side may affect the debate as well as what it means to the outcome that
candidates are hesitant to come out and support the issue. He articulates his
understanding of the two worldviews that underlie this debate i.e. the instrumental view
of the experts vs. the view of those who would prefer choice and more limited
government. He asserts that proponents will need to understand the worldview of the
other side and develop a counter message if they are to have a successful outcome.
Moynihan actually uses the word persuade and acknowledges the perceptions of the
problem that have already been formed in voters’ minds based on the debate to date. He
writes that proponent measures to identify the scope of the problem and their supporting
arguments may have created a perception that this problem is about access to dentists for
poor populations, a problem voters will likely believe can be solved by other means.
Moynihan once again focuses on the differences between the 1996 and 2001 referenda in
his commentary titled “Fluoridation debate should focus on children’s health.” In fact, he
starts the piece by asking, “What makes the fluoridation campaign of 2001 different from
the fluoridation campaign of 1996?” He starts answering that question by saying that one
thing that is not different is the arguments presented on either side nor is the “plot
structure.” He provides readers with a history of 1996 and 2001 board of health orders
and council votes on the measure prior to the referenda and the signature collection
process with the story being almost exactly the same.

He answers his own question by saying that what is different is “the presence of a
“real campaign in favor of fluoridation.” He talks about the proponents “well-financed
effort” which has included educational forums and the support of the majority of city
councilors. Moynihan then says is that the key question for 2001 is “whether the pro-
fluoridation campaign can carry its message effectively to the voters and make sure the
ones who agree with them get to the polls.” He goes on to provide the numbers of voters
rejecting and approving fluoridation in 1996 when there was a presidential election
between Bill Clinton and Bob Dole. In that election, he said, more than 58,000 people
voted and only 46,800 actually took a stand on fluoridation. He actually thinks that this
year because there is no presidential election that proponents will have a better chance
because “the smaller the turnout the greater the opportunity for a well-funded and well-
directed campaign to influence the outcome. (Note: This is exactly the opposite of what
most proponents say.) He ends the commentary by describing an observation made by
Councilor Nadeau who said that people in her low-income district were especially in
need of a fluoridation program. Moynihan said, “She spoke of the beautiful children she
often encounters whose smiles, however warm, are also “pitiful” due to the condition of
their teeth.” He ends by saying, “That is more than anything what this campaign should be about.”

**Guest Commentary**

Both Wayne Glazier and Deborah Moore, leaders in the opposing camps, had guest editorials under the Commentary- As I See It in the Telegram and Gazette. Glazier’s was on October 5, 2001 and Moore’s was on October 31, 2001.

Glazier called the oral health problem in Worcester a “neglected epidemic” that people had previously been unaware of until now. He stated that more than half of Worcester children have cavities, and more than 20% of all seniors have lost their teeth. He stated that most had previously viewed dental disease simply as an inconvenience, treatable through cleanings and occasional fillings and preventable through sealants, fluoride toothpastes and rinses. He then says, “We were wrong.” He goes on to say that two documents one, “The Oral Health Crisis in Massachusetts and the Surgeon General’s Report, Oral Health In America: A Report of the Surgeon General” both characterized the oral health problem as a “crisis” and a “neglected epidemic” and called for priority action. He says that that is the reason the Health Foundation of Central Massachusetts decided to spend $969,000 for a pilot program; there is a crisis in central Massachusetts that needs to be addressed. Glazier describes several of the initiatives that the Central Massachusetts Oral Health Initiative will be working on. He states that these are a combination of treatment, prevention and education. He goes on to say that this pilot includes public education on fluoride because “public education is critical to any public discussion in Worcester, because the issue historically has proven to be emotional and
divisive. Glazier then says that it is essential that Worcester residents look to” the overwhelming majority opinion of the medical, scientific, public health and social services community for their consensus on fluoridation and that “we must avoid giving credence to isolated unsubstantiated assertions by individuals.” He then identifies several national and local health and professional associations and agencies that recognize fluoridation as important in fighting dental disease and that the research shows that fluoridation is safe and effective. He then says, “having grown up in Worcester and practiced medicine for 21 years here, I have seen the victims of misinformation and scare tactics whose pain and suffering is avoidable. He then says, “to quote a CDC report, “it is unfortunate that irrelevant, unreplicated or refuted research is purposefully represented to the detriment of the health of the nation’s children. For every report that casts doubt on fluoridation there are innumerable reports attesting to its safety and efficacy.” He says that fluoridation would save money for taxpayers in treatment costs for Medicaid patients and also in savings for employer sponsored dental benefit plans. He comments on the effectiveness as well. In the last paragraph, Glazier states, “The Health Foundation is committed to increasing access to dental treatment and to diminishing the diseases of the teeth and mouth through proven, preventive measures. Indeed we feel it our moral duty to present the best peer reviewed science and to correct the misinformation so that the citizens of Worcester can make an informed decision.”

Moore’s commentary appeared on October 31, 2001, less than a week before the Election Day. Moore’s first paragraph states,” Enough doubt has been raised about fluoridation to suggest that this longstanding public health practice is on its way out.” Moore goes on to say that the Sierra Club has just issued a formal position statement
calling into question the fluoridation of water supplies. She says that this is the first time an environmental group has taken such a position and that the Club has based its position on facts. As written by Moore, these include:

1. A York review commissioned by the British Government’s National Health Service which said among other things according to Moore that the effectiveness touted by proponents was inflated and that the percentage of children having fluorosis was higher than stated by proponents. She also said that the study committee chairman said that the quality of the studies available on fluoridation was moderate at best and also that” there was little evidence to show that water fluoridation has reduced social inequalities in dental health.” She adds that an editor of the British Medical Journal who had been previously neutral on the subject said that he would rather get fluoride from toothpaste than from the water supply.

2. Claims that the U.S Public Health Service, in their Agency for Toxic Substances and Disease registry stated that certain subsets of the population may be more susceptible to the toxic effects. The conditions listed ranged from the elderly and the young to those with heart and /or kidney problems or immune dysfunction.

3. Treatment of osteoporosis with fluoride resulted in brittle bones

4. Fluoride may have an impact on the developing brain.

5. Fluoride is an enzyme inhibitor.

6. Fluoride affects the thyroid gland.
7. The oral health crisis exists even in those places that have fluoride such as Boston.

8. The EPA has done no long-term toxicologic studies on hydrofluosilicic acid, which is extremely hazardous and contaminated with other substances like mercury, lead and arsenic.

9. Decay rates do not increase when fluoride is taken out of the water.

10. Deliveries of this extremely hazardous chemical by train endanger communities.

11. Numerous accidents have occurred because this chemical is odorless and tasteless.

12. Once fluoride is voted in it cannot be voted out, according to Massachusetts law.

Ms. Moore ends the commentary by stating that she proposes an alternative to fluoridation, which includes community dental programs that include proper education in dental hygiene and nutrition, as well as school dental services with fluoride treatment for those who choose it. She goes on to say, “Many people in this city strongly feel that their civil and personal rights would be violated if they were forced to ingest this chemical, for any reason whatsoever. There is plenty to doubt about fluoridation. If there’s any doubt, leave it out.”

The guest commentary by both Glazier and Moore, leaders on either side of the issue, clearly illustrate the framing of the problem on either side and the arguments most often used for and against the initiative. These same arguments or variations of them can be found in the following letters to the editor as well.
Letters to the Editor

There was a total of approximately 59 letters to the editor written between September 12, 2001 and December 14, 2001. There were approximately 32 letters in support of the measure and 27 letters against the measure. The editorial board often printed multiple letters with a peak of approximately fifteen letters on Friday November 2, 2001.

These letters give a flavor of the tone of the Worcester campaign. Identifying a negative tone as one in which the author uses personal criticism of a particular opponent or of the opposing group that either ridicules them or their character, almost half were identified as negative in tone. Of proponent letters approximately 25% were identified as negative and more than 50% of opponent letters were identified as negative.

As can be seen by the following analysis many of the arguments used were similar to arguments used in other campaigns with proponents opting for instrumental arguments with opponents criticizing those particular arguments with their own scientific facts and also using arguments that carry a more expressive perspective.

Opponent Arguments

Clearly many of the letters expressed opponents’ concern that fluoridation violated their right to personal choice and personal freedom. Most also identified fluoride as a toxin and questioned both its safety and effectiveness. As stated previously many letters also took on a negative tone.
Choice / Individual Rights / Freedom

Table 4.1 offers examples of quotes from letters that come from an expressive perspective, using values such as choice or freedom to make their point.

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<tr>
<th>Argument</th>
<th>Letter Author</th>
<th>Date of Telegram and Gazette Article</th>
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<tr>
<td>“Worcester residents don’t want fluoride forced down their throats, that’s way we voted it down three times already.”</td>
<td>Irene Myers</td>
<td>09/12/01</td>
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<td>“As free American citizens, no one should medicate our water supply without a lengthy study to prove it’s beneficial. We all have a say in such actions.”</td>
<td>Jeanne Messier</td>
<td>09/12/01</td>
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<td>“I was under the impression that in a democracy the people have a voice and are not overruled by health officials or the legislature. It looks like a dictatorship to me. The people have voted “no” on this before, and anything further on this subject is not for discussion.”</td>
<td>Harry Awiszio</td>
<td>10/05/01</td>
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<td>“Lastly, is the issue of “informed consent” a key tenet of medical ethics? It’s the process by which a fully informed patient can participate in choices about his or her health care.” “I interpret the introduction of prescription medicine into the drinking water as “forced medication.”</td>
<td>William Thomson</td>
<td>October 18, 2001</td>
</tr>
<tr>
<td>“If we don’t vote no on Nov. 6, then there are laws that will prevent us from having any power to remove this toxic substance”</td>
<td>Jennifer Contonio</td>
<td>11/01/01</td>
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Health Effects/ Toxicity

Many of the articles also made claims that fluoride was dangerous, toxic or caused health problems. These letters often made claims that somehow the science used by proponents was inaccurate or false. In fact, more than twenty of the letters written included comments about the safety of fluoride. In some instances the letters were from scientists, who could increase the level of legitimacy or credibility the reader may give to the author.

One example is a letter from Irene Myers on September 12, 2001. Myers said, “As a chemist, I know the hazards of fluoride. Unfortunately, these fluoride pushing dentists and doctors are not toxicologists. They should check the Agency for Toxic Substances and Disease Registry (1993), which states that a large percentage of the population will be at considerable risk of adverse health effects from fluoridation. This population includes the elderly, people with cardiovascular and kidney problems and
people with common mineral and vitamin deficiencies. Fluoride is unsafe and unnatural.”

Another example includes a letter from Harry Awiszio on October 5, 2001. Awiszio says, “Are we stupid or something? Fluoride is a chemical, a poison. The label on fluoride toothpaste reads as follows: Warning: As with all fluoride toothpastes, keep out of the reach of children under six years of age. If you accidentally swallow more than used from brushing seek professional assistance or contact the poison control center immediately.”

On October 16, 2001 John Savastano said in his letter, “This coming November 6, Worcester voters should carry on this tradition you keep this toxic poison from our drinking water, solely for the protection of our children and us all.”

Jennifer Contonio on 11/01/01 claimed that “Fluoride in large doses was once used as a rat poison and is more toxic than lead. Studies show a tube of toothpaste contains enough fluoride to kill a small child. On top of this, the fluoride they are planning to add to our drinking water is a toxic industrial waste product contaminated with traces of lead and mercury.”

Wayne Lilestrom of Worcester said of fluoride, “The EPA ranks fluoride as more toxic than lead, slightly less than arsenic, yet the health board proposes to add fluoride to our drinking water at a rate 1,000 times the maximum allowable limit for lead and one million times the limit for arsenic.”

Effectiveness

The effectiveness of fluoridation, a main argument of proponents is often brought into question. At least six letters contained statements about the benefits of fluoridation
not being as stated by proponents. Messier on September 12, 2001 says, “Benefits have been derived from topical treatments but not from ingestion in the water supply.” Four letters on November 2, 2001 use effectiveness or the lack thereof as one of their points.

Lilestrom, Moore, Krock and one unknown author all comment on this. Lilestrom states, “The largest ever study of fluoridation by the National Institute of Dental Research (89,207 children in 84 communities) revealed no benefit from fluoridation. In unfluoridated Europe the dental caries rate is identical to the U.S. rate.” The unknown author states, “Boston has a dental health crisis but Boston has been fluoridated for 25 years. Two weeks ago Southbridge reported a dental health crisis in its children and Southbridge has had fluoridated water.” Moore brings up a similar point in her letter on the same day. She states, “We are dismissed when we say fluoridation is not effective, yet Boston, Southbridge and many other longtime fluoridated communities in Massachusetts and the United States have documented and terrible dental crises among the poor.” Krock uses an almost identical argument in her letter. She says, “Boston, Taunton, and Southbridge, cities with the same inner city” poor children” as Worcester, have been fluoridated for over twenty years. Yet, they have an equal or worse dental health crisis than Worcester. Fluoridation does not work. It is an outdated health measure that should have been discounted years ago.”

Lastly, Colontonio on 11/01/01 includes in her letter a statement regarding effectiveness. She states, “The myth is that it will help our teeth. Why then, do studies show that cities with fluoridated water have an equal, if not higher, occurrence of tooth decay?”
Reframing

In some cases, opponents used proponents’ claims for their own purposes by redefining or reframing a proponent claim to make it fit their arguments. Sometimes these letters took on a negative tone as well.

For example Irene Myers wrote on September 12, 2001, “How arrogant of Myron Allukian, Jr. to tell Worcesterites to drink bottled water, or to buy expensive filtration systems if we don’t want to drink fluoridated water. We are already paying tax and water bills that are high enough. Why should we buy bottled water and water distillation systems when the water we pay for now is free from the industrial waste they propose to put in?”

One particular move by proponents was particularly susceptible to reframing. This was the use of a large amount of the close to one million dollar grant for the fluoridation campaign. Presumably proponents made this decision because they believed that community water fluoridation was extremely important to the oral health of the community and that the money would be well spent. Unfortunately for the proponents, opponents were able to turn this argument into support for their side.

One example is a letter by Jeanne Messier on September 12, 2001 in which she says, “Dr. Gurwitz stated that the board is prepared to give $600,000 to the program. Recently, it was reported that the yearly cost to maintain the program would be $40,000, not to mention other incidentals. Why not use that money to provide care that poor children need, since this seems to be the reason for fluoridation?”

Robert A. Shay used the same argument on October 18, 2001 when he said, “Why don’t the dentists of Worcester take this $400,000 dollars and use it to give fluoride
treatments to those children who cannot afford them? As there are only five dentists in
the area who accept children for these treatments, it doesn’t take much imagination to see
that the issue is one of money in the foisting of fluoridation on the city of Worcester?”\(^{199}\)

Another argument of proponents is that there is a problem with access to dentists
who take Mass Health the dental Medicaid program in Massachusetts. They contend that
fluoride will help these kids be healthier. Opponents also used this argument as a reason
not to fluoridate.

Cam Magera on October 26, 2001 said of the move to fluoridate, “Rather than
proposing silver bullet solutions” shouldn’t we focus on fundamental problems?
Affordable dental care and nutrition education campaigns should surely be the issues.”\(^{200}\)

Other comments by proponents either quoted in newspaper articles, from their
own letters to the editor or given in testimony at hearings or forums were also used to
portray proponents as “elitists” and slightly arrogant.

John Savastano said, “Dr. Franklin Loew, president of Becker College, reportedly
compared those who opposed fluoridation to people who believe the world is flat. His
remarks were insulting and stupid, especially when coming from such a fine college as
Becker.” \(^{201}\)

Robert Shay said of Loew’s remarks, “Snide remarks such as the one uttered
recently by Dr. Franklin Loew comparing those opposed to fluoridation to people who
believe the world is flat do little to convince those against “poisoning” our water
supplies”\(^{202}\).

Deborah Moore uses Robert Nemeth’s column to express her feeling about the
proponents of fluoridation. She starts her letter by pointing out that in his column Nemeth
had characterized her testimony to the City Council health Committee as “outlandish”
and that he used “other unsubstantiated slurs against opponents.” She then cleverly states
“proponents often resort to such unprofessional tactics, but will not debate on an even
playing field, as witnessed recently at the event we attempted to schedule as a debate.”
She goes on to say that many of their “outlandish” points end up being verified. She says,
“We were called liars for saying that the stuff put in the water is waste from the
phosphate fertilizer industry. This is now on the proponents’ own website and in a letter
from the Worcester Health Department.” She also says “Proponents claim there is “no
controversy among the knowledgeable.” 203

Other

There were a few arguments presented that tied in nicely with the current events
and public views of that time. The September 11, 2001 attacks occurred during this
fluoridation campaign as did the anthrax scares and other concerns about the safety of
everything including our energy sources and our water and food supplies.

One such letter was from Harry Awiszio who wrote, “It’s now fall and the leaves
are turning. In our area a favorite trip to view the foliage is at the Quabbin and Wachusett
reservoirs. He then stated, “Now you cannot drive up to the Quabbin. The Clinton Dam is
closed. Small private airplanes are prohibited from flying over the reservoirs. We go to
great lengths to protect our drinking water supply, but on the other hand, we are ready to
poison the drinking water ourselves with fluoride.” 204

Right around that time in Worcester there had been a debate about needle
exchange with most opposing that measure as well. Ruth Varney had a creative point to
make in her letter on October 18, 2001. She said, “Are you afraid of needle exchanges? Pass out toothbrushes and toothpaste, that should be the limit of the poison.”

This type of argument also frames the issue as one of individual health choices and behaviors rather than one that has as an important community solution as well.

Opponents also brought environmental concerns into the mix. Lilestrom speaks of some union scientists at EPA who oppose the measure on November 2, 2001. Marengo says, “I would like to make the proponents of the “save the Blackstone River” aware of what fluoride added to Worcester’s water supply will do to their goal of making the river unpolluted, so it can be fished. The fluoride cannot be removed from the many billions of gallons off fluoridated water that would wind up at the Worcester sewage treatment plant. Therefore, it would be dumped into the Blackstone to pollute it forever. Since it is a proven fact that fluoride can kill fish, frogs, and all aquatic life, including plants, the river would never be unpolluted.”

For the most part, the letters to the editor appeared to be written by concerned citizens most of whom did not identify their profession. Unlike some other fluoride referenda most of the letters also appeared to be from locals and not opponents of fluoridation who were either brought in from outside who came themselves to oppose fluoridation.

Proponents’ Arguments

In all, there were approximately 32 letters to the editor written by proponents of fluoridation. Almost half (14 of 32) of the letters written were from dentists, physicians or other health professionals who identified themselves as such.
In reviewing these articles, an analysis of the number of articles explaining the problem of poor oral health and its consequences was conducted as was the number of articles that related the importance of oral health to overall health. In addition, the letters were reviewed to determine how the author used words, metaphors, symbols or numbers in their efforts to persuade the reader to support fluoridation.

**Problem**

Six of the thirty-two letters had no mention of the oral health problem that fluoridation was being proposed to solve. Most often the letters include a brief statement of the problem. Many of the letters alluded to an oral health crisis.

Two dental hygienists who are members of the oral health section of the MA Public Health Association, Sara Monajem and Roberta Friedman state in their letter on September 28, “Tooth decay is a serious disease affecting many children and adults in Massachusetts and fluoridation of drinking water has been proven to be a safe and effective way to improve the dental health of the entire population.”

Ana Rodriguez begins her September 28, 2001 letter by stating, “Massachusetts has a problem- an oral health crisis. In Worcester, where we don’t have fluoride yet, the problem is even worse. Many children and adults have dental disease that could have been prevented if we had fluoride in our water.”

Rhonda Van Buren, a dental hygienist, says in her letter,” I can say without a doubt that there is an oral health crisis in Worcester and it will not go away.” Others had longer statements of the problem.
Michael Wronski in an October 18, 2001 letter said, “We are truly suffering an oral health crisis in our region. Our health centers and emergency rooms are clogged with people, including many children, with infected mouths.”

James Paulhus, Chairman of the Children’s Leadership Council described the problem this way stating, “Locally, 10 to 20% of children under age 5 experience early childhood cavities. Most of these children are from disadvantaged cultural or ethnic minorities. They experience needless pain and suffering as well as premature loss of teeth and an inability to thrive. Dental cavities have a lifelong impact. There are nutritional, social, and employment consequences.”

In a letter on November 1, 2001, Zoila Feldman and Roberta Gunn said, “there is an oral health crisis in the Worcester area. The crisis is echoed in our own database-70 percent of pediatric dental patients have some tooth decay. In a random sample of 12 children under age 6, there were 57 cavities (almost five per child). Although children age 6 usually have 20 teeth, one child alone had 14 cavities. In another random sample of nine 15 year olds, we found 55 cavities (over six each). One teenager needed a complete set of dentures. These are children who will one day be asked to be productive members of our community. It is our responsibility to help them become as healthy as possible.”

Safety and Effectiveness

Of the letters written more than twenty indicated that fluoride was safe and/or effective in reducing tooth decay. Many letters (more than 25% of those written) questioned the scientific validity of opponent claims and the majority included statements about the science supporting proponents’ own claims.
Rhonda Van Buren, a dental hygienist said in her letter on October 5, 2001, “The zany claims made by those opposed to water fluoridation are just too much. Over and over again, 50 years of scientific studies show that fluoridated water effectively reduces cavities-unquestionably.” She goes on to say that “the American Cancer Society, The Alzheimer’s Association, The World Health Organization, the Centers for Disease Control and Prevention and the United States Public Health Service. Should I go on? Would these organizations of health professionals and scientists support water fluoridation if it were unsafe? Look at the facts.” 212

Also on October 5, 2001 Paul Dell’Aquila took on a more negative tone and also questioned the statements of the opponents when he said, “There go the antifluoride zealots again. What started as a willful distortion and manipulation of time-tested medical and scientific facts has now degenerated into a shameful series of attacks and outright falsehoods.” In the next paragraph Dell’Aquila calls those against fluoridation “desperate opponents” and in the same paragraph says, “If that weren’t manipulative enough, now they’re even trying to scare senior citizens and minority groups with the same lies.” He ends the letter by saying, “It comes down to a simple question. Whom will Worcester voters believe– a small group of zealots spreading lies and using outrageous scare tactics or the literally hundreds of trained medical professionals and dedicated community activists who are supporting fluoridation?” 213

Rudolph Utzschneider M.D. also took a negative tone in his letter on September 8, 2001 when he questioned the science that opponents used in their arguments. He first said, “The scientific evidence strongly supports that the elevation of fluoride in the drinking water will reduce tooth decay, especially in children.” He goes on to say, “As a
spectator attending the Worcester City Council meeting on September 4, I was amazed how political considerations and grandstanding by Councilor Konnie Lukes superseded the truth, logic, scientific evidence and compassion for the health of residents, especially children.”

Michael R. Theerman M.D said on October 16, 2001, “Opponents also say that fluoride is toxic because of some home-grown garage-type experiments that have been totally refuted by real scientists.”

Michael Wronski on October 18, 2001 says, “the scare tactics of opponents seem weak, since we have enjoyed the benefits without any consequences other than we have better dental health.”

Dominick Marcigliano on 10/26/01 provides his view saying, “For more than fifty years, communities across the country have benefited from fluoridated water supplies. The overall dental health of those residents has been markedly better than those with non-fluoridated water supplies. This finding has been proven repeatedly over the years. It is based upon fact as opposed to conjecture.”

Maurice Martel D.D.S. stated in his November 1, 2001 letter, “Now we have the benefit of more years of knowledge and research, all of it overwhelming proof of safety and effectiveness” he add, “one caution: Past experience has taught us that just prior to voting day, we might see what happens to be” new anti-fluoride discoveries,” which will create doubt. If you do see this you will be seeing non-factual scare tactics rather than a rational, truthful, researched reason.”
Other letters questioning the scientific validity of opponents’ claims show that clearly some proponents of fluoridation believe that the reason that some people may oppose fluoridation is that they do not understand science.

Saul Lerner, M.D. states in his November 1 letter, “The only way, I can explain this bizarre circumstance is that they do not understand how to evaluate scientific evidence. Most reliable scientific studies have been published in scientific journals after the editors have a team of experts in the field review the paper to make sure that the design of the study warrants justifies the conclusions presented by the authors. In addition, it is generally not accepted as fact until an independent supporting second study has been published. Too often the initial study fails to be able to be reproduced by others. The studies cited by the opposition fall into this latter category and therefore cannot be accepted as proven fact.”

Thomas O’Connor D.D. S. also wrote a letter on November 1 questioning the understanding of the average citizen regarding fluoride. He said, “it is difficult for the average person to be knowledgeable about or to make an informed decision about the value of fluoridation. However, there are extensive studies and statistics that have shown over the past fifty years that fluoride does not cause disease but indeed is a benefit not only to children but to adults as well.”

Another physician, Christopher Stille said in a November 2, 2001 letter, “there is no reliable evidence that water fluoridation causes cancer, brittle bones or other health problems.”
Professional Credibility

Five letters also included statements about the professional associations that have endorsed water fluoridation. Ana Rodriguez in a September 28, 2001 letter, “Please join me, the Consumers Union, the past three surgeons general and the Department of Public health and support fluoridation of the water in Worcester.”

Thomas O’Connor D.D.S states in an 11/01/01 letter, “Fluoridation has been endorsed by the American Dental Association, the American Medical Association, the National Academy of Sciences and the World Health Organization. The Surgeon General of the United States has recommended fluoridation for all communities and those that did implement same have greatly benefited.”

Values

Some letters attempted to persuade voters with value appeals. Some of the authors appealed to our responsibility as a society to provide fluoride as a matter of health while others appealed to a sense of fairness allowing the poor the same opportunity as those who were more affluent.

Patricia Joyce of Auburn stated within her letter on September 28, 2001, “The Worcester Board of Health’s decision to increase the level of fluoridation in the Worcester water supply should be affirmed. Policy as well as law regarding care and protection for the common good is an American ideal.”

On October 18, Earle Halsband D.M.D. said, “It is our responsibility to help members of our society by providing a simple remedy for the pervasive problem of dental disease.” Janet Theerman said, “so as responsible adults, we should give the children, all children, of Worcester a chance for a cavity-free life by voting “yes” on fluoridation.”
On the same day, Linda Cavaioli said, “after more than fifty years of study, we have learned that fluoride is safe, effective and inexpensive in preventing dental disease. Most important, adding fluoride to the Worcester water supply is fair. It helps the entire population as a whole.”

*Print Advertisements and other Media*

Where possible, newspaper and print advertisements and other distributed print material were reviewed. A short analysis conducted in December 2001 by Stanford University student, John Sorrenti was provided by Jan Yost of the Health Foundation. In addition, documents from opponents were included in historical materials that Yost granted me access to review.

Proponents had a comprehensive media campaign that included newspaper advertisements, flyers and billboards as well as other materials that were distributed through local organizations and had public forums. In addition they had several radio and cable television spots throughout the duration of their campaign.

Overall the proponent media campaign and its associated materials attempted to portray their group as having credibility by listing local and national professional organizations as supporters of fluoridation. The list of professional organizations was often placed alongside claims of safety and efficacy most likely in the hopes that the support of these professionals and organizations would translate to belief in the safety of fluoridation and therefore the support of the public in the voting booth. It appears that the strategy was to use local dentists as “messengers” as well as to get the message out since many of the documents were distributed through this channel. The group also
offered continuing education course to dentists and hygienists for free to educate them as well as to garner their support for the distribution of the materials. Many of the materials outlined the problem with statistics and provided “facts” about the safety and efficacy of fluoridation. In contrast, to the seriousness of the information contained, the logo used for many of the materials was a sparkling smile.

This campaign was designed and implemented in conjunction with hired media and other consultants. The Central MA Oral Health Initiative partnered with the dental society

In early July, dentists in the Worcester area were mailed a packet that asked them to support the fluoridation campaign. It included the American Dental Association’s Fluoridation Facts booklet, the Massachusetts Dental Society’s Fluoridation Poster, Fluoridation Stickers for Recall cards and Billing Statements, Fluoride Facts patient Handouts, the American Dental Associations Position Paper of fluoride, the American Medical Association’s Position Statement on Fluoride and a continuing education brochure for dentists and hygienists. The group offered free continuing education courses for those offices requesting it. Proponents also distributed flyers and other materials at the more than sixty public meetings that they attended during the campaign. These materials included a special “Fluoride Fact Book” made especially for this campaign. The cover was blue and had a glass with a toothbrush placed in it. Inside the brochure was a letter from Wayne Glazier M.D., the Chairman of the Health Foundation of Central Massachusetts, who explained that there was an oral health crisis in Massachusetts. He went on to say that unfortunately opponents of fluoridation use scare tactics in their campaigns and that fluoride is actually safe, effective and will save money for taxpayers.
through lower treatment costs for Medicaid patients. He provides statistics for the reader.
The remainder of the booklet consists of twenty-four common questions about fluoride and includes pictures and quotes from more than twelve community leaders including Senator Harriet Chandler and Gerry D’Amico a former state senator. These questions were mostly intended to counter statements most often made by opponents of fluoridation regarding its safety and efficacy. Proponents also developed a single sheet of fluoridation facts, which had much of the same information.

It should also be noted that many of the proponent materials were also translated into Spanish. Proponents ran ads in local Spanish newspapers and distributed materials through local organizations such as “Centro Las Americas.”

Proponents ran three different advertisements in the Telegram and Gazette. The advertisements were primarily quotes in large print with the associated source of the quote. One was by Dr. C. Everett Koop, U.S. Surgeon General from 1981-1989, one from Dr. David Satcher the current Surgeon General of the United States in 2001 and the last, from the Consumers Union, the publisher of Consumer Reports. The bottom of the advertisement contained a logo that consisted of a drawing of a set of smiling lips and teeth with the associated sparkle and “Let’s fight tooth decay” as a caption above the drawing. The website of the group was included as was “Sponsored by the Central Massachusetts Oral Health Initiative with support from the Health Foundation of Central Massachusetts. The three quotes included in the advertisements were:

1. “Fluoridation is the single most important commitment a community can make to the oral health of its children and to future generations.” (Koop)
2. “Community water fluoridation remains one of the great achievements of public health in the Twentieth Century- an inexpensive means of improving oral health that benefits all residents of a community, young and old, rich and poor alike.” (Satcher)

3. “The simple truth is that there’s no scientific controversy over the safety of fluoridation. The practice is safe economical, and beneficial. The survival of this fake controversy is one of the major triumphs of quackery over science in our generation.” (Consumers Union)

Another of the flyers distributed by proponents was titled “Worcester, We have a problem. Underneath was a red oval text box, which contained some facts about oral health in Worcester specifically. Specifically the information said:

“It’s Dental Decay and it Hurts Everyone”

- 62% of our second graders have cavities
- 48% of adults have lost teeth due to tooth decay
- 22% of our elderly have no teeth at all

“Dental Decay is eating away at us”

The remainder of the full-page flyer was text that told readers that there was a solution, which was fluoride. It continued stating that fluoride was effective, safe and fair since it was for everyone not just those who could afford it. It went on to provide a list of professional organizations that supported fluoride. The same toothy logo was at the bottom with the tagline at the very bottom saying “Fight tooth decay and give Worcester something to smile about. The flyer for the event named all of the speakers most of who were dentists, dental hygienists, or from the medical or public health professions. On the
back of the flyer there was a list of more than fifty organizations that “recognize the benefits of water fluoridation.” In addition to professional dental, dental hygiene and medical associations, the list included many Massachusetts health and dental plans, the American Cancer Society, the Alzheimer’s Association as well as the American Water Works Association, the National Conference for Community and Justice and the Plumbers and Pipefitters Local Union.

This flyer was a white two-sided glossy sheet with the main font in black and some important points in red. There was a small oval photo in the bottom corner of a white mother and a child smiling on the front. The back had a similar placed and sized photo of a black family (a mother, father and small child). The front stated “This Office Supports Water Fluoridation.” It had a quote from C. Everett Coop stating, “Fluoridation is the single most important commitment a community can make to the oral health of its children and future generations.” It also had a list of “Facts” which included some facts about the oral health status in Worcester such as 62% of second graders have cavities, 48% of adults have lost teeth due to tooth decay and 22% of the elderly have no teeth at all. It outlined the costs both in taxes and out of pocket costs as well as talked about the effectiveness of fluoridation. A website was included (www.fluoridefacts.org) on the bottom of the page. The reverse side included a quote by the Consumers Union, the publishers of Consumer Reports, it said,” The simple truth is that there’s no scientific controversy over the safety of fluoridation. The practice is safe, economical and beneficial. The survival of this fake controversy is one of the major triumphs of quackery over science in our generation.” This side also listed more than twenty national organizations that “recognize the benefits of community water fluoridation for preventing
tooth decay” and next to that a list of more than 20 local organizations that supported adding fluoride to Worcester’s water.” Dentists were also given signs for their waiting rooms that stated, “This office recommends Water Fluoridation for Healthier Teeth” which was a cardboard glossy red, white and blue 8 X 11 sheet. Proponents affixed their own logo on this sheet as well as including it on all other print items. The logo was a large set of drawn red lips smiling with the word “FLUORIDE” written in large font within the mouth and in smaller font around the lips on the top “let’s fight tooth decay” and on the bottom the terms, “Safe. Effective. Natural.” There was also a large yellow sun like object on the right corner of the mouth which one must assume was to make the teeth in the mouth appear to be sparkling.

Opponents

Opponents did not have any television or radio commercials but did distribute materials at their own events as well as events in the community. One particular event was at an Earth Day Festival where the opponent had a table that included antifluoride information. Many of these were single page flyers. These materials were also consistent with the message that they had been conveying in their testimony at hearings and in letters to the editor. One particular one-page document was titled, “FLUORIDATION IS NOT WHAT THEY TELL YOU.” In this flyer they use proponent arguments and counter them with their own information. The document starts by saying,” They will tell you:” and then goes on to say, “…that the fluoride put in water is a “naturally occurring” mineral. In bold letters they then write, “It is NOT; the fluoride put in water is a toxic waste product of industry, not the naturally occurring, more stable, and slightly less toxic calcium fluoride.”
The second says, “…. that it is highly effective as a decay preventative.” They then state in bold letters, “It is NOT; this is why Boston, which has been fluoridated since 1978, and many other fluoridated cities have as big a dental health crisis as anywhere. More and more dental researchers are claiming that fluoride’s benefits are from topical application not from systemic ingestion.”

The flyer goes on to counter the proponents’ argument that fluoridation will benefit poor children the most by saying that actually the malnourished, who tend to poor, will suffer the most from the toxic effect of fluoride. They also counter the arguments that there is no credible scientific evidence implicating the harmful effects of fluoridation. They also counter the argument in one of the letters to the editor that implied that opponents of fluoride have a lot of money. To this the opponents wrote, “This is absurd! Opponents tend to be individual citizens trying to protect their rights to pure water and against forced medication. Proponents, on the hand, are backed by MUCH $$ from government, huge for-profit groups and industries.” They also contend that fluorosis is not merely a cosmetic effect of fluoride but rather a sign of fluoride poisoning, indicating that it may be accumulating in other parts of the body as well. This brochure and all other materials gives suggested websites to find information.

A second piece was titled” FLUORIDATION HOW MUCH DO YOU KNOW?.” This piece was also a full page and message to the reader was that fluoride was dangerous. It asked “Did you know… and then listed the following:
- That fluoride put in drinking water is an unrefined, extremely toxic waste product of industry complete with other pollutants like arsenic, cadmium, and radioactivity? It is a major source of arsenic in water.

- That fluoride, in your body and in the environment, is a cumulative poison and that we are ALL already over-exposed to fluoride from many sources?

- That fluoride can only be removed from water through expensive distillation or reverse osmosis filtering?

- That fluorosis, the mottling of children’s teeth, is NOT merely a cosmetic effect, but is a sign of fluoride poisoning that is also affecting bones and other body tissues, especially the brain, thyroid and pineal glands?

Once again the flyer gives readers several websites to go to find additional information on the harmful effects of fluoride.

Other documents included one titled” Esteemed Voices Speak Against Fluoridation.” This document states that there are 14 Nobel Prize winning scientists who oppose or criticize fluoridation and then list nine others who have something negative to say about fluoridation. Seven of the nine listed are either PhDs or M.D.s with one listed as both a D.D.S. and a PH.D. One interesting esteemed voice is Andrew Weil, M.D. who is often seen on television and who has written several books including Natural Health. He said, “I am certainly not a proponent of fluoridation of public water supplies. I think it exposes adults to possible risks. It may increase the total fluoride load that people are getting on top of other sources and it doesn’t give people a choice.” Another is a graph that shows the relative toxicity of Fluoride compared to lead and arsenic and another is a
summary of a study on rats which is titled” Three water Fluoridation Studies: 80% of Lab Rats Dead Before Study Completion! USEPA Conceals Study results from Public.”

The information that was used by opponents most often contained information which questioned the safety of fluoridation. In the content presented, the citing within their flyers of scientists opposing fluoridation and the words used (i.e. fluoride is toxic, it comes from industrial pollutants, it causes health problems,) opponents attempted to raise doubt about the credibility of proponent information. In addition, the flyers used once again portrayed fluoridation of Worcester as an attempt by the “wealthy”/well-funded Health Foundation to impose their will on the citizens of Worcester. This strategy followed closely with media coverage of the issue and reinforced perceptions that may have been established during the course of the debate.

After the Campaign

The fluoridation campaign in Worcester was an unsuccessful effort by the proponents of fluoridation. In this instance, the initiators were a group of state and local public health and dental professionals and organizations funded by the Health Foundation of Central Massachusetts. As the funding organization, the Foundation led the effort and became the “face” of the cause. Proponents seemed to be aware that the fluoridation of Worcester would not be easy. They clearly understood the history, many of them living in the area during the 1996 and other campaigns. From all accounts, it appeared that proponents viewed this campaign as one of education. They assumed that increased awareness of the problem and knowledge of the safety and efficacy of fluoridation would
help in their success. They were well funded and hoped to use these funds to educate the public.

Proponents did conduct polling information to determine the current level of awareness (i.e. perception of the problem in comparison to other problems of the day) and level of support for water fluoridation. Based on this information, it appeared that there was a high level of support when asked by pollsters with 41% indicating that they would strongly support and 37% saying that somewhat supported the measure. Only 13% strongly opposed water fluoridation, 6% somewhat opposed it and 4% did not know.

In addition, it appeared that most of those asked had seen a dentist in the last six months and had dental insurance (more than 70%). This indicated that those likely to vote did have access to oral health care and insurance. However, not surprisingly when asked about the seriousness of the issue, only 25% considered dental disease very serious as compared to other health issues like HIV/AIDS, hepatitis, smoking and alcohol use of which more than 50% considered very serious.

For the most part, the proponent group used dentists and other health professionals as “messengers” in their campaign. In fact, spokespersons at many of the meetings, hearings and forums were health professionals and much of the educational material was distributed through dental practices. Proponents attempted to educate the public on the seriousness of the issue using common arguments used by proponents in many fluoridation campaigns. Proponents attempted to convey the seriousness of the issue by calling dental disease a “silent epidemic” and a “crisis”. They also used “facts” and statistics related to the effectiveness of fluoridation in reducing dental decay as well as its low cost. They also exclaimed that fluoridation was one solution to the lack of access to
dentists who accepted Medicaid for poor populations in Worcester. Another solution they promoted was their efforts to recruit volunteer dentists and hygienists to man a new community clinic.

Opponent arguments, on the other hand, took a different path. The opponent group appeared to be an eclectic group of people from varying backgrounds. Its leader, Deborah Moore did have a PhD and they were able to recruit other science oriented people to their side which could have lent some credibility to their arguments. In addition, they recruited volunteers from various other segments of the community, a true grassroots effort. Initially, opponents did raise some question about the safety of fluoridation which could have raised doubt and fear in the public’s minds. Mostly though through the summer, they focused on the fact that voters should decide whether or not to fluoridate so that they could collect the signatures required for the referendum. During the collection process they commented often on the “unfairness” of the process as well as the fact that the opponents were a group with lots of money to spend. This may have contributed to their ability to portray the process as unfair and themselves as an underdog. Once they were able to establish that there would be a referendum, they continued to espouse the dangers of fluoridation as well as an individual’s right to choose whether or not to be medicated with a chemical distributed through their water supply. They also hammered home that the Health Foundation was “a big business” intent on using their money to buy the election. They also made other claims that related to arguments first brought up by proponents including that the problem could be solved if only “greedy dentists” would accept Medicaid payments. In addition, they used this example as a government program that did not work.
Based on the last polls conducted and the actual vote, it would appear that the opponents of fluoridation were successful in transforming overwhelming support for fluoridation among likely voters to opposition to the measure. From initial polling data, it appeared that proponents would only have to keep those who somewhat supported fluoridation on their side and get supporters of fluoridation out to the polls in order to succeed. If proponents had been able to secure their initial position, this would have meant the percentage that supported fluoridation at the polls would have been 78% (initial polling indicated 41% supported the measure and 37% somewhat supported the measure). This however did not happen. The polls conducted in Worcester indicated that although self reported knowledge of fluoridation increased support for it decreased. The final vote of 56% against and 44% voting for the measure confirmed the lack of support. It appears that the efforts of opponents were successful. Interestingly enough, when the messages used most often by both proponents were tested on those opposing fluoridation most of the respondents indicated that these arguments would not change their minds. Also interesting is that when supporters of fluoridation were asked if they would be more or less likely to vote for a candidate based on their stance on fluoridation, 63% said that their position would make no difference on their vote. This perhaps indicates that the level of support for fluoridation is shallow. In addition, 74% strongly agreed and 19% agreed that putting fluoridation on the ballot is a way to give people choice. This is an argument often used by opponents of fluoridation in their efforts to garner support a referendum. This argument appeared to have resonated with the public perhaps confirming the importance of choice to the public.
Although, one cannot be sure of the reasons voters cast their votes as they did, it is likely that the arguments presented on both sides contributed to the result. In this case it would appear that the combination of the arguments presented by opponents helped to attract support for their side while the predominantly scientific arguments presented by proponents did little to change minds. The most notable difference in the arguments presented in the Worcester case was the ability of opponents to redefine this issue as one of big business/big government vs. the average citizen rather than a focus on a solution to the problem of poor oral health.

After the vote in Worcester, the Health Foundation of Central Massachusetts continued to be involved with oral health issues and fluoridation. Although the group could have chosen to try again with fluoridation in Worcester, they did not. Rather, the Foundation and their leader Jan Yost became instrumental in the decision to change the venue for the fluoridation fight and file legislation at the state level in 2005. This effort will be discussed further in a later chapter.
New Bedford Massachusetts is approximately 51 miles south of Boston, Massachusetts, 28 miles southeast of Providence, RI and only 12 miles east of Fall River, Massachusetts, one of the other major cities in this southeast region of Massachusetts. It encompasses 20 square miles and its population is approximately 94,000 making it the seventh largest city in Massachusetts.\(^{229}\) New Bedford is nicknamed the “Whaling City” due to the fact that it was one of the most important ports for the whaling industry. New Bedford is home to a large Portuguese community stemming from the mid 1800’s when immigrants from Portugal and its dependent territories of the Azores, Cape Verde and Madeira began arriving because of opportunity in the large whaling industry\(^{230}\). The US census indicates the following demographics for New Bedford and Massachusetts as a whole:

<table>
<thead>
<tr>
<th>Race</th>
<th>New Bedford</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>78.9%</td>
<td>84.5%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>4.4%</td>
<td>5.4%</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>.6%</td>
<td>.2%</td>
</tr>
<tr>
<td>Persons reporting some other race</td>
<td>9.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Persons reporting two or more races</td>
<td>5.9%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Persons of Hispanic or Latino Origin</td>
<td>10.2%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau: State and County Quick Facts, derived from 2000 Population estimates last revised in June 2006

Due to the complex issues of race and ethnicity in New Bedford with its multiracial Spanish and Portuguese surnamed citizens, accurate information in this regard
is difficult. Some have estimated that more than 38.6% of the population are Portuguese, 9.1% French, 8.0% Cape Verdean, 7.9% Irish, 7.3% English and 7.1% Puerto Rican. In addition, it is interesting to note that 19.6% of New Bedford residents indicate that they are foreign born, more than 7% higher than the Massachusetts average and a full 37.8% indicate that a language other than English is spoken at home with the Massachusetts average being 18.7%. Simply stated, New Bedford may be more culturally and ethnically diverse than Massachusetts as a whole.

Generally speaking New Bedford residents are less well off than their Massachusetts counterparts with the median household income being more than $23,000 less than the state average. New Bedford residents also are less educated with only 57.6% of residents above 25 having a high school diploma. This is 25% lower than the state average. The percentage of residents holding a bachelors degree is a full 22% lower than the state average. Corresponding with a lower income level, home ownership is also significantly less than the state average (43.8 vs. 61.7%).

Fishing and manufacturing continue to be two of the largest industries in the area and healthcare has also become a major employer. The three largest single employers based in New Bedford are Southcoast Hospitals Group, Titliest, a manufacturer of golf clubs, balls and apparel and Riverside Manufacturing, an apparel maker. As of November of 2005, the port of New Bedford was the top U.S. fishing port in terms of dollar value of catch. Unemployment rates in New Bedford also appear to be higher than the national and state average, a possible reflection of the overall decline in the manufacturing industry and the difficulties in the fishing industry.
Structure of government

New Bedford has a Mayor- Council form of government. The current mayor is Scott Lang who is a Democrat. Mayor Lang has been in office since 2006. All four state representatives are Democrats, another Democrat state senator Mark Montigny, has held the chair position of the Senate Ways and Means committee; represent New Bedford in the state legislature.

History of Fluoridation in New Bedford

In the early 1970’s fluoridation of community water supplies was contested with lawsuits, public referenda and much debate. In 1973, New Bedford voters approved a referendum in favor of fluoridation but it took the city until 1978 to begin adding fluoride to the water. At that time Robert DeMello, an activist, launched a campaign to overturn the decision, and he successfully led a charge to stop fluoridating the city’s water. In a second referendum in 1979, voters said No to fluoridation by a 2-1 margin. A group of 16 residents and the American Dental Society sued to keep the fluoride in the water but a Superior Court judge ruled that the voters’ rejection should stand. On May 5, 1980, the supply of fluoride was cut off, less than two years after it began. 233

Background to the 2006 Referendum

PACE (People Acting in Community Endeavors) was incorporated as a private non-profit Community Action Agency in 1982 in response to a lack of needed services in the Greater New Bedford area. A group of committed community leaders from New Bedford worked with state officials to form PACE, PACE was a grassroots driven organization and since its inception has worked to develop and sponsor the New Bedford
Head Start program, in establishing affordable housing, youth programs, AIDS programs, fuel assistance programs, homeless programs, food surplus programs and other much needed community programs. Bruce Morrell began his career as Executive Director with PACE, Inc in 1986.

In the late 1990s while working on a healthcare access program, PACE found that the single most important form of healthcare that people in their community wanted was dental care. At that time, PACE found that of the 88 dentists practicing dentists in the New Bedford area only two were accepting Medicaid, the primary source of financial access for those with the worst dental problems.

Over the next few years PACE and the New Bedford Community Health Center began to address the problem. They started a sealant clinic that was open to any second grader in New Bedford public schools whose parents gave permission. Several dentists volunteered to work in the vocational school to provide checks of students’ teeth and to apply dental sealants to protect kids from decay on molars. PACE found that 145 of 594 students in the third grade needed immediate care for tooth decay. Six children had abscesses, a potentially life threatening condition. In addition, in PACE’s Head Start programs they were finding that many of the kids had multiple cavities even at age four.

The Fluoridation Order

Around that time, PACE led by Morrell began to think about the idea of fluoridation. Morrell began to explore the fluoridation issue but after reviewing the information he realized that much of the information he could locate was negative and
decided that he was not ready to take on the “fight.” After seeing the dismal statistics from the sealant clinic and Head Start, PACE and the others involved in the clinic decided that they couldn’t wait and approached the Board of Health. PACE provided the Board with information both pro and anti fluoride and in May 2002, the BOH voted unanimously to order fluoridation. At the public meeting virtually no one showed up against the measure. At that time the Board consisted of Bob Davis, the Executive Director, Dr. Pat Andrade, a physician in the community, Barbara Silva, a nurse and Victor Rebello, a pharmacist. The actual order for fluoridation did not come until February of 2004. As Massachusetts law dictates, after the BOH order is published opponents of the measure have 90 days to collect the signatures of 10% of the voters and force a referendum. Very few people had attended the meetings and the issue really never became public. The ninety days came and went and no one responded. 236

Fluoridation of the water supply could now be implemented. The only problem now was that the group was led to believe that funds would be available through the state or through Massachusetts Coalition for Oral Health and that funding did not come through. They were facing a start up cost to upgrade their system of $80,000. The City of New Bedford was also facing a fiscal crisis. The mayor at that time was Fred Kalitz who was in his fourth term. PACE and other supporters met with the mayor and the head of the Department of Public Works to convince him to put the money up. They also called the Lieutenant Governor and their Representative Steve Conesssa who filed a bill to get the money. The upgrade was made and the Department of Environmental Protection certified the upgraded system as fail safe in the spring of 2005. 237
In July of 2005, Councilor-at-large Brian Gomes introduced a motion asking that the Board of Health reverse its decision to introduce fluoride into the city’s water supply until addressing what he described as public concern. He also requested that the city solicitor and council lawyer devise a binding referendum for the upcoming election in November of 2005. The City Council spent about 15 minutes debating whether to hold a binding referendum on water fluoridation. The attorney for the city then advised them that the Council did not have the authority to make that decision under Massachusetts law. Another ward councilor, Paul Koczera asked that they did not take any hasty action noting that a third of the eight year olds in the city require immediate dental work. Council Linda Morad asked that the issue go to the Ordinance Committee and that this committee hear from the Board of Health before making any decisions.\(^{238}\) The issue then appeared to take a back seat to other issues until after the mayoral election held in November of 2005.

**The Road to Referendum**

The mayoral election was held that fall and Kalisz lost- fluoride was never an issue in the election. The new mayor was Scott Lang. When Lang was elected he set out to undo the previous mayor’s agenda. The Board of Health chair, Dr. Andrade met with the new mayor who told her that he wanted to hold off on implementation because he believed that three people (BOH) should not dictate a public policy of such magnitude. Massachusetts law actually states that the board of health does have this authority to make this decision. In February of 2006, the Mayor requested a Home Rule Petition to the legislature, which would allow them to reverse the Board of Health Decision. State
Representative Mark Montigny sponsored the motion. The Board of Health and the Mayor continued fighting.

In March of 2006, a public hearing was held. The mayor did not attend this hearing. Those that attended were predominantly against fluoride and the main argument presented at this hearing was that fluoride was a poison that caused cancer. Dr Myron Allukian, a leading proponent of fluoridation both in Massachusetts and nationwide attended the hearing and answered opponents questions head on.

The mayor organized and held three more informational hearings. They were written up in the paper under the Community Briefs section. The meetings were held on April 27 at the Roosevelt Middle School and May 2 at the New Bedford High School and May 15, 2006 at the Normandin Middle School. The sessions were open microphone and speakers had 3-5 minutes to give their view. These hearings were recorded and shown on local cable TV.

The first meeting was covered in the April 28, 2006 edition of the Standard Times and it was stated that only four of the approximately 30 people at the hearing were for fluoride and Morrell indicates that this was the case for the other hearings as well. He stated that the proponents did not attempt to organize a group to speak for the measure. In fact, he stated that he himself only attended the first meeting. The opponents of the measure used arguments that included “I think we should have a choice. It’s overkill. You bathe in it, you cook in it, you shower in it. It’s a lot of consumption of fluoride “too much fluoride is poisonous”, “Dental care prevents cavities, not fluoride”, “residents should have a choice about whether their children need a supplement”, and Mayor Lang himself added, “You’ve got to get the toothbrushes, you’ve got to get the education,
you’ve got to get the toothpaste out” adding that fluoride alone won’t solve the problem.
Carlos Felix a City Council contestant said, “It needs to be put to a vote so a majority
vote is taken.”

On the proponent side two nursing students from UMASS Dartmouth chimed in.
One stated, “I believe that we should put fluoride in the water based on health statistics. I
do think we need to look at future generations and make sure they are healthy.” The other
added, “Many families don’t always make the best decisions” and called on the
community’s responsibility to make sure everyone is healthy. 239

Around this time, newspaper articles were written about a study that had been
done at Harvard by a PhD student that had shown a possible link between osteosarcoma
in boys and fluoridation of the water supply. Following this article were other articles that
claimed that a professor at Harvard, a fluoridation supporter had tried to stop the results
of this study from being released. Although neither of the claims was supported by facts
the stories took on a life of their own.

In addition to proponents and opponents in New Bedford, it should be noted that
Aschunet and Fairhaven both receive their water supply from New Bedford and were
weighing in on the issue. In an article in the Fairhaven/Acushnet Advocate on May 4,
2006, Acushnet Board of Public Works Chairman Rene Racine voiced his opposition to
the measure stating “There are a lot of people that were concerned about the fluoride”
and “they have had public meetings in New Bedford, but we haven’t been invited at all.”
The health agent in Acushnet and the Water and Sewer superintendent were more neutral
on the measure, one indicating that they would wait until all of the facts are out on it and
the other, Paul Sylvia the Water and Sewer Superintendent expressing concern that the
residents of Acushnet have little say on such a big decision and reiterating that “the goal for water distribution is to give safe, healthful, pure water to our customers, something that is safe in all aspects. If you start to insert things, you’re veering off the path. And that may or may not be the right thing to do.” In another move, Acushnet’s Board of Selectman joined the BPW in opposing New Bedford adding fluoride to the water supply they shared. One selectman from Aschunet, David Wojnar was very vocal in his opposition. “Based on the research I’ve done…it appears the harm could potentially outweigh the good,” and also said that since Acushnet is New Bedford’s largest paying customer he felt that it was their duty to take a stance on the issue. He mentioned the possibility of Acushnet holding a non-binding referendum on the issue although he stated that Acushnet’s opinion could only hold so much weight. In the end Acushnet did hold the referendum and the residents did not get to participate in New Bedford’s referendum (all legal under Massachusetts law). Mr. Wojnar was quoted again in an article after the vote expressing is dismay and saying that this was “unfair” and that the voters had made their voices loud and clear that they were opposed to this measure at town meeting but that they had no recourse. He also said “I have some personal feelings about how far government should go in essentially administering medication. It’s an unfortunate scenario, but I encourage residents who use the town water supply to do their own research and come up with their own opinions about this.”

The Standard –Times, New Bedford’s local newspaper, had been featuring some articles/letters to the editor on the fluoridation subject that did not necessarily oppose the measure but had somewhat sensationalized headlines and content that could potentially raise concerns with citizens. The paper covered the topic in a five part series in their “Our
View” editorial column during the first week in May 2006. According to the paper, the first article would answer the question of “Why did communities begin fluoridating water, the second would discuss why there is so much controversy and how other countries view fluoride, the third would review the arguments for fluoridation and the fourth would review the arguments again. The paper also stated that after this that they would take a view and on May 21, 2006 an editorial in the “Our View” column did ultimately support community water fluoridation. The paper did publish several letters to the editor both supporting and opposing the measure.

During June 2006, Mayor Lang announced that he was opposed to fluoridation after listening to concerns at the public hearings and went on to confirm that he would call for a referendum on the November ballot. Mayor Lang stated, “I believe that the issue of adolescent dental health and tooth decay can be addressed without mass medicating the entire population of the city.” He also added “through the School Department and Health Department, he will target the oral health of children by handing out toothbrushes, toothpaste and floss to children. In addition, fluoride rinse, pills, drops will be provided to children with parental permission and announced that he would ask the School Committee which he chairs to remove soda and other unhealthy sugary snacks from schools.”

Sometime between June 17, 2006 and June 25, 2006, Mayor Lang decided not to renew Commissioner Robert Davis’s contract or “fired” him. Many questioned whether Davis lost his job because of his position supporting community water fluoridation but Mayor Lang suggested that it was Mr. Davis’s leadership that prompted the dismissal. Despite Mayor Lang’s opposition the BOH and Mr. Davis had continued to support
fluoridation. Mr. Davis and members of the Board of Health believed that Mayor Lang
did not have the authority to fire him as state law had him answering to the health board.
Mayor Lang lost in court and Davis was reappointed in July of 2006 by the BOH with a
2-1 margin. Later Mayor Lang reconstituted the Board of Health to bring it more directly
under his control. He replaced, Victor Rebello, whose term had expired with Dr. James
Schweidenback, a popular downtown dentist, and persuaded Barbara Silva, a longtime
member to support the removal of Mr. Davis. The new health board then hired Thomas
Gecewicz as the new health director.

During the summer months fluoridation supporters outside New Bedford began to
learn of Mayor Lang’s request for Home Rule and debated whether to try to persuade
legislators to deny it. Because Senator Montigny was one of the major sponsors of the bill
and had been so supportive of other health/dental issues, it was decided that it was best to
let the legislative process take its course. In a special session in the late summer it was
confirmed that in fact a referendum we would be held on this issue in the November
election.

The Campaign

One group interested in fluoridation at that time was the Oral Health Advocacy
Task Force, a group interested in advocating for public policies that would promote and
improve oral health. One item on their agenda was increasing the number of communities
statewide that had access to fluoridated water. They had filed some legislation at the state
level, which was sent to study after hearings in the public health committee, and were
eager to offer help to New Bedford in any way that they could. Previous to this Bruce
Morrell of PACE had worked with many of the Task Force members regarding the fluoridation issue as well as other oral health issues in his community. When members of the fluoridation subcommittee on the Task Force called Morrell to meet, he agreed.

Morrell admitted that at that point, only five to six weeks before the referendum, that he was tired from the process. It had been many years since he started working on this issue. He was feeling very defeated and planned to do the best he could in the coming few months to promote support but honestly had doubts about campaign success. The members of the Task Force asked what, if anything, they could do and Mr. Morrell stated that without any money that this would be difficult. He had already done his homework and most certainly had many grassroots contacts but anything but a low-key campaign would involve costs for paid media, signs, mailings and other. The members of the group said that they would work on the funding piece and get back to him.

The Massachusetts Dental Society, an active member of the Task Force as well as the subcommittee, also got involved at this time and pledged to give expertise, membership support and financial resources towards the campaign. Members of the Massachusetts Coalition on Oral Health were contacted regarding the possibility of a donation for the fluoridation effort and also agreed. These parties as well as grassroots contacts met in New Bedford to discuss what could be done and to coordinate their efforts. Some members of the group had had significant experience in fluoridation campaigns and together they discussed the best strategies with the short amount of time left and the limited resources.

The Committee for Brighter Smiles had been established by PACE as an election committee and the Massachusetts Dental Society also established the Vote Yes on
Question 4 Committee. Each of these groups focused on segments of the campaign with MDS printing postcards supporting fluoridation for their area member dentists to distribute to their patients and also had advertisements in the newspaper. In addition, MDS ran forty spots a week on two local radio stations and ran a half page ad that ran in both the Standard Times and a local Portuguese paper during the weeks of October 22, 2006 and October 29, 2006. One MDS ad that ran in the Sunday, November 5, 2006 Standard Times pictured a water faucet with flowing water and read “New Bedford Voters: Don’t Let this opportunity ... GO DOWN THE DRAIN!” It also listed the names of approximately 50 area dentists supporting Vote Yes on Question 4.

The PACE group had a stronger focus on the large New Bedford Portuguese community with advertisements being placed in the local Portuguese newspapers and on Portuguese radio. The advertisement used asked the reader to VOTE YES ON QUESTION #4 in order to “Protect Your Health” and also listed 23 organizations that support fluoride. The first on the list was PACE and then several other local agencies as well as state and national dental and health related agencies were noted. The bottom of the ad stated “FLUORIDE IS SAFE AND EFFECTIVE” and then noted that every major scientific study assessing the effects of fluoride over fifty years support this finding. The ad had the logo that was also used on the button and was a cartoon of a smiling tooth with a toothbrush saying “Save me” and the Vote Yes on Question #4 slogan, PACE also worked hard to bring other local groups on board with the effort including other anti-poverty agencies, health care organizations, immigrant agencies and the faith-based community.
Other groups offered their help with the Coastline Elderly providing pro-fluoride fact sheets in the meals that they delivered to clients. Eight hundred buttons were made supporting the measure, which created lots of buzz. Staff at PACE wore the buttons daily and one commented that even her visits to Dunkin Donuts created questions and requests for buttons by DD staff and customers. It was decided that yard signs would be placed in strategic areas of the city and that on Election Day sign holders would be recruited for polling areas. The group also decided that all of this would be done during the two weeks prior to the election in the hopes that this timeframe would not give opponents enough time to organize.

In total the pro-fluoride side received $17,000. The Committee for a Brighter Smile received $5,000 from the Massachusetts Coalition for Oral Health and $2,000 from Delta Dental of Massachusetts and the Vote Yes on Question 4 founded by the Massachusetts Dental Society, raised $10,000: $5,000 from itself and $5,000 from the Southeastern District Dental Society in North Dartmouth.

The opponent group never appeared to mobilize for the campaign and did little to promote their side other than to state their position publicly.\textsuperscript{246}

\textbf{The Outcome}

The election on November 7, 2006 included a hotly contested gubernatorial election between Deval Patrick, a liberal Democrat and Kerri Healey, the incumbent Republican Lieutenant Governor under Mitt Romney. Comparatively speaking this was a high turnout election. The fluoride issue was not the only issue on the ballot that day. In fact,
there were four other initiatives on the ballot. These included allowing liquor sales in supermarkets, unionizing childcare workers and allowing third parties that qualify for the ballot to cross endorse, a measure of voting reform. The fluoridation issue was placed on the second side of the ballot and required the voter to turn the ballot over. This caused many people not to vote either way on this issue, with about 15% of the ballots cast leaving Question 4 blank. On that day fluoridation was the only ballot initiative that passed. The initiative won in 43 precincts and lost in five. The city’s voters voted yes by a 53 to 47 percent margin. The measure passed by 1,255 votes out of the 20,531 cast that day. The vote was 10,893 to 9,638.

Additional Information on the New Bedford Referendum

The city of New Bedford was fluoridated on January 8, 2007 and has been fluoridated since. The referendum in New Bedford was one of the few successes during the decade and therefore became of interest to many especially the Oral Health Advocacy Task Force. An intern of the Task Force, Monique Brouillette as part of her Master’s program at Tufts University in Health Communication explored New Bedford in a paper. Her interest was in risk communication. Brouillette was interested in developing a risk communication strategy to incorporate into future campaigns promoting community water fluoridation. She conducted interviews with key people involved in the campaign and also conducted exploratory focus groups that examined factors associated with the perceptions of risk. The key informant interviews identified a number of factors that those interviewed associated with New Bedford’s successful campaign. These included limiting the campaign’s duration in order to minimize counter campaigning from
antifluoridationists, using common sense rationale when debating the risk associated with fluoride, and being responsive to antifluoridation arguments. There were two rounds of focus groups one in June and one in November. In June there were sixteen participants total and in November only five participants. Although the numbers were small in the focus groups some themes ran through many of the respondent answers. The themes included: 1) a mistrust of government and public health authorities for getting health information; 2) more evidence needs to be communicated even if the evidence is uncertain; 3) no single health source is enough; 4) concern that there is contradictory information on fluoride; 5) the medical/public health community should provide all information on the subject.

Newspaper Coverage

In New Bedford the major newspaper is the Standard Times. This is a daily newspaper with a Sunday edition. The following analysis includes the newspaper articles, editorial and opinion pieces as well as letters to the editor found in a search using Lexus Nexus and an Internet search of Southcoast Today, which posts all Standard Times articles. In addition, Bruce Morrell of PACE provided an analysis of all advertisements and other documents related to fluoridation.

Three authors wrote the news articles. Five of these articles were written prior to the vote; the remainder was written after Election Day and prior to the actual implementation of water fluoridation. The authors were Aaron Nicodemus, a Standard Times staff writer who wrote six articles beginning with a March 22, 2006 article, Joao Ferreira, also a staff writer wrote one article, and Steve Urbon, a Standard Times senior
correspondent who wrote two articles. At least four of these articles were positioned on the front page of the newspaper.

Of the five articles written prior to the election, four presented at least one argument for those on each side of the issue within the article. On the proponent side all of the proponents quoted were in the health professions (either dentists, physicians or nurses) with the exception of Bruce Morrell who was the Executive Director of the anti-poverty agency who initiated the fluoridation issue with the Board of Health. Most of those quoted were involved in New Bedford i.e. Dr. Andrade, the chair of the New Bedford Board of Health and Dr. Mary McCabe, a dentist and director of the New Bedford Community health Clinic and Bruce Morrell who was well known in the community as an advocate for the poor. Professional organizations such as the ADA and CDC were mentioned with expert opinion, as was Dr. Myron Allukian, a public health advocate from Boston and supporter of fluoridation who speaks frequently across the state and country on fluoridation. Proponent arguments were presented with factual information data and statistics related to the tooth decay problem (mentioned as a crisis in two of the five articles), the method of action of fluoride itself and its effectiveness. Comparisons with other cities and town in the state were mentioned noting that New Bedford children were hit especially hard by poor oral health.

Fluoridation was also framed as a solution for poor oral health in children. The statistics and arguments used on the proponent side related to children and one argument against fluoridation on the opponent side actually questioned the safety for older adults. These articles reinforced the notion that fluoride is for children only.
The first article written was on March 22, 2006 by Nicodemus was titled “Mayor Lang wants to hear from people on fluoride.” The topic of this article was Mayor Lang’s request for the board of health to hold a public hearing on the issue of fluoridation so that the public could weigh in. The article provided no scientific arguments either for or against fluoridation but rather emphasized the political debate taking place between Mayor Scott Lang and the Board of Health. This article conveyed Mayor Lang’s strong feelings about “choice.” Nicodemus quoted Lang as saying, “I think it is important that people have their say on it”, saying, “I’m dead set against flipping the switch and saying, “Oh by the way, I put fluoride in your water.” 249

Nicodemus wrote that the City Council had passed a motion calling for a ballot question and that the board of health would hold a public hearing on the issue. He also indicated that the BOH had already ordered and held a public hearing on the subject in 2004 that was not well attended. He mentioned that under the previous mayor, the water system was upgraded to prepare for fluoridation and that workers were trained and prepared to add the fluoride but were waiting for Mayor Lang’s approval.250 This content of this article highlighted elements of the political process regarding fluoridation in the Commonwealth. The reporter does mention that the BOH ordered fluoridation in 2004 at a meeting that was not well attended but does not note that the legal process was followed by the BOH. The process that was followed included a notice of the BOH’s intent to fluoridate placed in the local paper describing the process required if citizens were opposed to the measure and would like to have it go to referendum. The article did not mention that at that time no petition was circulated nor were signatures gathered supporting a referendum in the allocated timeframe nor was there attendance by
opponents at the BOH hearing. This could have represented the public’s indifference toward the issue in 2004 rather than the BOH’s wish to circumvent public involvement and order fluoride at a meeting that was not well attended as implied by the Mayor. However, this argument used by opponents set the stage for an attempt to have this issue decided by a referendum after all. This required a move outside of the “usual” legal process which does not allow a referendum after the appropriate legal action has been followed. A referendum at this stage would require approval of a home rule petition by the state legislature. The “home rule” would allow the city to have a referendum despite the BOH following the legal process. This attempt is often successful because the issue is controversial and state legislators would prefer to opt on the side of local control rather than take a stand on the fluoridation issue. Referenda also seem to be the preferred route of local officials if forced to weigh in on the measure since it is easier to be for the “choice” of the people than take a stand on such a complex and controversial issue. A referendum is very often beneficial to opponents since it allows them to expand the scope of the conflict from a public health decision made by public health experts to a broader audience where they have the opportunity to sway public opinion with their arguments.

The next article on April 4, 2006 in the Standard Times by Nicodemus was titled “Fluoridation hearing brings cries of crisis- City residents express skepticism.” The topic of this article was public information that was held on the topic of fluoridation. It began by outlining both the proponents’ and the opponents’ basic arguments about fluoridation i.e. that New Bedford has a dental health crisis and fluoridation is the best way to reverse the trend. He also indicated that many people are skeptical of the benefits and wary of its potential harmful effects. The remainder of the article reported on experts who testified at
the public hearing. Nicodemus quoted Dr. Mary McCabe, a proponent and director of the Greater New Bedford Community Dental Clinic, Dr. Patricia Andrade, chairman of the New Bedford Board of Health, Mayor Scott Lang and Dr. Myron Allukian who is not identified in the article but is an ardent proponent of fluoridation from Boston, MA. No opponents of the measure with the exception of Lang, who had not voiced an opinion on fluoridation except to say that the people of New Bedford should be heard, were quoted in this piece. Nicodemus quoted McCabe and wrote of her explanation of the dental crisis that existed, her support of the American Dental Association’s recommendation that fluoridation is the best and safest route for the prevention of dental disease and her explanation to the crowd about how fluoride works to prevent tooth decay. As described by Nicodemus in this article, McCabe’s testimony appeared to be factual and straightforward outlining the problem and advocating for the most effective means to solve it. Nicodemus also quoted Andrade who also stated that the BOH decision was made based on the rate of dental decay in New Bedford compared with the rest of the state and the fact that fluoride was the best way to prevent this disease.

The arguments presented in this article were classic examples of the arguments used most often by proponents. As stated previously these arguments are generally from an instrumental perspective. The spokespersons quoted in this article were health professionals who described the problem of poor oral health in New Bedford, compared it to other areas of the state and proclaimed both its safety and effectiveness in solving the problem. Nicodemus then explained that the Mayor had submitted a letter that was given out at the hearing that outlined his intention to hold three more public hearings on the matter before making a decision. He then quotes the mayor as saying, “I believe that
this health issue must be fully debated and considered by the people of New Bedford before any decision is made by the Board of Health or the by mayor.”

Nicodemus indicated that written questions from the audience were allowed during the hearing and that questions submitted were mostly skeptical of the health benefits of fluoridation. Nicodemus wrote that one attendee said that fluoride is contained in rat poison and questioned why it would be put in the water. Nicodemus indicated that Dr. Allukian, the proponent from Boston, answered that question and explained that the dose indicated in water fluoridation is one part per million and that rat poison once used fluoride but at the level of 250,000 parts per million. He quotes Allukian as saying, “What we are talking about is dosage. A small amount is beneficial. A large amount is dangerous.” Nicodemus also notes that the panelists in the room could not answer a question relating to the overall dental health in Fall River or Boston (both communities had been fluoridated for many years) in comparison to New Bedford.

The scientific arguments presented in the article are also representative of the back and forth between opposing groups on the safety of fluoride with opponents raising the fact that fluoride may have potential health effects, is used in rat poison etc. For their part, scientists on the proponent side proclaim the safety and name major health organizations supporting the measure. They also note that the danger discussed by opponents is exaggerated and related to dose and that fluoride in water does not come close to this dose.

The next article was published on April 28, 2006 and was written by another author, Joao Ferreira. This article covered another of the public meetings and was titled "Meeting brings out fluoridation opponents". This article indicates that 30 people
attended the hearing held by the mayor and only four were for fluoridation. It begins by saying “If the issue of fluoridation went to ballot and the people at the hearing last night were the only ones to vote, the effort would fall on its face.” The author begins by quoting opponents of fluoridation such as Janice Moss who states, “I think we should have a choice. It’s a little overkill. You bathe in it, you cook in it, you shower in it. It’s a lot of consumption of fluoride.” The article also states that several people raised the issue of possible health problems resulting from too much fluoride. He quotes a registered nurse, Pat Marshall as saying “too much fluoride is poisonous. Karen Gould, Dave Gould, Lee Carreiro and Laura Broekel are listed as some of those voicing opposition to the measure. Their backgrounds are not included. Carreiro stated, “Dental care prevents cavities not fluoride.” Broekel questioned having better foods in the schools. The author also indicates that several people argued that residents should have a choice about whether their children need a fluoride supplement. Mayor Lang is quoted as saying, “You’ve got to get the toothbrushes, you’ve got to get the education, you’ve got to get the toothpaste out” and adding, “Fluoridation alone won’t solve the problem.”

In this article, the possibility of a referendum was mentioned with both Mayor Lang and a City Council contestant, Carlos Felix, supporting the move. The remaining two public hearings were also noted and Ferreira once again quoted the mayor as saying, “I need to hear from as many people as possible.” The last paragraph mentioned that the fluoridation equipment had already been upgraded at a cost of $16,500 and that fluoridating the water would cost between $38,000 and $40,000 per year. 254

Overall, this article had support for the frame that oral health is an individual responsibility and that it is a problem that requires better education and parenting in order
to improve a child’s brushing and eating rather than a community effort like water fluoridation. The value of choice was reinforced several times in the course of the article with quotes from opponents of fluoridation using this as one of their main arguments. Many opponents according to the author brought the scientific facts into question.

Only two people were quoted as speaking in favor of fluoridation both nursing students at UMASS Dartmouth. One, Cynthia Avila, stated, “I believe we should put fluoride in the water based on the health statistics. I do think we need to look at future generations and make sure they are healthy.” Kristen Ferreira said “Many families don’t always make the best decisions”, calling on the community’s responsibility to make sure everyone is healthy. Avila argues from an instrumental perspective and Ferreira begins to change the current perspective (individual frame) by advocating for the moral responsibility of the community but reverts back to an individual frame blaming parents and children when she uses poor family decision making as her justification for community responsibility.  

Overall this article illustrated the clear divide between the two sides and also emphasized the political aspect of the debate namely that Mayor Lang felt that the people of New Bedford should be heard and decide preferably via referendum.

The next article written on the issue was on June 17, 2006 by Nicodemus. This article spanned two pages; one was the front page of the Standard Times and was titled “Mayor opposes fluoride in water “in large bold letters with a sub-title of “Will call for referendum on the November ballot.” The topic of this article was Mayor Lang’s intention to call for a referendum on the November ballot in order to allow voters to decide on the fluoridation issue.
The article was framed as a controversy between the mayor and the Board of Health with both the chair of the Board, Dr Andrade and the mayor being quoted. Brian Gomes, a member of the city council was also quoted as supporting the mayor. A large part of the article was also used to describe the past history of fluoridation in New Bedford i.e. a winning referendum in 1973, addition of fluoride to the water in 1978, a second no referendum in 1979 followed by an unsuccessful lawsuit by proponents with fluoride ultimately stopped in 1980. Nicodemus then goes on to say that the Board of Health voted to approve the measure in 2004 after holding “a sparsely attended public hearing. He also says that this “effectively overturned the judge’ ruling from 25 years ago” noting that state law gives local boards of health the authority to fluoridate public drinking water.²⁵⁶

Arguments presented in the article by the mayor include a quote from a press release from the mayor in which the mayor stated, “I am against introducing fluoride into the city’s water supply. I do think the inherent risk to the population of fluoridation outweighs the public good.” Later in the article the mayor was also quoted as saying, “I believe that the issue of adolescent dental health and tooth decay can be addressed without “mass medicating” our entire city.” Nicodemus also said that Lang stated in his release that the city through the school and health departments will target the oral health of children by handing out toothbrushes, toothpaste and floss to children. In addition Lang said that fluoride rinse, pills, coating and drops will be provided to children with parental permission and that the city will coordinate with existing programs in the city to support dental health treatment and education. Brian Gomes, a City Council member, was quoted by Nicodemus as saying, “I commend Mayor Lang’s stance today that is in the
best interests of all in the city. The implementation of a program that will go out and reach out to kids is the right approach.” Nicodemus added that Gomes was worried that putting fluoride in the water might have a negative effect on the city’s senior citizens. “Would they be getting an overabundance of fluoride when they drink their morning coffee”?257

Dr Andrade was the only proponent mentioned or quoted and Nicodemus stated that Andrade had said that the “board’s support of fluoridation as a means to address chronic dental problems has not wavered” and “The Board of Health still feels citywide fluoridation is the best way to impact oral health. In the predicament we are in now, with the mayor saying he does not support fluoridation, we have discussed the possibility of a binding referendum.” She said that the board supported a referendum and had contacted legal counsel. 258

The next article and final one before the election was on October 9, 2006 also spanned two pages starting on the front page and was written by Steve Urbon, a Standard Times senior correspondent. This article was titled “Fluoride fight is looming for the city-Groups outside region sink teeth into debate.” The topic of this article was the upcoming referendum and the history and controversy surrounding it. This article began with a narrative about a dentist in the early 1900s in a Colorado town and began to wonder why everyone’s teeth were mottled and brown. That same dentist found eight years later that although these mottled teeth were unsightly they were strong with fewer cavities. He then goes on to say that after 30 years scientists learned that fluoride ions that occurred naturally in the spring water in that area were the cause. He adds that this story “leads all
the way to New Bedford more than a century later, when the fruits of that dentist’s legacy still create enough contention to call for a popular vote.”

Urbon’s style seems to contain a slight tone of sarcasm or perhaps it is more storytelling than fact finding although he does present a comprehensive look at the issue and presenting arguments for both sides first noting “It’s an issue long settled elsewhere one way or another. Fluoridation began in earnest in this country in the 1940s. The majority of Americans drink fluoridated water; the majority of Europeans don’t.” He goes on to say that one part per million is the level that prevents tooth decay but does not cause the mottled enamel which he discussed in his opening. He also adds that public health officials at all levels of government including the CDC and ADA. He states that they “adamantly conclude that fluoridation is the right thing to do. That’s especially true, they hold for low-income communities where children are more likely to lack adequate dental care at all. Not to mention less access for the poor to fluoridated toothpastes and the fluoride rinses on the market to supplement what might be in the water.” He goes on to say that the CDC and the ADA flatly reject the charges circulated on the Internet and elsewhere, listing in bold bullets the following anti-fluoride arguments:

1. Fluoride is overrated because other things matter more and tooth decay is in decline everywhere, fluoride or not
2. Fluoride is forced mass medication
3. Fluoridation causes health risks later on such as Alzheimer’s, cancer and even vulnerability to HIV/AIDS
4. Fluoridation is a chemical industry plot to blur the culpability for toxic fluorine releases into the environment.
Urbon discusses antfluoridation groups and that their arguments are many and also rejected in total by the CDC and ADA. He says that they are sophisticated and heartfelt arguments and that opponents have even brought in Nobel laureates to speak to their cause. Urbon says, “Organizations have formed around rolling back fluoridation as an anachronism and a health threat, if not an affront to a free society.” The Internet he says means that in a small city such as New Bedford a fluoride fight becomes “an international cause celebre.” Urbon says that this is “a far cry from the Red Scare rhetoric of the Cold War, encapsulated by Jack D. Ripper in the 1964 film “Dr. Strangelove”, or “How I Learned to stop Worrying and Love the Bomb”, who asks, ” Do you realize that fluoridation is the most monstrously conceived and dangerous Communist plot we have ever had to face?” 260

Urbon writes that today’s opposition is more likely to sound like that of Mayor Scott Lang who suspended the fluoride project that had begun in 2005 by the BOH order and with the certification of the equipment by the Department of Environmental Protection one month after Lang was elected office and before his swearing in January of 2006. He writes that Lang decided that the risk of fluoridation outweighed the public good. Urbon describes briefly the arguments of dentists and the board (children have much higher than average rate of tooth decay and overall suffer from poor oral health) and then goes into the political aspects of the issue noting that Lang and the City Council, with Brian Gomes leading the effort were able to get the issue to the state legislature who allowed it as a ballot question. He says that to date there has been little or no discussion of the ballot question and goes on to explain that Robert Davis has sued to keep his job on the BOH after Mayor Lang tried to remove him. 261
Editorials and Opinion Columns

The Standard Times published a four part editorial series in May of 2006 that looked at the issues surrounding fluoride and its effectiveness at fighting tooth decay. The Our View articles ran on May 2, 3, 4 and 5, 2006. Ultimately on May 21, 2006 the editorial board endorsed fluoridation. The Standard Times states that the editorial will attempt to answer the following questions:

1. Why did communities begin fluoridating public water?
2. Why is there so much controversy over the adding of fluoride to the drinking water, and how do other countries view fluoride?
3. What are the arguments for adding fluoride?
4. What are the arguments against fluoridation?

The editorial board appears to attempt to provide as much information as people to the readers so that the readers can make a “rational” informed decision about fluoride. The arguments on both sides of the issue are presented and are in line with the arguments as presented by proponents and opponents in other fluoridation debates and discourse. Mostly the science is presented for both sides each side having differing studies used to present their arguments and/or different interpretations about what the studies say. The editorial series and the format used gives the reader the impression that the editorial board’s opinion is not without due diligence and is not biased either in favor of or against the measure. The editorials do however inform the reader of the controversy that exists between the two sides and the deep divide between them. The frames used are also
consistent with current established frames around health and more specifically oral health and fluoridation namely that for the most part this is a problem of individual concern and more specifically a worry more for poor individuals, a frame which inadvertently places the blame for the problem squarely on the shoulders of parent and children versus government. However, if one were to look for another party to blame from the text of the editorials it would likely be the government and its Medicaid program, which is described by the editorial board as not paying enough and not efficient enough for dentists to join.

They begin the first editorial of the series on May 2, 2006 with following statement, “There was a time in American history when the public had a great deal of faith that man-made chemicals would lead to better living. But that faith in chemicals has evaporated in recent decades as the public has seen the effects of some chemicals on our health. This they state “is in the background of the raging debate over whether or not New Bedford should add fluoride to the New Bedford public drinking water system to help strengthen the teeth of young city residents, who as a group, suffer from high numbers of cavities, tooth loss and decay, according to local dentists.” These statements seem to acknowledge both people’s fears about fluoridation and the legitimacy of the debate. They also identify the problem as tooth decay and further identify the problem as one of youth.

The remainder of the editorial took a neutral stance on fluoridation providing information for readers in a very factual manner on the history of fluoridation in America, which explained that learning about fluoride’s cavity fighting effects really came from finding the cause for “mottled” enamel of teeth in certain areas. Later, it was
found that fluoride, the source of the mottled enamel, was found naturally at high levels in the tap water in the areas where this enamel was found. It was discovered then that these same people had less decay. This was the beginning of the experiments conducted around fluoride. 263

The editorial board also added “the federal government considers the fluoridation of public water supplies at 1 part per million to be one of the most cost-effective, practical and safe means for reducing the occurrence of tooth decay and a major success story of the 20th century in public health. They go on to add information regarding the source of fluoride added in water fluoridation explaining that the acid added is a “corrosive acid that must be handled as hazardous waste in its concentrated form and that it is derived as a byproduct in the manufacture of phosphoric acid and phosphate fertilizer. They explain that the raw material for these products is phosphate rock, which contains fluoride and silica and when treated with sulfuric acid it turns into two gases containing fluoride which when passed through wet scrubbers form fluorsilicic acid. They quote the superintendent of the New Bedford Water Division who explains he has no position on whether to add fluoride, but he cautions residents from falling for “scare tactics” concerning the chemical nature of fluorsilicic acid. He states, “The chemical is dangerous in high concentrations, but so are a number of chemicals used in drinking water purification including chlorine which is used to remove bacteria.” 264

The second part in the series begins by asking the question, “Why is there such controversy over adding fluoride to the drinking water, a practice established more than 50 years ago? And how do other countries view fluoride”? The editorial begins by discussing a debate in a town close to New Bedford, North Attleboro. The editorial notes
that N. Attleboro voters approved fluoridation in 2000 and that in the years since two of the three elected members of the board of health have come out strongly against it and had in the past two weeks filed a lawsuit against the town’s Public Works Department to end water fluoridation.  

The editorial goes on to explain why Diane Battistello, a member of the board of health in N. Attleboro, thinks about fluoridation. The editorial states “She is among a growing number of people, some in public policy positions, who question the overall benefits of fluoride in drinking water. She is concerned that some people might be hurt by the addition of this chemical and that it is not right to medicate an entire community to address a problem that is better addressed with proper dental care and teeth brushing.” The authors also state that opponents received “ammunition” from a recent National Research Council (NRC) report that found that the EPA standard of no more than 4ppm of fluoride in drinking water is not stringent enough and reiterated that most opponents are concerned about the cumulative effect of fluoride on bones. They do not go into detail on this but rather state that the scientific research on the connection will be discussed in Friday’s editorial. The editorial then states, “the controversy over fluoride has been fueled by people who look to other countries for examples.” They mention the Fluoride Action Network (FAN) and their website and then go on to give some detail of the information found on the FAN website. The editorial mentions that most Western European countries have rejected adding fluoride to drinking water and even some cities that have been fluoridating for many years have discontinued it. They mention France as not allowing fluoride in its drinking water and Norway rejecting the idea more than
twenty years ago after much discussion. They add that Ireland, a small portion of the United Kingdom and parts of Spain have continued fluoridating drinking water.\textsuperscript{266}

The editorial ends by saying that studies on both sides of the Atlantic have shown a dramatic decline in the rate of dental decay in the last half century in communities that add fluoride as well as those that do not and that many scientists believe that the common denominator is an increased use of fluoride with toothpaste during this period.\textsuperscript{267}

This particular editorial focused on the scientific arguments made by opponents of fluoridation. These arguments question the safety and efficacy of fluoridation. As support for their assertions and to lend credibility to their arguments, they mention the NRC report which recommended lowering the EPA’s MCL of fluoride occurring naturally in public water supplies. This would mean that if fluoride occurred naturally at levels of 4ppm in a water supply that the fluoride should be removed and adjusted to a safer level which is 2 ppm or less. The editorial focused on the scientific questions surrounding fluoridation rather than the more expressive arguments often used such as individual choice etc.

On Thursday, May 4, 2006 the editorial was titled “Fluoride 101: the arguments for adding fluoride. This editorial uses the perspective of Dr. Mary McCabe, the director of the Greater New Bedford Community Dental Clinic. The editorial starts with “Dr. Mary McCabe strongly believes that adding one part per million of fluoride to city water will significantly cut down the number of children with decayed teeth at an early age.” They note that she knows there is a “crisis” of tooth decay that affects children and adults from her position in the clinic, which serves hundreds of residents who cannot afford dental care without public assistance.\textsuperscript{268}
The editorial continues to explain the end result of tooth decay saying, “Anyone familiar with tooth decay knows that it takes a physical and psychological toll on a person who cannot afford to repair these problems. Not having healthy teeth can be the reason a person loses out on a job interview. It can be an embarrassment that holds an adult or a child back. And it can cause gnawing pain that keeps a child from concentrating on schoolwork, eating properly, sleeping at night or developing as a healthy person.” The editorial notes that 24% of New Bedford’s third graders have pain or infection in their mouths and that chronic pain of this type can lead to loss of teeth. This account of the problem goes further than most any other argument presented by proponents of fluoridation in outlining the “true” costs of dental disease beyond tooth decay. This description allows one to understand the consequences of tooth decay to ones physical and psychological health as well as their ability to be productive citizens. This argument may in fact increase the likelihood that one perceives this problem as a serious one as well as garner support for fluoridation. It also relates the bigger picture problem to the actual problem in New Bedford when it outlines the number of kids in New Bedford who have untreated decay and pain.

The remainder of the editorial explains how fluoride protects teeth in fairly technical terms and then states that the ADA and CDC both endorse community water fluoridation as safe and cost-effective. They go on to mention a 1981 study that was supplied to the standard Times, which also demonstrated the effectiveness of fluoridated water and outline this study in some detail. They also mention other studies in the US and abroad which show the effectiveness of water fluoridation with the associated reduction in dental decay being 15-40%. They end the editorial stating, “With this kind of result, it
is understandable that the directors of New Bedford’s anti-poverty agency, PACE, made a request to the board several years ago to the New Bedford Board of Health to add fluoride to city water to help children and adults, and particularly to reach poor children who do not have good dental care at home through regular brushing or at a dentist’s office through regular visits.”

The fourth part in this series was on May 5, 2006 and was titled “Our View: What are the arguments against fluoride?” The authors start the editorial by stating, “The view of the American Dental Association and the Centers for Disease Control is that there is an optimal range of fluoride (about 1 part per million in the water) that prevents tooth decay and does not endanger the teeth or other parts of the body.” They go to say that a growing number of scientists question whether any artificial addition of fluoride to the water supply is safe and contend that the ADA and the CDC have not looked carefully at the effects of fluoride on other parts of the body. The editorial states that opponents believe that no one really knows how much fluoride a person gets from other sources because fluoride is in processed foods, fluoridated water, wine and some canned foods among other things.

The editorial staff then informs the reader that a senior scientist in the Environmental Protection Agency Risk Assessment Division Office of Pollution Prevention and Toxics heads a union at the EPA that is against fluoridation and has proposed banning it. The editorial then provides information about a recent National Research Council report done at the request of the EPA. The study reviewed the current maximum levels for fluoride found naturally in water. These levels had been set at 4 parts
per million of fluoride. The study found that that level might be too high and may have health effects and should be lowered. The report recommended that the amount should be lowered but did not indicate what that level should be. The editorial then provided the opinion of the CDC on that report noting that this study did not look at fluoride added to water and the levels reviewed were not the same as those levels promoted by the CDC for the past sixty years. The editorial staff then notes that opponents claim that the fluoride added to water is more dangerous because it may contain other chemicals like arsenic, which is a known carcinogen. The editorial explained the process of the NRC review indicating that the team had looked at studies from China where high levels of naturally occurring fluoride may have caused health effects. The NRC also looked at a study that was done at Harvard that linked fluoride to osteosarcoma. The editorial board did not reveal the conclusions drawn from the individual reports but rather noted that the panel came to a consensus that “a lifetime exposure to fluoride can weaken bones and increase the risk of fractures.” The last paragraph of the editorial quotes a fluoride opponent Dr. Paul Connett, calling fluoridation “mass medication that is forced upon diverse populations in a way that no doctor would be allowed to treat a single patient.” The editors end by saying that opponents believe that there is a much safer way to prevent dental decay and that is the use of fluoride toothpaste, which does not expose other body parts to the harmful effects of too much fluoride.

There was a companion editorial to the four part series on Sunday, May 21, 2006 and was titled Our View: Fluoride 101-Benefits of fluoride outweigh the risks. They started the editorial by explaining that in the late 1990’s PACE found that the single most important form of healthcare that many poor people in our community wanted and
needed was dental care. They explained that in looking at the problem PACE found that out of 88 dentists practicing in the New Bedford area only two accepted patients who had Medicaid coverage. They explained the reasons for this as low reimbursement by the state, a history of patients not showing up for appointments and dentists waiting too long to be paid by Medicaid. The result was thousands of poor New Bedford residents with no way to get care and little opportunity to prevent much worse health problems that could occur as a result such as abscesses, facial infections and even heart problems caused by sepsis infections that begin in the mouth. 271

They outlined some of the efforts to address the problem by PACE and the New Bedford Community Health center including a dental sealant clinic in conjunction with the greater New Bedford Vocational and Technical School and volunteer dentists in the community. The findings of the screenings conducted in the sealant clinic indicated that 145 of the 594 students needed immediate care for their tooth decay with six children having abscesses. Many of these children had daily pain. The findings in Head Start programs where children were under age four had similar findings. The editorial notes that it was then and for those reasons that PACE went to the Board of Health to request the city consider “injecting fluoride into the water, a measure that is endorsed by the Centers for Disease Control, the U.S. Department of Health and Human Services and the American Dental Association” The editorial goes on to quote Dr. William Bailey of the CDC in regards to how fluoride works. Dr. Bailey explained that the mechanism of action once thought to be most helpful in fluoride action i.e. strengthening the teeth from the inside as they grow has now been refined and that federal officials now say that the most
important way fluoride works in the mouth is by mixing with saliva and coming in contact with teeth. 272

The editorial explained that fluoride was known to be controversial even by PACE when they requested the BOH to act. The Board chair Dr Patricia Andrade had sat down with the editorial board the prior week and told them “that regular dental care and brushing would do far more to help the thousands of poor residents without insurance or the ability to get dental care. But at least fluoridated water would be a start at attacking a problem that affects people’s health, their self-esteem and their ability to get a job.” 273

The editorial then went on to explain the formal process required to implement fluoridation and the fact that the process had been followed but that the new mayor wanted the public to have another opportunity comment. They mentioned that the mayor had held several hearings where most of the comments had been against fluoridation. They also noted that the Board did have the authority under the law to “turn on the fluoride” but that at the moment the issue is at a standstill. 274

The editors wrote about the opponents of fluoridation as a vast international network that included environmentalists, federal scientists at the EPA, a Nobel prize scientists from Sweden who likens fluoridation to mass medication and even members of a National Academy of Science panel that recently issues a report on the toxicology of fluoride between 2 and 4 parts per million. Hey note that these opponents say there is a growing body of evidence that shows that the ingestion of fluoride in small doses over a lifetime may contribute to several health problems and note that the studies are fairly recent but that they are looking at fluoride in high doses. They indicate that the National Research Council has reviewed this literature and that the panel found that the EPA
standard of 4ppm should be lowered but that they could not find any conclusive evidence that connected fluoride to some of the health concerns such as thyroid problems or IQ deficits. They discuss animal studies that may indicate that fluoride may be contributing to osteosarcoma in boys and a highly preliminary Harvard study that may show some evidence of this very rare cancer in boys who live in communities with fluoridated water.  

They end this part of the piece by saying that the NRC did not review or analyze the effects of 1ppm of fluoride. They then go back to Dr. Andrade, the chair of the New Bedford Board of Health and indicate that she believes that this is a classic risk benefit analysis and the board writes “that in a community such as New Bedford with very high dental decay among many poor people and very little opportunity for thousands of people to get proper dental care, the benefits of splashing fluoridated water regularly on the teeth when drinking water outweigh the risks that the substance will build up in the body over a lifetime and possibly contribute to fluorosis, bone fracture or a case of a highly rare form of bone cancer.” The editorial authors go on to add that in suburban communities around the state a different decision may be made and that in “privileged communities the benefits may not be worth the risks. This is because these communities have access to dental care, brush their teeth, get regular dental check ups and can go to a dentist if they have a rare abscess.” She states, “these people get 1,000 parts per million of fluoride onto their teeth in the best way possible, every time they brush their teeth with most toothpastes.” “The ideal would be for New Bedford’s poor children and adults to have the kind of regular dental care and regular brushing that is routine in some homes.”
They then go on to say that it is important for science to do a better job for accounting for how much fluoride individual people take in through the environment and multiple sources of fluoride and whether or not this is harmful if absorbed into the system.

They end the editorial by saying “There is a much better way to develop strong teeth than by drinking fluoridated water. But this nation, the richest in the world, has failed miserably at providing basic preventative dental care to millions of people who live at or near the poverty level. The state should work to change that situation and at least restore dental care to those on Medicaid. But until that is done, fluoridating the water at 1 part per million is taking a small step to help the large number of New Bedford residents. The benefits of fluoride, at this point and at this concentration outweigh the risks.”

The final editorial was interesting because the conclusion drawn by the board supporting fluoridation was presented along with information that clearly did not show water fluoridation only in a favorable light. It appeared that the board took as a given that fluoridating the water was perfectly appropriate for the government to undertake and rather focused on the risk versus the benefit of fluoride. The board used a style that attempted to communicate the risks to the public in an honest manner actually stating that science needs to a better job in investigating the effects but also concluding for the problem in New Bedford at this time that they felt the risk if there was any was worth the benefits that be gained. This is different than traditional arguments used by active fluoridation proponents who often do not acknowledge any risk from fluoride at the levels used in water fluoridation.
The Editorial Board of the Standard Times published two additional editorials related to the fluoridation issue—one was on Sunday, June 25, 2006, and the other was on Thursday, November 9, 2006, two days after the election.

The first was titled “City firing sends chilling message” and was written to give an opinion on the firing of Robert Davis, the city’s commissioner of health and human services. The editorial was a criticism of Mayor Lang saying that even though Mayor Lang had repeated that Davis’s firing was not over the fluoridation issue, the mayor’s timing signaled that employees who disagree with him on the issues are subject to losing their jobs. They did not go so far as to say that the firing was over the fluoride issue but implied it by saying “Mr. Lang insisted that the dispute between him and health officials over fluoride had “absolutely” nothing to do with Mr. Davis’s firing, others rightly or wrongly – do not see it that way.” The editorial also presented proponents and opponents’ points of view while illustrating the controversy over the firing by saying that the Board of Health chairwoman, Patricia Andrade said Lang informed her of his decision to fire Davis “during the same conversation that he told her he is opposed to adding fluoride to the city water to fight serious and widespread dental problems in New Bedford children.” They then went on to explain the history of the fluoridation order in 2004, the equipment upgrade and approval in 2005, the decision by the Board to wait to implement “out of courtesy for the new mayor, although the board has the authority to act on its own behalf of the public health.” The opponents’ argument is then presented with the editorial board saying, “The board has continued to support fluoridation, despite opposition from those that believe that the practice represents a health risk to senior citizens and people who already get enough fluoride in their diets.” They then also note...
that they as a board are in support of fluoridation and had published an editorial in regards to that support the previous month. They add that as presented in their previous editorial, “the use of fluoride in public water has been controversial although the actual risk of it causing harm to anyone is tiny while the benefits for children who have no access to regular dental care is great.” They also presented the final conclusion of the editorial that” an even better answer would be aggressive dental health education and expanded dental care for the city’s children and we commend Mayor Lang for proposing such a plan at the same time he announced his opposition to fluoride. They go on to say that the issue will most likely end in court since Mr. Davis along with members of the BOH intend to file a law suit because they do not believe that the mayor has the authority to fire him arguing that the law gives that power to the health board. 278

Although an opinion supporting fluoridation was presented as part of this editorial, this editorial seemed aimed at Mayor Lang and his leadership/managerial practices rather than at fluoride opponents. Once again, the editorial board expressed the notion that education and expanded care for children is the best solution but that fluoridation helps to fill that gap. This framing fits with what has been found about current frames surrounding oral health.

The final editorial came two days after the election and was titled “Yes on fluoride was wise decision’ and included a text box that stated “the people who stood firm on the need to add fluoride for the sake of the children deserve praise. They have withstood much criticism over the last few months.” The editorial board called the fluoridation decision” the sweetest local surprise in the 2006 election.” They went on to add, “despite strong opposition from Mayor Scott Lang and many outspoken critics, the
pragmatic voters weighed the risks and benefits and decided to help the city’s children.”

They go on to explain the benefits of fluoridation as presented by opponents and also commend the local folks who were so involved in the fight. Those mentioned were Bruce Morrell (PACE), Dr. Mary McCabe (Greater New Bedford Community Health center and Dr. Patricia Andrade (Board of Health). They finished by saying that Mayor Lang in his comments after the election has agreed to continue his administration’s support of oral health in New Bedford naming examples of programs proposed during the fluoridation debate. These include removing sugary snacks and drinks from vending machines, schools teaming up with dentists to provide more poor children to get regular dental cleanings and fillings, having the BOH launch a campaign to teach children, parents and other adults about oral health. They also say that the state and regional dental organizations that campaigned for fluoride must live up to their commitment to provide more free and low cost care to the poor. They end by saying, “The voters, in their wisdom, have taken a major step to improve the smiles on the faces of our children.”

**Opinion Columns:**

Ken Hartnett editor emeritus of the Standard Times has a Sunday opinion column. Hartnett wrote three columns on the issue from March to October. On Sunday March 19, 2006 he wrote, “There’s a lot for Lang to sink his teeth into.” The theme of this column seems to center on the day-to-day issues ethical dilemmas that a politician may encounter during his tenure. The beginning of the column appears to outline Lang’s attributes as a politician i.e. his progress so far in dealing with city problems such as street repairs and police and his not so good qualities, according to Hartnett, like keeping his small clique
of insiders and allowing them to continue their inordinate influence in the schools, the police department and the city hall bureaucracy. Lang states that he intends to rid the city of corruption left over from the previous administration and intends to take a hard line. Hartnett goes on to say “a hard line against corruption is commendable, and in New Bedford long overdue. But there are other, more subtle issues with an ethical component where a hard line is also in order.” Hartnett states, “water fluoridation is as clear-cut and compelling an issue as you can find in New Bedford, a city in the midst of a dental crisis where rampant decay in children is manifest and documented and heartbreaking.” Hartnett tells readers to drop in any day at the New Bedford community health center and explains that these patients often wait three months for appointments. He reiterates the ADA claims that fluoride is a safe and inexpensive way to prevent tooth decay. Hartnett says that tooth decay “robs kids of their self-esteem because they can never afford the care needed to restore smiles ruined by lost or deformed teeth.”

Hartnett frames the decision to fluoridate as an ethical decision not a scientific one and imposes a level of guilt to readers when he says, “True, for middle class people, it may not seem important. Their children have the benefit of regular fluoride rinses and fluoride fortified toothpaste. But to help low-income families an enlightened community would fluoridate the water supply.” Hartnett repeats Lang’s arguments that he wants to hear from the public and that people need an opportunity to weigh in. He adds that Lang says that he needs to see some evidence and that this case is not open and shut. Lang reframes that argument by saying, “But in New Bedford, it is an open and shut case for low-income kids; their case will never get a fair hearing at a public forum on fluoridation
in New Bedford.” He uses the term fairness and then implies that the opponents of fluoridation use unfair practices. He states, “Create a public forum on the subject and here and you are concocting a circus of the surreal where frauds, quacks and charlatans from near and far will vie for a place in the spotlight, using pseudo science to shout down dedicated professionals the way creationists fight evolution. For more than five decades they have been at it, fighting fluoridation as if it were an alien master stroke designed to deliver Communism, free love or mass indolence to America….,” He then uses one last comment by Lang about the costs of upgrading equipment for at least one New Bedford if fluoridation is added. Hartnett says, “Maybe Lang should tell the industry it ought to consider the equipment as an investment in the future of New Bedford kids.”

In this column it appears that Hartnett attempts to reframe this argument. Instead of debating the scientific facts, Hartnett frames this issue as one of “fairness” and “responsibility”. The use of these words convey high level values that most Americans believe in provide a context for why government should be discussing this issue in the first place. He provides a “legitimacy” to the proponent group’s argument without resorting to the usual list of scientific organizations who agree with the measure.

Hartnett wrote a second column on June 25, 2006 titled, “Mayor is on collision course with health board.” In this column Hartnett provides his opinion on the firing of Bob Davis, the city’s Health Commissioner by Lang. Hartnett frames this firing as an abuse of political power. He outlines the reasons that this must be the case using all of the personal and professional attributes of Davis as reasons that it could be nothing but. These attributes include the fact that Davis is “a sixty year old Vietnam veteran with a bronze star and a health professional with a glowing resume.” He adds that not only does
Lang not have the legal authority to fire him but also that this does not fit into his commitment to bring change to city hall by ridding the administration of those who perhaps are incompetent and left over from the prior administration. Hartnett says “It’s conceivable that the mayor was simply indulging himself in an arbitrary exercise of power. Politicians do that from time to time for no better reason than that they can.” Lang’s questioning of the health board’s decision on fluoridation asking, “Who would you want to call the shots in a health crisis, a politician or a doctor? The commonwealth decided that more than a century ago.” He goes on to the personal and professional attributes of Dr. Andrade, someone who he describes as “a special role model in New Bedford and the Cape Verdean community.” He also says that she is back in New Bedford “to give back to her community.” He ends the piece by talking about the dilemma for leaders the choice of being loved or feared and by saying that “In the final analysis it is a moral choice, one that ultimately defines those who will lead.” Mayor Lang, he says, will reveal himself by the decisions he makes, especially with the board.282

This column also helped framed the fluoridation controversy in another way. Although I have stated many times that all policy decisions are essentially political, Americans don’t much like the “game” of politics and like the abuse of political power even less. Hartnett was able to create the perception in the readers mind that the firing of Davis was essentially an abuse of his power and even more importantly aimed at retaliation against those who would potentially disagree with him a blatant suppression of one’s right to speak his/her mind. This in effect may have garnered support for the board’s decision.
Hartnett’s last column was on October 29, 2006. In this column Harnett appears to be poking fun at the “health food” and “green” movement. He describes a recent visit he made to purchase dog biscuits at a local health food store where he encountered signs in opposition to fluoride on the counter. He describes his exchange with the clerk when he says that he disagreed and that he believed that “fluoride, far from being a menace to society, is a positive and indisputable good, and that without it yet another generation of poor kids would grow up in New Bedford with teeth like tank traps.” He sarcastically says, “Had I lit up a big fat cigar or asked for partially hydrogenated Oreos, I couldn’t have gotten a more hostile reaction.” He then pokes fun of her arguments that fluoride is “mass medication”, people washing their cars and sending gulleys of toxic streams gushing down the streets, and government intrusion while pooh-poohing my oh-too-familiar pro-fluoride arguments before I have a chance to round them off. He then goes on to list his arguments mainly that New Bedford’s kids were in desperate need of help and fluoride was an effective solution. He described her response saying that the clerk blamed parents and that it was up to them to take “responsibility for their kiddos teeth” and that soon the authorities will want to add calcium to the water. Hartnett goes on to the blame the mayor for the referendum occurring in New Bedford. Hartnett describes Bruce Morrell, PACE’s executive director, as a “career poverty fighter” and goes on to provide a synopsis of Morrell’s findings regarding the poor oral health of New Bedford citizens and his disappointment that the issue has come to this emotional state. Hartnett again implies that Lang could have prevented this. He then discusses the fact that those in neighboring fluoridated cities have better oral health and that they are bemused by the fuss.” He quotes a head of one of Fall River’s anti-poverty agencies as saying, “I am
surprised that New Bedford doesn’t have fluoride in this day and age. I was under the assumption everyone had… To me, it’s a no-brainer.”

He ends the piece by repeating some of the negative assertions of fluoride opponents and then likens the addition of fluoride to the addition of chlorine in water. Hartnett then quotes City Council President David Alves as declaring, “People have gotten on the anti-fluoride bandwagon because it plays well in Peoria. You have to be against taxes and government control of Big Brother but there are times when Big Brother is appropriate, that government has a role.” Hartnett states that Alves sounds like a politician who isn’t playing politics with kids’ teeth implying that Lang had been.

Again, the content and tone of this column reinforced the use of fluoride for the public good not only because it was safe and cost effective but because it was the “right” and “fair” thing to do. In addition, Hartnett states that politicians and government in and of themselves are not “bad” and do have a role. This role is to help others and ensure equity. Hartnett implies that in contrast to Lang who appears to “playing politics” by creating a controversy other local politicians are doing what is right for the kids.

Letters to the Editor

Letters to the editor in the Standard Times began on October 31, 2005 and ran to Election Day, November 7, 2006. All together eighteen letters to the editor were found with 11 letters clearly for water fluoridation and seven against fluoridation.

Of those against fluoridation three of the authors were not from New Bedford, nor were they being served by New Bedford’s water supply. One of the authors was from New York one was from Plainville, MA, a town that has a long history of fluoridation
fights and another Myron J. Coplan was a resident of Natick, MA and was very active in many fluoridation campaigns across the state including a particularly contentious one in Natick. In fact, he had testified against a bill authorizing fluoridation at the state level in October 2005. Mr. Coplan is a registered professional engineer. Rob Pepin also against fluoridation identified himself as parent of three boys in the Dartmouth school system and Karen Vilandry of Fairhaven and Leslie Gamache of Dartmouth did not state their profession.

Bruce Morrell, the Executive Director of PACE who championed the effort authored two of the letters, in fact his letter was the first published. The letters from those supporting fluoridation in addition to Morrell's two letters were mostly from dentists with one being a group of four dentists that represented seventeen dentists and the manager of the dental society who all signed the letter. Other letters included one from Dr. Ralph Pollack, a dentist who was the chairman of the Southeastern District Dental Society, Dr. Michel Jusseaume, a trustee of the Southeastern District Dental Society and Dr. Milton Glicksman, the vice president of the MA Dental Society. Dr. Kathy O’Loughlin, a dentist and the president and Chief Executive Officer of Delta Dental of MA, the predominant dental insurance carrier in the state also provided an opinion piece.

Three other letters of support were from physicians, Dr. Edward Lund, a pediatrician in New Bedford and Dr. Jagdish Shah the president of the Bristol South District Dental Society and Dr. Guillermo Gonzalez, a psychiatrist in New Bedford. Another woman, supporting fluoridation identified herself as Lorraine Khazan, a cancer survivor.
The following table includes the titles or taglines from the letter to the editor and their date of publication and also indicates whether the articles were for or against fluoridation.

<table>
<thead>
<tr>
<th>Title</th>
<th>Date Published in Standard Times</th>
<th>For or Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientists have questioned fluoride benefits</td>
<td>March 21, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>Look at potential health effects</td>
<td>March 21, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>Fluoride would boost health of city children</td>
<td>April 13, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Mayor trust intelligence of city residents</td>
<td>April 13, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>Fluoride helps prevent disease</td>
<td>May 3, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Uranium is part of fluoride story</td>
<td>May 4, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>Tooth decay is a preventable epidemic</td>
<td>October 16, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Local dentists support fluoride</td>
<td>October 24, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Children need help on Nov.7</td>
<td>October 29, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Fluoridation will improve oral health</td>
<td>October 31, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Where are the leaders?</td>
<td>November 3, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>No chemicals</td>
<td>November 3, 2006</td>
<td>Against</td>
</tr>
<tr>
<td>Fluoride hurts human health</td>
<td>November 3, 2006</td>
<td>Against</td>
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<tr>
<td>Fluoride boost dental health</td>
<td>November 4, 2006</td>
<td>For</td>
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<tr>
<td>Fluoride boost dental health</td>
<td>November 4, 2006</td>
<td>For</td>
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<tr>
<td>Dentists notice the difference</td>
<td>November 4, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Dental health is key to health</td>
<td>November 5, 2006</td>
<td>For</td>
</tr>
<tr>
<td>Scare tactics and fluoride</td>
<td>November 5, 2006</td>
<td>For</td>
</tr>
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</table>

From the content of the letters one can see that those who write letters are clearly for or against fluoridation and have strong feelings on either side. It is interesting to note that the letters correspond to actual decision points in the New Bedford process. The earlier letters in the spring coincide with deciding whether a home rule petition would be requested from the MA legislature and prior to Mayor Lang’s and other selectmen’s decision to do this. The later letters are all within a week or so of Election Day. No letters were found during the summer months.
Opponents

Choice/Individual Rights/Freedom

The letter by Stephen Roberts titled “Mayor trusts intelligence of city residents” on April 13, 2006 clearly appeals to the value of “choice.” One quote from this letter states, “And just maybe he’s (the mayor) one of those politicians that intelligent people can get the facts on their own, and make their own decisions about issues. Isn’t that the approach that the newspapers applauded throughout the campaign and early in his administration?”

In March of 2006 Carol Kopf of Levittown, New York authored a letter to the editor. She accuses the Standard Times of allowing a retired editor (in reference to a column by Ken Hartnett in support of fluoridation) “to report his old time beliefs regarding fluoridation” and using the newspaper to “insult professionals, scientists and others opposed to water fluoridation.” She goes on to appeal to American values of free speech and citizen participation in decisions as well as innovation and progressivism. She also appeals to the lack of trust in big business by most Americans. She states “In the 1940s and 1950s when it was unpatriotic to oppose government policies, fluoridation was sold to the American public with slick PR, which included denigrating the opposition, along with poorly done science by today’s standards. Your retired editor stuck to that script.” Kopf never in fact discusses the problem of poor oral health (she doesn’t need to support her argument) rather she quotes parts of studies/documents taken out of context produced by proponents of fluoridation such as the National Institutes of Health, EPA and CDC and the UK Department of Health. These quotes attempted to counter
proponents’ arguments that those who oppose fluoridation do not use “credible” scientific evidence and distort the science available surrounding fluoridation. She argues about the credibility of the science around the benefits of fluoridation and implies that even these scientific groups are questioning their decisions but infuses her letter with value appeals. Kopf ends her letter by stating, “Old beliefs die hard. But science must move on.”  

These letters were both written before it was confirmed that fluoridation would be on the ballot in November, prior to the legislature’s approval of the home rule petition in late summer.

*Individual Responsibility*

Many of the arguments in these letters also support and reflect the current frame that the public uses around oral health issues discussed in the research; namely that oral health is an individual problem and that parents are responsible for keeping their children healthy and that a toothbrush and toothpaste provide the best protection against poor oral health.

One example is found in Rob Pepin’s November 3, 2006 letter to the editor in the Standard Times, which states, “I understand that there is a problem with some children having high amounts of tooth decay but I don’t believe it has to do with fluoride. If it did, don’t you think all of the surrounding towns that have well water would also have this problem? I know my wife and I always watch what our children eat and we limit their sugar intake and every day we make sure they brush their teeth. That’s how you prevent tooth decay, not by adding poison to the water because others don’t do the same for their
children.” 285 This frame does not support community or government solutions to the problem in fact it clearly blames parents.

Karen Vilandry of Fairhaven in a November 3, 2006 letter to the editor also alludes to the role of individual responsibility in protecting oral health. She states, “It makes more sense to clear our environment of all toxic chemicals than to add more. To treat tooth decay in New Bedford, people must be educated about proper nutrition and good oral hygiene, including providing children with toothbrushes and toothpaste in schools and encouraging local and state officials to provide free dental care for those in need.” This letter also framed community water fluoridation as an environmental problem and underscored that it was a “toxic chemical” which would have an appeal for those concerned about the environment and its potential relationship to poor health. 286

Safety /Toxicity/ Health Effects

Many letters centered on the opponents’ belief in the potential health risks associated with fluoridation. In fact six of the seven letters make reference to the potential health effects of fluoridation. The serious health effects mentioned by fluoride opponents are either discussed with no mention of oral health or with a mention of tooth decay or cavities in contrast to diseases such as bone cancer, thyroid disease, lower IQ, and the effects of fluoride on “the elderly, people with deficiencies of calcium, magnesium and Vitamin C, and people with cardiovascular and kidney disease.” 287 Skeletal and dental fluorosis are also mentioned. The public’s perception of the seriousness of these issues would likely put dental decay at the low end on the seriousness scale while the term “cancer” almost always invokes the emotion of “fear” in
the public. Clearly, for opponents of fluoridation the issue put in context is about “danger to health” and not poor oral health.

One particularly interesting letter focused on the danger that the author believed was associated with fluoridation. This author was Myron Coplan, an active and avid antifluoridationist. He used the origins of the fluoride used in the water supply as the basis for argument but added in a few other value-laden statements to make his case. Coplan was discussing the fact that the fluorosilicic acid is a byproduct of the phosphate fertilizer industry, a fact that was printed in the Standard Times four-part editorial series that attempted to give all views around the fluoridation issue. He uses multiple technical terms to explain the process of retrieving “the acid” that goes in the water. This may give him scientific credibility and in fact the editor notes that Mr. Coplan is a registered professional engineer in a note at the end of the letter. He then adds that “the raw phosphate rock that is processed into fertilizer also carries a small amount of “uranium.” Whenever uranium occurs in nature, it produces the radioactive gas radon. This gas is also collected in the wet scrubbers with the fluoride gases and rapidly changes into radioactive polonium and radioactive lead. If this alone weren’t enough to invoke thoughts of nuclear weapons and danger in general, the remainder of the letter most likely would do so. And if one did not have an aversion to the thought of nuclear war the health threat may linger in the readers mind. Mr. Coplan states, “No one has ever studied the health effects caused by low-level chronic ingestion of water contaminated with radionuclides, which must inevitably produce internal alpha particle bombardment with associated gamma radiation.” He ends the letter by stating “The phosphate rock that was processed into fertilizer during the Cold War provided almost 80 percent of the uranium
converted into warheads. The incentive to produce fertilizer from that rock was a major factor in the so-called Green Revolution that relied on cheap fertilizer in surplus supply for domestic needs and sold to offshore users.”

Related to safety concerns is the opponents’ claims that the science used to support their claims of safety and effectiveness are not credible, valid or accurate. In all of the letters written (seven of seven), the author argues that the science is somehow not credible or accurate as presented by proponents of fluoridation. They argue the facts with one saying, “many respected people are concerned about the evidence of increased bone fractures, risk of bone cancer in boys, kidney damage and so on”\textsuperscript{289}, another stating “I have spent the last few years trying to find one peer-reviewed scientific study (not from 1950) that provides evidence that fluoridated water is safe and effective for everyone” and yet another stating “modern science shows fluoridation is ineffective at reducing cavities, harmful to health and a waste of money. You don’t have to believe me.” \textsuperscript{290}

Most letters back these types of statements with quotes, facts and figures from studies not cited although some direct the reader to websites such as the Fluoride Action Network (FAN), which is a very well organized website for opponents of fluoridation. This groups tracks all fluoridation activity around the country and is often the first site a surfer will come upon if he/she types in fluoridation or fluoride.

\textit{Tone}

The tone of some of the letters from opponents was somewhat negative with one letter questioning government leaders in a way that accuses their motives for fluoridating as sinister and stating, “With just these two examples don’t you wonder why some of our
leaders want to add this poison to our water supply? I’ve seen the ads in this paper for fluoride and I’ve also received mail from a dental office in support of fluoride and I ask myself one question why are some people and organizations putting so much money into this issue?” 291

Another article claims that the ADA (American Dental Association) “receives a good chunk of its annual income from the promotion of fluoridation” and that “money- not cavities- is what drives its noble promotion of community water fluoridation.” 292

Another letter discussed the call for a national moratorium on drinking water fluoridation programs by EPA unions. The author stated, “they acted on an apparent cover-up of evidence from Harvard School of Dental Medicine linking fluoridation with an increased risk of fatal bone cancer in young males.” 293

Lastly, the letter mentioned previously that discussed the uranium seems to be accusing government entities of allowing something which they know to be dangerous into the water supply, fueling some Americans lack of mistrust of government.

Professional Endorsement

Opponents do mention some professional organizations in their arguments opposing fluoridation. With the exception of FAN (the Fluoride Action Network and the EPA unions mentioned that are opposed to fluoridation all of the large organizations they mention are actually proponents of fluoridation and the names are used in context with particular quotes from the organizations which may appear to the reader to be an indication of credibility of the opponents.
Proponents

Letters from proponents of fluoridation outnumbered letters from opponents (eleven to eight) and tended to view fluoridation from an instrumental perspective.

Problem

All but one explained the problem (tooth decay, oral disease, cavities) for which this solution (community water fluoridation) aims to solve.

Safety and Cost Effectiveness

The following is a compilation of several of the quotes used in proponent letters to the editor that claim the safety and/or the cost effectiveness of fluoridation.

All but two clearly mention either the safety or cost effectiveness of community water fluoridation and the two that did not although not stating specifically that fluoridation is safe and cost effective alludes to that fact.

On April 13, 2006 Guillermo Gonzalez wrote, “Community water fluoridation is safe. Extensive research conducted over the past 50 years has shown that fluoridation of public water supplies is safe and effective.” 294

On October 24, 2006 Drs. Michael Gouveia, Michel Jusseaume, and Daniele Kilmartin wrote, “More than 65 major health organizations worldwide have endorsed the safety and effectiveness of water fluoridation including the MA Academy of Pediatric Dentistry, the American Dental Association, the American Academy of Pediatrics, the Centers for Disease Control and Prevention, the American Medical Association, the American Public Health Association, the World Health Organization as well as the last four Surgeon Generals.” 295
On October 16, 2006, Kathy O’Loughlin wrote, “After sixty years of community water fluoridation in America, we know this important health measure benefits everyone in the community. Unfortunately, Fluoridation costs very little to implement and saves thousands of dollars each year in prevented dental procedures.”

In his October 31, 2006 letter, Bruce Morell states, “Community water fluoridation has been proven to be both safe and effective.”

On November 3, 2006, Dr. Ralph Pollack says, “Community water fluoridation in the range of .7 to 1.1 parts per million is the most efficient way to prevent one of the most prevalent childhood diseases.”

On November 4, 2006 Bruce Morell adds, “Fluoridation of community water supplies has proven to be safe, effective, and economical.”

Also on November 4, 2006, Michael Glicksman and Michel Jusseaume state, “This is an efficient and cost-effective way to combat the “silent epidemic” of tooth decay.”

In addition to those letters claiming safety and effectiveness others directly question the science used by opponents.

A letter titled “Scare tactics and fluoride” is from a cancer survivor who says “I get upset about the scare tactics used by the opponents of fluoride by claiming a link to cancer. Such evidence has not been found or validated by any respectable or recognized scientific research and findings. She actually challenges the science used by opponents in a previous letter to the editor, which she says opponents falsely stated that there was a connection between a rare types of bone cancer found mostly in boys drinking fluoridated water. She goes to explain what she calls the “study” and discusses the limitations of the
“study” design and findings. She goes on to say that there are “numerous studies on fluoridated water and cancer and they have not proved any link between cancer drinking fluoridated tap water. As a matter of fact, the American Cancer Society and the American Medical Society, to name just two of many respected organizations continue to endorse the fluoridation of community water supplies to protect teeth and overall health.”

The science used by opponents is also directly challenged in another letter on 10/24/06 and signed by four dentists, Dr. Gouveia, Dr. Jusseaume, Dr. La Coste and Dr. Kilmartin. They state, “misleading statements regarding the safety of water fluoridation, are based on emotion, not scientific studies.”

These are the only letters that actually question the motives or intent of the other side or the credibility or accuracy of the science. As stated previously, each of the other letters does indicate that the scientific studies have proven fluoridation’s safety and efficacy, which in essence challenges the information provided by the opposition. This letter also challenges the terminology used by the opposition, “mass medicating”, a term that is aimed at an appeal to the American value of “choice.” The authors question statements of opponents saying, “While a number of public officials acknowledge that fluoride is beneficial in the fight against tooth decay, some are using the term “mass medicating” in expressing their opposition to fluoride. It is important to understand that fluoride is not a medicine, but a naturally occurring element and nutrient.”

**Professional Endorsement**

Proponents tend to tout large professional organizations in their arguments. Ones outlook on these organizations may influence what weight one puts on the support or
evidence offered by the groups. Eight of the eleven letters used the name of either a national or state professional organization of government entity in support of their argument. The organizations listed include: The American Cancer Society, the Centers for Disease Control, US Surgeon General, The MA Academy of Pediatric Dentistry, the American Dental Association, The American Academy of Pediatrics, the American Medical Association, the American Public Health Association, the World Health Association, the Massachusetts Dental Society and the US Task Force on Community Services.

Tone

With the exception of the last two letters mentioned the tone is positive in the letters. None of the other letters focus on the opposition and their personal shortcomings but rather discuss the merits of fluoridation.

Framing problems and other issues

Four of the ten proponent leaders repeated negative frames established by opponents. The letter from the cancer survivor begins by stating” As a cancer survivor and lifelong resident of New Bedford I get upset about the scare tactics used by opponents of fluoride claiming a link to cancer.” This type of opening statement may in fact prompt the reader to think about the relationship between cancer and fluoride since this frame is established up front. The author goes on to try to disprove cancer claims but does not provide information or studies that show the safety of fluoridation. What is also noticeable in this letter is a lack of statement of the oral health problem at all. The entire
letter discusses a study done by a PhD student at Harvard that opponents of fluoridation have been citing for use in their claims that water fluoridation causes cancers, specifically osteosarcoma in young boys. She ends the letter by stating, “cancer is a serious issue and shouldn’t be used as a scare tactic.” This letter rather than reassure the reader may in fact reinforce the claims of the associated risks or because of the conflicting scientific information cause the reader to err on the side of caution when making their decision.  

Another letter by two dentists, Milton Glicksman and Michel Jusseaume begins with the following statement, “Yes! Fluoride is an important part of the answer to the problems of dental decay and access to care in New Bedford. Do not be misled.” This letter goes on to mention all of the other methods available for fluoride. The authors state, “The proposal for New Bedford to just administer fluoride pills, rinses drops and varnishes is costly and does nothing to expand opportunities for those who do not currently have access to oral health care. About 135 communities in Massachusetts have chosen to provide fluoride in water supplied to everyone. This is an efficient and cost-effective way to combat the “silent epidemic” of tooth decay.” They then go on to add several other things that their professional organization is doing to combat the problem, most of which address the access problem which may make one wonder “why fluoride?” if we have all of these other remedies available. They end the letter by repeating a negative argument of opponents with regards to dentists being interested in money and not taking Medicaid insurance (the argument that there are not enough Medicaid providers available to treat all the poor children is used often in support of fluoridation). The last paragraph included the comment” As dentists living in this community, we hope that you will see that our efforts statewide and locally have been focused not on money,
but on providing access to care for those in pain and who need quality care for a healthy life the most. Thus we continue to demonstrate daily that we have chosen the quality of life and health over money.” Again, much of this letter is promoting the efforts of the professional organization rather than promoting the benefits of fluoride, reinforces all of the other solutions to the problem and also repeats the negative arguments used by opponents. 305

Another letter by Kathy O’Loughlin is positive in tone and generally speaking well framed although perhaps the letter would be better used in a community that wasn’t one month away from a fluoride referendum. This letter is more than 500 words and includes fluoridation as one of the measures that can help prevent dental disease. The fluoridation message seems to get lost in the overall text of the letter. The first solution mentioned is sealant programs in the schools, the second is community water fluoridation and the third brings it back to regular dental visits and the fact that low income residents may not have access to care because there are very low numbers of dentists accepting Medicaid. The letter goes on to explain the efforts to reform Medicaid or MassHealth. Unfortunately, this argument from proponents may reinforce opponents arguments and give them a villain, namely that the state should fix their Medicaid program and that dentists shouldn’t be so selfish and accept less payment for the good of the children. If that were done fluoridation would not be necessary. It also reinforces the fact that many opponents may believe and that is that government can’t be trusted to operate efficient programs. Lastly, the letter may contain too much information for the average reader to digest in one sitting.306
Paid advertisements

There was no effort on the part of opponents of fluoridation with the exception of letters to the editor to actively use media for the purposes of winning the referendum campaign. On the proponent side two election committees were formed one was formed by the MA Dental Society and was called the “Committee to Vote Yes on Question 4” and another by PACE called the “Committee for A Brighter Smile.” MA Campaign Finance Laws require that groups register if they are advocating for passage of a ballot question.

Both groups met on October 6, 2006 to plan their strategy. Bruce Morell of PACE headed the meeting. It was decided at this meeting that Print Ads would be placed in the Portuguese Times and the Weekly Compass and that radio ads would be placed on WBSM, a local station and WJFD, a local Portuguese station. TV ads were discussed but decided against and it was decided that lawn signs would be made. The two groups worked together to be sure that there was broad coverage and due to limited resources as little duplication of efforts as possible.

The Dental Society ran 40 spots per week on two local radio stations and bought a half page ad that ran in both the standard Times and a local Portuguese paper during the weeks of October 22 and October 29, the two weeks prior to the election. In addition the dental society produced educational pamphlets for local dentists and for PACE to distribute. They also asked their local member dentists to mail a Dear Friend card to each of their patients explaining the benefits of community water fluoridation and asking them to vote YES.
PACE partnered with MDS and launched their piece of the comprehensive media strategy that included mailings to targeted voters (elderly), the distribution of fluoride pamphlets, a letter to the editor campaign and phone calls to voters. PACE also launched ads in local newspapers including the Weekly Compass and the local Portuguese newspaper. PACE asked Dr. Myron Allukian to be interviewed on a local talk show to answer questions from listeners. PACE also worked hard to bring other groups in to help support the effort. These groups included other antipoverty agencies, health care organizations, faith based community that they interacted with on a regular basis.

The following is the script for the radio spots:

“Many residents of New Bedford have poor dental health.

Third grade students in New Bedford have three times the amount of tooth decay as compared to the rest of the state. Pain and infection in these children is four times greater than the state average.

It doesn’t have to be this way. Poor dental health is preventable.

The easiest, most practical and most cost effective way to reduce or prevent cavities is community water fluoridation. Fluoridation benefits adults as well as children. Fluoridation protects seniors too and anyone whose teeth have become weak from age or medical condition.

Fluoride is nature’s cavity fighter.

With over sixty years of experience, fluoridation at the level recommended for New Bedford does not have any harmful effects on the human body.
Currently there are 170 million Americans who benefit from drinking fluoridated water including 4 million Massachusetts citizens.

Fall River, Taunton, Newton and Boston are just four of the 135 communities in Massachusetts that have been fluoridated for decades.

"Why not New Bedford?"

MDS ads were 1/2-page ads and had a rounded, modern water faucet (kitchen type) with water flowing out of it. The caption above it read “New Bedford Voters: Don’t let this opportunity…GO DOWN THE DRAIN!” Approximately 50 local dentists were listed in small font alongside the falling water. Writing to the side of the listed names read:

“On Tuesday, November 7, voters in New Bedford will be asked to decide if fluoride will be added to the city’s water.

Our answer is a resounding YES.

There is more than a half-century of research showing the health benefits and cost effectiveness of fluoride as a way of preventing tooth decay. More than 100 organizations worldwide support its use.

We think you should too.

As dentists who practice in this area, we are asking you to join the 135 other communities in MA having fluoride in their water and to

Vote YES on Question 4.”

The logo for this election committee could be found at the bottom of the ad. It said FOUR with the capital F being in the image of a water faucet and below that in smaller letters
For Fluoride- For Health. This same logo was found on the postcards that were given to dental offices for distribution to their patients. It was a simple postcard with the logo in bold letters at the top stating the following:

“**On November 7, 2006, New Bedford voters will have the opportunity to fluoridate their community water supply by voting**

Yes on Question 4

Fluoridation has been proven to be safe, effective, and inexpensive way to enhance the oral health of all residents, including children where tooth decay is the most prevalent of childhood diseases. More than 3 million people in 135 communities in Massachusetts currently enjoy the many health benefits of fluoridated water, and we believe the residents of New Bedford should have the same advantage as other citizens of the Commonwealth.

*This dental office is proud to support the effort to fluoridate the water in New Bedford.*

*We hope that you will join us in voting*

Yes on Question 4 on November 7, 2006.”

MDS also sponsored ads in a free Portuguese newspaper called OJournal. One particular ad was in Portuguese and may have been targeted at the elderly population. The image was a serious looking elderly woman (it almost appeared to be of a strict grandmother- so serious that perhaps it was intended to be somewhat comedic) wearing large pearl earrings, a pearl necklace and ring a knit sweater with a leaf. Her head was tilted to the side, lips pursed and her finger pointed upward with her hand on her chin as if she were
thinking about something. In large letters at the top in Portuguese appeared the question”

Are you still undecided about the benefits of fluoride in water?

This same image was used for mailings with the text:

“New Bedford Voters….

Still thinking about

how to vote on

Question 4?

Just say YES!”

The logo from the Committee for A Brighter Smile was more in line with
traditional logos and images used in fluoridation campaigns. It was a circle with a smiling
cartoon molar tooth holding a tooth brush and saying” Save me.” Around the circle was a
VOTE YES on the top portion and Question #4 was placed underneath the circle. This
logo was used in print ads as well.

The advertisement, unlike the one used by the dental society’s group, did not
appear to be professionally designed, most likely due to a lack of available resources for
design work. The message included:

Protect Your Health!

VOTE “YES” ON

QUESTION #4

Some of the ORGANIZATIONS THAT SUPPORT FLUORIDE
Twelve-three organizations that support fluoridation were listed in smaller letters below this. The first one on the list was PACE flowed by local agencies such as New Bedford Child and Family Services, Head Start, Youth Build New Bedford, Child Care Works, Catholic Social Services, Greater New Bedford Workforce Investment Board and the Women’s Union, The US Department of Veterans’ Affairs as well as traditional professional health and dental care organizations including MA based dental schools, MA Dental Society, The MA Dental Hygienists Association, and the Alzheimer’s Association and the American Cancer Society.

Below the list bold text states:

**FLUORIDE IS SAFE AND EFFECTIVE!**

“Every major scientific study assessing the effects of fluoride over more than fifty years has found fluoride to be the single most effective method for preventing tooth decay. In fact, the safety of water fluoridation is the most studies public health issue in American medical history!

The tooth logo is included at the bottom of the advertisement next to the above text.

Other Tactics

Button pins were made with the tooth logo and distributed around town. Lawn signs with the same logo and read “Protect Your Health, Vote Yes on Question 4.

The Oral Health Advocacy Task Force also distributed a flyer to their members. The image shown was of a small group of children with their arms interlocked (cartoon)
and at the top said “Vote YES on Question 4! - Protect the Health of Our Community. The flyer explains what question 4 is and states that” adding fluoride to the public water supply is safe and improves the health of people of all ages. During the past 60 years, more than 100 million people have enjoyed the health benefits of fluoridation.” It goes on to say that PACE has established the Committee for a Brighter Smile to educate residents about fluoridation and urge them to Vote YES on Question 4.

**After The Campaign**

In the end, the effort to fluoridate New Bedford was successful. The initiator of the fluoridation order, PACE, was an anti-poverty group. They were a group of concerned citizens who worked on multiple issues on behalf of the people of New Bedford. After several years of working within the community they had learned that many citizens had indicated that they were in need of dental care. PACE sought out and established relationships with community groups and other health and oral health professionals both locally and at the state level to determine how these problems could be addressed. They had implemented several programs aimed at addressing the problem. Even after the implementation of sealant clinics and other treatment programs, they determined that more needed to be done and that prevention was key. Although the group’s leader, Bruce Morrell was hesitant to suggest fluoridation because of its controversial nature, he determined it was the right thing to do. The data he had collected over the years suggested that this was a major problem in the community. He worked to gain the support
of his own board members and then approached the board of health who ordered the measure.

No polling was conducted to determine the level of support for fluoridation in New Bedford at that time. However, it should be noted that no major opposition was waged when the order was made. Not only was there no opposition at the BOH meetings but no petition was circulated either. Perhaps, this was an indication if not of a level of support then perhaps a level of indifference among community members regarding the issue. It should also be mentioned that generally speaking if asked the majority of the public is supportive of fluoridation.

Morrell had done his homework with his network of alliances within the city and he and his staff felt comfortable speaking to the issue and taking it on. Because of the unique circumstances surrounding this referendum (the legislature paved the way for the referendum rather than a petition) the opposition did not need to mobilize in a formal way to collect signatures. This in and of itself may have contained the conflict. Proponents although ready to counter opponents scientific arguments did not attempt to counter early efforts by opponents to bring this decision to a referendum even though the law was clearly in their favor. They chose not to argue that the “people should decide” perhaps realizing that this argument was one that most Americans agree with. If they had, perhaps the result may have been different. In addition, although a short campaign may not have been a strategic move on the part of proponents it likely worked in their favor since this timeframe left little time for opponents to get their message out. The high voter turnout was also not strategic on the proponents part (although they did call and get
supporters to the polls) however likely allowed them an advantage translating supportive public opinion (the majority of likely voters support fluoridation when asked) to votes.

After the successful fluoridation effort in New Bedford, Bruce Morell and PACE continue to speak on behalf of fluoridation. They have attended numerous forums where advocacy groups gather to discuss the issue of fluoridation and their experience in New Bedford. Morrell also continues to fight for other causes on behalf of the citizens of New Bedford and to offer programs and assistance where need has been expressed.
Chapter Six

Comparing Worcester and New Bedford

What explains the divergent outcomes in Worcester and New Bedford? In this chapter I assess a range of possible factors and explore how the politics of problem definition shaped the results.

Demographics

According to Neenan, some of the obstacles to extending fluoridation in the United States are: (1) demographic trends-urbanization, race, ethnicity, language, immigration, age, education levels, housing, income and poverty levels. In order to increase the percentage of population (the Health People 2010 Goal is 75%) served by fluoridation it is critical that fluoride be extended to large urban areas. She says that urban areas present a challenge for several reasons including the fact that achieving fluoridation in an urban area may require massive resources, and major grassroots, culturally relevant campaigns.

According to her, this is because while suburbanites tend to vote, inner city residents often do not. Urban areas have a higher percentage of racial and ethnic minorities who generally speaking are not as likely to vote as whites. Relating to these facts is that urban areas have a higher percentage of non-English speaking residents and a more transient population. All of these factors may contribute to a lower voter turnout. Education, income and poverty levels may also affect voting rates with higher income
and education levels related to higher voting rates. She indicates that although the poor are less likely to have dental insurance or obtain preventive care and may benefit the most from fluoridation, they often do not vote. Age can also be a factor in voting with elderly people representing a high percentage of those voting in most cities. Neenan states that this may affect a fluoridation vote. Because of the way fluoridation is framed in campaigns, elderly people may not see a need for fluoride nor do they want to pay for it and therefore vote against it. Diversity in general may present a challenge to the preventive health educational and political efforts because diverse groups may have attitudes, beliefs, and expectations about preventive health outcomes and issues in general.

There also have been several other studies such as early studies by Plaut, Mausner and Mausner and Metz mentioned in earlier chapters that have attempted to predict fluoridation referenda results with demographic determinants. It should be stated that demographics alone has not been shown to be predictive. This being said, a comparison of the demographics of both cities may provide some insight into the cities as a whole which may in turn be used as a part of our understanding of a successful referendum by proponents in New Bedford and a failing referendum in Worcester.

According to a 2003 U.S. Census Bureau population estimate, Worcester, MA is the second largest city in Massachusetts with a population of approximately 175,000. It is almost twice the size of New Bedford, MA, which has a population of 94,000. During the 1950’s, 1960’s and 1970’s Worcester lost almost 20% of its population but began to grow again in the 1980’s and grew about 1.8% in the 1990’s. On the other hand, New Bedford lost 4.8% of its population during the period 1990-2000. While Worcester transformed
itself during the 1980’s and 1990’s as a major healthcare and biotech hub for the Commonwealth, New Bedford lost a thriving commercial fishing industry due to a government action to stop over fishing in George’s Bank. During this same time period, the population of Massachusetts increased by more than 5%. Both cities have populations over 50,000 making them one of the less than 150 cities across the country of this size or over that were not fluoridated before these referenda.\textsuperscript{308}

Income, education level and the percentage of persons above the poverty level are lower in both cities than Massachusetts as a whole but are higher in Worcester than in New Bedford. In addition, the percentage of those speaking a language other than English at home and those foreign born is higher in New Bedford but surprisingly the percentage of persons living in the same house in 1995 and 2000 is almost 7% higher in New Bedford.

<table>
<thead>
<tr>
<th></th>
<th>New Bedford</th>
<th>Worcester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Household Income</td>
<td>$27,569</td>
<td>$35,623</td>
</tr>
<tr>
<td>High School Graduates</td>
<td>57.6%</td>
<td>76.7%</td>
</tr>
<tr>
<td>Bachelor’s Degree or Higher</td>
<td>10.7%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Persons Below Poverty Level</td>
<td>20.2%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Living in the same house in 1995 and 2000</td>
<td>57.7%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Foreign Born Persons</td>
<td>19.6%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Language other than English spoken at home</td>
<td>37.8%</td>
<td>28.1%</td>
</tr>
</tbody>
</table>

**Political Structure and Support**
At the time of these referenda, all of those representing New Bedford and Worcester at the state and national levels were Democrats.

Locally, a Mayor- Council form of government governs New Bedford. At the time of the referendum in New Bedford, the Mayor was Attorney Scott Lang, a Democrat, who had been in office less than a year and was against fluoridation. He was elected over the incumbent Frederick Kalisz, also a Democrat, who had supported the measure. Brian Gomes, a city councilor, was also an outspoken opponent of the measure echoing the mayor’s sentiment that the issue should go to a referendum. The Board of Health in New Bedford ordered fluoridation and all were supportive of the measure when it was ordered. It should also be noted that in New Bedford, involvement of legislators at the state level was required in order for the referendum to occur because fluoridation had already been ordered and the required time frame for opponents to gather signatures had come and gone with no effort to collect those signatures. According to Massachusetts’s law legislation must be filed (a home rule petition) that allows the city and town to override the law and have a referendum. This was done by the mayor through their senator, Mark Montigny, in informal sessions of the legislature with the support of most city councilors. No formal vote was taken by the city council on the measure.

Worcester has a Council-manager government with a popularly elected mayor. The city council acts as the legislative body and the council-appointed manager handles the traditional day-to-day chief executive functions. City councilors can run as either a representative of a city district or as an at large candidate. The winning at-large candidate who receives the greatest number of votes for mayor becomes the mayor unless they ask to be removed from the ballot. At the time of the Worcester referendum, the Mayor was
Raymond Mariano while Thomas Hoover was the City Manager. According to newspaper reports Mariano was against the measure, Hoover in his role remained silent. Only two city councilors were quoted as being against the measure. One was Konstantina Lukes, an At Large member of the Council who strongly opposed the measure and the other was Councilor Perotto who was less vocal in his opposition. The most vocal of city councilors in support of the measure was Dennis Irish, also an At Large councilor, who was quoted several times in the Telegram and Gazette voicing his support. The Board of Health had one member, Dr. James Convery, who was opposed to fluoridation.

At the time of the referenda in each of these cities, the mayor in both cities was against water fluoridation while both the majority of city councilors and the Board of Health were supportive of the measure. It would appear from newspaper accounts of the referenda and the events leading up to the referenda that for the most part local elected officials were more vocal prior to knowing whether there would be a referendum. Once the referendum decision was established the elected officials took a back seat to the arguments made by the opposing sides.

Other political considerations include the political climate surrounding the election. Voter turnout may contribute to results of referendum although the exact mechanism or impact on fluoridation is unknown and unpredictable. Key to any election is getting voters who support your candidate or issue to the polls. Voter turnout in the U.S. is related to the type of election with presidential elections having a higher turnout followed by gubernatorial and mayoral elections. Generally, voter turnout in municipal elections is low. There was no presidential or gubernatorial election in 2001 nor was there another close municipal contest in Worcester in 2001. In the case of Worcester in
2001, voter turnout was 26.9%. This had been part a part of a general decline both nationwide and in Worcester over the past few decades. It is interesting to note that 9/11 had just occurred less than two months before the election and turnout even in this time of national crisis was still low.

On the other hand, New Bedford’s election in 2006 was held at the same time as a hotly contested gubernatorial election between Kerry Healy, the Republican incumbent Lieutenant Governor, and Deval Patrick, a newcomer to the scene whose message was “Together We Can.” It was also during this election cycle that Democrats unseated many Republicans in Congress and took back the majority. Clearly, the American sentiment due to the war and other factors during this time period was one of change and voter turnout was higher.

Perhaps higher voter turnout was good for those who supported fluoridation in New Bedford in 2006. Because the public generally supports fluoridation when initially asked and because there was little opposition in New Bedford during the weeks just prior to the campaign to sway that sentiment (as often happens during campaigns), higher turnout may have increased the chances that those who were voting would have remained supportive.

**History of Fluoridation Efforts**

Both cities had quite a controversial history with fluoridation. In Worcester, the city council had voted against the measure in 1955 and 1956 and again in 1963 and 1969. The Board of Health also went to the Worcester City Council in 1971 and 1978 in the hopes of gaining financial support and was turned down by the council. In 1963 and
1996, there were public votes on the issue with the measure losing by a four to one margin in 1963 and a two to one margin in 1996. In 2001, the ratio was less than two to one with 12,906 votes against fluoridation and 9,880 votes for fluoridation.

In New Bedford, fluoridation also had a history but it had been much longer since a referendum had been held. In New Bedford, voters had approved fluoridation in a referendum vote in 1973 but fluoride was not introduced into the water supply until 1978. At that time a local activist was able to get that decision overturned and get a second referendum. In 1979 a referendum was held and fluoridation lost by a 2-1 margin. Fluoridation ended in New Bedford in 1980. In 2002, PACE (People Acting In Community Endeavors) went to the New Bedford Board of Health to request that they order fluoridation. The board supported fluoridation and ultimately ordered it in May of 2004. There was no petition by opponents and therefore fluoridation could have started again. At the time, funding was not available but ultimately funding for the equipment was found and by the end of 2005, the city was ready for implementation. Because a new mayor had just been elected it was decided that as a courtesy to the new mayor start up would be postponed into the beginning of 2006. Unfortunately, the new mayor was against the measure and went to the legislature with a home rule petition in order to have fluoridation go on the November ballot. He was successful in this effort and the question was placed on the November 2006 ballot.

History of controversy surrounding fluoridation is often mentioned as a factor that may be the cause of unsuccessful fluoridation efforts. In the case of Worcester and New Bedford, both cities did have a history however one fluoridation effort was successful and one was not. Perhaps, the more recent referendum in Worcester could have been a factor
because the short time period between the 1996 and 2001 referendum allowed many community members and voters to have a clearer memory of the controversy and an already formed position or stance on the matter. (Although public opinion polling data did indicate that the majority supported fluoridation). The short time frame may have also had an impact on proponent and or opponent groups. Generally speaking, opponent groups stay engaged with this issue even during periods of inactivity in their own town. They are highly organized and often use Internet communication to stay connected. Therefore, opponent group that had formed around the issue in 1996 could have more easily mobilized and may have had a clearer idea of successful and unsuccessful tactics in a campaign.

In New Bedford, the process of getting to referendum had also been different both in the earlier and the current referendum. It appears that in both cases there was no signature drive or petition by opponents but rather a home rule petition to get fluoridation on the ballot. Although obtaining a home rule petition requires political maneuvering it likely does not require the kind of grass roots organizing required to get the significant number of signatures (10% of registered Voters) required for a referendum under current regular legal process. The signature drive itself may in fact help opponent groups organize and get their message out first to the voter making it more difficult for proponents to be successful. However, in New Bedford, the prior vote twenty years earlier after a home rule petition had not fared well for supporters of fluoridation. Other details surrounding this referendum were unavailable for analysis.

**Initiators and Opponents**
The Health Foundation of Central Massachusetts was established in 1999 and had assets of $60 million dollars. It resulted from the sale of Central MA Health Care Inc., a physician initiated not-for-profit HMO. Its mission is and was to use its resources to improve the health of those who live and work in the central Massachusetts region, with particular emphasis on vulnerable populations and unmet needs.

Based on newspaper reports and other accounts of the 2001 campaign in Worcester, the Central Massachusetts Health Foundation initiated the fluoridation effort. It is unclear exactly how the Foundation became involved with either oral health or fluoridation at the start but it is clear that the group dedicated a significant amount of funds to oral health causes during the years. According to a report by the Foundation, they gave approximately $4.7 million dollars in grants for oral health related projects. This was approximately 48% of all grants made between 2001-2005. The other money went to child abuse and prevention (17%), mental health issues (19%) and other grants (16%). More than $2.9 million dollars was awarded to The Central MA Oral Health Initiative, a collaborative consisting of 14 dental and health related organizations in the Worcester area.

A list of the working members of the CMOHI Fluoridation Education Effort Committee as of 6/26/01 showed the group as having 15 members. Recognizable members from either the newspaper or personal knowledge included Jan Yost who headed up the Central Massachusetts Health Foundation, Mary Foley, the director of the Office Of Oral Health at the MA Department of Public Health, Michael Monopoli, the previous director of the Office of Oral Health, two local dentists, John Gusha and Abe Haddad, two hygienists, Sue Deliddo and Rhonda van Buren, Dennis Irish, a member of
the city council, Kathy Robertson and Lou is DiNatale, two of the consultants hired and
at least two other members whose e-mail addresses indicated that they worked for
UMASS Medical, the administering organization for the $2.9 million in grants. It appears
that this group was formed around this issue and was not a longstanding group.

In New Bedford, it was PACE that brought fluoridation to the attention of the
Board of Health. PACE, People Acting in Community Endeavors, had been in existence
since 1982. PACE is a non-profit community agency that was brought together in
response to a lack of needed services in the greater New Bedford area. PACE focused on
multiple issues including affordable housing and home heating, food surplus programs,
youth programs and any other needed service in the community including oral health.
PACE considered itself to be a grassroots driven organization.

Although both groups’ intentions were serving vulnerable populations and unmet
needs there were some significant differences between them that may have contributed to
the end results in the fluoridation referenda. The Central Massachusetts Health
Foundation had only been in existence for two years when the referendum occurred.
Because it was new and the fluoridation group had formed through the Foundation
specifically for the fluoridation effort the group had not previously worked in
collaboration with other local groups around issues. It was necessary for them to form
new alliances around fluoridation, a reasonably controversial issue. These alliances may
not have been as solid as would be necessary to win in such a hotly debated contest. In
addition, although the efforts of the Foundation truly were to help the underserved; the
approach, whether real or perceived, appeared to be a top down approach, which lacked
the necessary grassroots support. Because of its newness, the community may have also
lacked prior knowledge of the organization and therefore perception as portrayed by media and opponents could easily be transformed into reality.

In New Bedford, PACE had been in existence for more than twenty years and had always collaborated with other organizations around multiple issues. Mutual respect and trust between PACE and local groups had long been established. This allowed PACE to call on and mobilize allies and supporters quickly. In addition, their place in the community as an organization dedicated to working with others to solve multiple problems was well established which would have made it difficult for opponents to characterize them in a negative way.

In both cases, there was strong leadership of the initiating organizations with both Yost and Morrell extremely dedicated to the cause. Once again, because Yost was unknown in the community and was an outsider (she had recently moved from South Carolina) she may have had a more difficult time both in her ability to network as well as her ability to be identified with a positive effort to improve oral health rather than as a leader in the controversial fluoridation effort. Morrell was well known both in the oral health community and the community at large due to the fact that he had been with PACE since 1986 and working on oral health issues for many years before the fluoridation referendum. As such, Morrell had a personal identity in the community that was generally regarded as positive.

In Worcester, the main proponent group had significant resources and spent them during the course of the campaign. In New Bedford, the proponent group did not have significant resources of its own but was able to get some monetary help through its established collaborations. The amount of money spent in New Bedford was however
significantly less than in Worcester with the proponent group in New Bedford spending
approximately $17,000 and in Worcester the amount spent was more than $400,000.

In New Bedford, there was no organized effort by opponents of fluoridation once it was established that there would be a referendum. Those elected officials that were initially very outspoken were quiet once the referendum was scheduled and in some sense were outspoken more in their belief that voters should decide rather than against fluoridation itself. No other formal group put together an effort. There were letters to the editor written early on but no other response i.e. media campaign or other was put together.

In Worcester, however, there was an established group with strong leadership through Deborah Moore who was very active both in the 1996 campaign and in 2001 campaign. The group “Worcester Citizens for Total Health” worked hard to get signatures on the ballot during the summer months prior to the election and according to newspaper reports had a large number of volunteers. The group appeared to have members from diverse groups but also seemed to align itself with environmental groups as well as alternative health and wellness groups. The Worcester opponent group spent little money on the campaign but rather it appears that they used a more grassroots human approach to gather signatures and get their message out.

The Campaigns

The “campaign” for fluoridation in Worcester was a much more formal campaign than that waged in New Bedford. In Worcester, planning for the actual campaign began a year prior to the referendum and included the formation of a campaign committee, which
essentially was the Central Massachusetts Oral Health Initiative, as well as the development of a campaign plan with the help of hired consultants. This plan included public opinion polling throughout the campaign, television advertisements, radio advertisements free and paid print media, and educational forums in multiple venues. In addition, proponents as well as opponents) spoke and provided testimony at board of health and city council hearings. The “campaign “itself was quiet and planning happened behind closed doors for the most part until the summer of 2001 when television advertisements began to air. The groups heavily involved were mainly the 14 or so committee members from the Central MA Oral Health Initiative and staff at the Health foundation. The MA Dental Society and its local component also became involved by providing information on fluoridation to its member dentists for distribution to their patients. In addition, many of the members of the dental society, the medical society and the hygiene association were involved in a strong letter to the editor effort.

On the opponent side, the effort in Worcester was definitely organized and involved a large effort starting right after the fluoridation order. The opponent group gathered more than 10,000 signatures on a petition that would allow the issue to go to referendum. The signature drive lasted the entire summer and in September all signatures were certified. As part of the signature drive, opponents distributed print materials and also heavily promoted several websites where larger national anti fluoridation groups house a data warehouse of fluoridation articles and statistics. They appeared to go to local events and distribute materials at these events some of which include parades and Earth day activities.
In contrast, the process in New Bedford began much earlier (the order came more than 2 years prior) but the actual campaign started only two weeks prior to the referendum. PACE or the majority of other supporters of fluoridation in New Bedford made no attempts to stop the mayor from obtaining a home rule petition or in any way lobby against it either behind the scenes or publicly. The home rule and the decision that fluoridation would be on the ballot did not occur until late summer and no planning for a campaign was discussed prior to that. Conversations between PACE, its local supporters and allies in the fluoridation effort and members of the statewide Oral Health Advocacy Task Force (including staff from health care for All, Delta Dental of MA and MA Dental Society) did not happen until approximately six weeks before Election Day. Funds were donated by Delta and the MA Dental Society for a small campaign that included some print and radio advertisements in local newspapers and radio stations and a postcard campaign by local dentists to their patients. Buttons and lawn signs were made as well. PACE and Health Care for All, both organizations that are based on grassroots efforts and advocacy, were able to secure support from their member groups for help on election day i.e. getting people to the polls.

**Media Coverage**

In both Worcester and New Bedford there was newspaper coverage of the events leading up to the referendum and the referendum itself. The coverage included staff reporting as well as opinion columns, editorials and letters to the editor. Also, in both cases advertisements were placed in the newspaper prior to the referenda.
Coverage of the story in Worcester began in late 2000 prior to the Board of Health ordering fluoridation while in New Bedford coverage did not begin until around March of 2005, years after the board had ordered fluoridation but just as the new mayor was contemplating the issue.

There was more all around media coverage in Worcester both in the number of articles written and the number of letters to the editor. Also, in both Worcester and New Bedford, the editorial board of the newspaper came out in favor of fluoridation. In addition, an analysis of the news articles indicates that fair time was given to both sides on the issue. A discussion of the actual coverage will be discussed later in this chapter.

According to press coverage and accounts from those involved, in both Worcester and New Bedford, the issue was discussed on talk radio. No analysis of the amount of time or the exact nature of the discussion was done although it is known that in Worcester that fluoridation was discussed on the Jordan Levy show, a former mayor who was against fluoridation while in New Bedford there was a question and answer session in which Dr. Myron Allukian, a strong supporter and advocate of fluoridation, answered questions from callers.

**Media Framing**

In both Worcester and New Bedford, there was one author who wrote the majority of the articles. In Worcester, John Monahan was the author and in New Bedford, Aaron Nicodemus wrote the majority of the articles. As is the case with most news coverage, the coverage was episodic versus thematic in its framing. The presence of a primary author however lent itself to a common style, tone and patterns of description between articles.
In Worcester, the initial coverage was predominantly surrounding the political process. Articles by Monahan covered the controversy surrounding a potential fluoridation order by the board, the controversy around the actual order and then moved to the next step in the fluoridation process, the signature drive. These initial articles frame fluoridation as controversial and begin to paint a picture for the reader of the opposing sides in the controversy.

In New Bedford, the initial coverage was also surrounding the political process and described the mayor’s efforts to bring the fluoridation to a public vote and the corresponding council meetings discussing the same issue. These initial articles also frame fluoridation as controversial but actually begin to describe the arguments early on and do not focus heavily on identifying the groups involved on both sides of the issue.

In both Worcester and New Bedford, the reporting closer to the election was more focused on the opposing arguments rather than the political process. The actual content of the arguments was very similar for both the proponents and the opponents in both New Bedford and in Worcester. These arguments were presented in news articles that quoted opponents and opponents of fluoridation, in editorials and in letters to the editor written by those on either side of the issue.

Often news coverage of the arguments is a reflection of the information provided to reporters through direct interviews but more often the quotes presented are gathered through comments made at events by proponents or opponents where either prepared testimony or impromptu comments are made. Reporters can and do use pieces or parts of comments made for their stories and also make interpretations or observations of the situation. These are then packaged to provide the reader with a story that is generally a
reasonable account of the situation with unavoidable personal bias or opinion as well as a
desire to keep the audience engaged in the story.

As a reader, one observation I made was that in Worcester although the paper
clearly gave equal time to both sides (most articles contained arguments for and against
fluoridation) the reporting could leave the reader with a negative perception of the
Central Massachusetts Health Foundation. Americans generally speaking have a negative
perception of “big business” and also have a romantic notion of the underdog in any
conflict. As stated previously, because the Foundation was new there was no established
view of the Foundation or its staff. Some of the very first news articles indicated that the
Foundation had given a grant of almost one million dollars to the Central Massachusetts
Oral Health Initiative. These articles explained how the Foundation had come about
which was through the sale of a non-profit to a for profit company. This large donation,
which one would believe would be viewed as a wonderful contribution could be
redefined by opponents as money from a corporation that was trying to tell the
community of Worcester how to solve their problems. News coverage reinforced this
frame time after time by repeating the opponent argument in their coverage. Adding to
this perception was the expensive campaign that included nicely done brochures and
advertisements, which were reclassified by opponents as “slick” and other expensive
campaign tactics such as, paid television advertising and mailings. This was done in
contrast to the low-key campaign of the opponents who had brochures but most were not
in color and glossy but rather black and white and carrying an inexpensive appearance.

It is also interesting to note that in the news coverage of the Worcester campaign,
Jan Yost, the Executive Director of the Health Foundation was quoted much more often
than Bruce Morrell, the Executive Director of PACE. It is unknown if Yost sought the coverage by the news media or whether Morrell retreated from the controversy however.

One observation in reading all of the articles in both Worcester and New Bedford is that the tone of the two sides was more rhetorical in Worcester than in New Bedford. Those on either side of the issue used negative personal comments about the opposing side more often in Worcester.

**Framing the Issue in News Articles**

According to the research gathered by Frameworks, most Americans view the primary effect of poor oral health as a problem of tooth decay and do not on their own link the oral health issue to other health issues nor do they consider the consequences of poor oral health as serious. In a review of the news articles surrounding fluoridation in both Worcester and New Bedford, an analysis was performed to determine how the authors and/or those quoted in the article described the problem that fluoridation is proposed to address.

In Worcester and New Bedford, cavities were the primary effect of poor oral health with none of the articles including information regarding the potential impact of poor oral health on overall health. The other consequences of poor oral health were described in the New Bedford articles as pain and in Worcester as increased costs for dental care and dental insurance. In Worcester more than half the letters identified the problem as one of mostly poor individuals while in New Bedford that number was 20% even though the actual population most affected by poor oral health is the poor and underserved. It has been said that limiting a problem to poor populations may limit
support for an issue because others may have difficulty identifying with the problem. In Worcester, more than 40% of the articles identified the problem as a crisis.

The following table provides an analysis of the news articles in Worcester and New Bedford.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>Worcester # Articles</th>
<th>Worcester % Articles</th>
<th>New Bedford # Articles</th>
<th>New Bedford % Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tooth decay is primary effect</td>
<td>12</td>
<td>71%</td>
<td>3</td>
<td>60%</td>
</tr>
<tr>
<td>Positive relationship with overall health</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Relationship to other consequences</td>
<td>2</td>
<td>12%</td>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>Problem related to specific population i.e. poor</td>
<td>9</td>
<td>53%</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>Problem described as severe or “crisis”</td>
<td>7</td>
<td>41%</td>
<td>4</td>
<td>80%</td>
</tr>
<tr>
<td>Oral Health problem not mentioned</td>
<td>2</td>
<td>12%</td>
<td>1</td>
<td>20%</td>
</tr>
</tbody>
</table>

The cause of a problem can often lead one to develop an understanding of what to include as potential solutions for that particular problem. The next table illustrates what either the author or those quoted in the news articles identified as causes of the issue at hand.

<table>
<thead>
<tr>
<th>CAUSE</th>
<th>Worcester # Articles</th>
<th>Worcester % Articles</th>
<th>New Bedford # Articles</th>
<th>New Bedford % Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to care</td>
<td>8</td>
<td>47%</td>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>Poor behavior on part of individual or parent</td>
<td>1</td>
<td>6%</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>Poor program management by government</td>
<td>2</td>
<td>12%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>No cause</td>
<td>6</td>
<td>35%</td>
<td>2</td>
<td>40%</td>
</tr>
</tbody>
</table>

In addition, the analysis revealed that most often the debate surrounding fluoridation did not include a debate of the merits of other potential solutions to the problem. In fact, for
many of the articles fluoridation was the issue. In other words, the solution was the problem. This was true in Worcester as well as New Bedford.

Often solutions can be categorized as solutions that are based on individualism or those that are based on collective solutions. Generally speaking for most Americans, health care choices and decisions are thought to be the responsibility of the individual and that those individuals see providers who are part of that private system. Medicaid is a government solution that allows individuals access to this system by helping them to overcome the financial barrier that restricts them from it. Also very often we assume that education is the answer to our problems and that if individuals were aware and educated that health would improve. We continue to believe this although there is much data to the contrary. School based prevention and other community programs are often not considered as solutions to health programs. This is apparent in the articles on Worcester and New Bedford as well.

<table>
<thead>
<tr>
<th>SOLUTIONS</th>
<th>Worcester # Articles</th>
<th>Worcester % Articles</th>
<th>New Bedford # Articles</th>
<th>New Bedford % Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in vending and meal policies in schools</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>Providing toothbrushes toothpastes and education</td>
<td>3</td>
<td>18%</td>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>Volunteer treatment programs</td>
<td>1</td>
<td>6%</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>School based prevention programs</td>
<td>1</td>
<td>6%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Increase the number of dentists accepting Medicaid</td>
<td>2</td>
<td>12%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fluoridation only solution</td>
<td>11</td>
<td>65%</td>
<td>3</td>
<td>60%</td>
</tr>
</tbody>
</table>
As for the arguments used to support these solutions they generally fall into two categories instrumental and expressive. With the former being those that relate to individual choice and the latter being those related to the effectiveness and/or safety of fluoridation. Clearly, these orientations clash. The following is an analysis of the arguments presented in the news articles.

<table>
<thead>
<tr>
<th>MAIN ARGUMENT FOR/AGAINST FLUORIDATION</th>
<th>Worcester # Articles</th>
<th>Worcester % Articles</th>
<th>New Bedford # Articles</th>
<th>New Bedford % Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe and Cost Effective or Best Way to Improve Oral Health</td>
<td>14</td>
<td>74%</td>
<td>4</td>
<td>80%</td>
</tr>
<tr>
<td>Individual Right to Choice or NO Forced Mass Medication</td>
<td>9</td>
<td>47%</td>
<td>5</td>
<td>100%</td>
</tr>
</tbody>
</table>

Editorials

Editorials represent the views of newspaper editors on specific issues and can generally be associated with “elite” opinion on an issue in a community. Groups can persuade editors that their particular argument has more credibility or the editors can already be oriented toward that position and then reflect those opinions in their editorials. In both Worcester and New Bedford the editorial boards came to endorse fluoridation however Worcester’s editorial board articulated that endorsement in their first editorial on the topic while in New Bedford the editorial board took a “rational” approach, gathering all of the information on the topic from both perspectives, weighing the evidence on either side, and coming to a decision based on the evidence available to them.
In Worcester there were a total of five editorials on fluoridation from December 2000 to November 3, 2001. There were also three editorials that mentioned fluoridation after Election Day, November 3, 2001. In Worcester all of the editorials (5 of 5) the editorial board gave its clear support to fluoridation. The editorial board in each article proclaims their belief in the safety of fluoridation, its effectiveness and its low cost. In all five editorials they comment on the safety of fluoridation. Comments include:

1. Safety is not in doubt
2. Safety concerns are groundless as evidenced by a large and growing body of scientific research
3. Doubts about the safety of fluoridation have no credible scientific basis
4. Safety should be judged on the credibility of those endorsing it, namely many scientific and professional organizations.

The editors conclude that the reason for past opposition to fluoridation is concerns surrounding safety. The editors emphasize that this election will be different than the others because voters will be educated on the science saying 1. The Health Foundation is prepared to make the “scientific case.” 2. The public debate is likely to be informed by science and less speculation and emotion than in the past 3. The Health Foundation will lay out the scientific facts about fluoridation, which will counterbalance the opponents’ campaign 4. The educational efforts of the Health Foundation will make voters better informed about the safety and benefits of fluoridation.

It is also interesting to note that although the editors conclude that the opposition is surrounding the science of fluoridation they acknowledge that “as a public policy issue the issue remains clouded” and that “the truly controversial aspect of fluoridation is not a matter of science but of public policy” and that “there is room for honest disagreement about whether it is appropriate to use the water supply of all residents to deliver fluoride-
or any other medication or health supplement for that matter- that mainly benefits a small portion of the population”. In a third editorial, editors make a similar comment but then add, “the philosophical question is trumped by social reality” and that many of the other solutions for fluoridation such as pills, rinses, drops are not available to low income families who experience an overwhelming majority of tooth decay and say, “the science and sociology of fluoridation are clear, Worcester residents should reject this safe effective public health measure.” In essence, they use an instrumental argument to counter an expressive one.

In New Bedford, there were six editorials printed prior to the election (May 2, 2006- June 25, 2006) and one immediately after the election. The New Bedford editorials do not take a clear stance on the issue until the fifth editorial written on the subject. The editors take a different approach. They present arguments on both sides of the issue before they make their final conclusion surrounding support or opposition to fluoridation. However, they do use predominantly scientific arguments both for and against fluoridation never mentioning the opponents’ argument of individual choice. Ultimately, the editorial board does support fluoridation.

In the first editorial, the editors provide a history of fluoridation in the U.S., how it was discovered to be effective and its origins/how it is made and note that the Water Superintendent in New Bedford believes in its safety and compares it to chlorine in their water, which is used to remove bacteria. The second editorial focuses on the controversy surrounding fluoridation and explains that opponents believe the chemical is dangerous and that the problem of tooth decay can be addressed through proper dental care and teeth brushing. They also say that opponents not only question the safety but also the
effectiveness of fluoridation. They note that opponents use as their evidence the overall
decline in dental decay in fluoridated and non-fluoridated communities with fluoridated
toothpaste being the common factor not water fluoridation. The third editorial provides
arguments for fluoridation with the problem of poor oral health in New Bedford
described in detail along with the consequences of not addressing the problem. The
editorial also explains how fluoride protects teeth and notes its effectiveness based on
scientific studies. The editors end the editorial by indicating that PACE had made the
request for fluoridation to the New Bedford Board of Health several years prior in order
to help children and adults especially those who are poor and do not have good dental
care at home or through regular office visits. The fourth editorial explains the arguments
against fluoridation all of which are surrounding the safety of water fluoridation. The
article explains opponents’ assertions that fluoride is dangerous to the body and uses the
NRC report that had been done at the request of the EPA, which suggests that the current
maximum standards for fluoride occurring naturally should be lowered. The comments of
opponents are that fluoride is mass medication and that this forced medication could be
dangerous to some unhealthy populations. The final editorial of the series is the
endorsement of the editorial board. The board explained the cause of the oral health
problems in New Bedford as an inadequate number of dentists in the Medicaid program
because of problems with the program. It explained the magnitude of the problem and
gave specific data about the oral health of New Bedford children. The professional
groups that endorsed fluoridation were listed along with their reasons for doing so.
Interestingly, the editors went on to note that the chair of the New Bedford Board of
Health, one of the measures strongest proponents, had indicated that “regular dental care
and brushing would do far more to help the thousands of poor residents without insurance or the ability to get dental care” but that she believed fluoridation was a start in addressing the problem. The editorial provides scientific arguments on both sides of the issue and concludes that there may be some risk involved with fluoridation but that the benefits derived in New Bedford far outweigh the small potential risks. They conclude that others communities may make different decisions but that this is the right one for New Bedford. They end by acknowledging the limitations of the science that is argued and conclude that “science” must do a better job of accounting for the safety of fluoridation. The editors also add that there is a better way to keep teeth strong than fluoridation and that is to increase preventive care for the poor and that in order for that to happen, the Medicaid system must be improved.

The editorial on June 25, 2006 did not pertain to the fluoridation issue itself but rather the political controversy that had developed around it. This editorial was essentially a criticism of the mayor who had fired the health commissioner. The mayor had stated that it wasn’t over this issue but the editorial board provided some evidence that insinuated that the firing was over their opposing stances on fluoridation. Although the board did reiterate their support for fluoridation and both the arguments for and against it, the message of this editorial was that opposing views are not justification for terminating ones job and that disagreement over issues is part of our political process.

Similarities in the editorials in Worcester and New Bedford include their focus on the importance of the scientific facts surrounding fluoridation. In Worcester, the editors provide the arguments for both sides but clearly indicate that the proponents’ sources are more legitimate and credible. In New Bedford they do appear to come to that same
conclusion however they appear to provide some legitimacy to opponent arguments. In Worcester the editors acknowledge that the policy is debatable they provide no details or support for either what that debate or rationale for a position on either side. Essentially, this piece of the debate is ignored and focus is placed on the scientific debate. In New Bedford, the editorials do not mention choice perhaps discounting its importance to the debate and instead focusing on the scientific facts as well. In reading the Worcester editorials one also gets a clear message that the editorial board is not only supportive of fluoridation but also of the Health Foundation as it declares several times that the Foundation’s efforts will be the difference in this campaign versus past ones. In New Bedford, PACE is mentioned in the editorials however not regarding their efforts to influence the results of the election but rather the role that they played in identifying the dental health issues in New Bedford and in urging the Board of Health to order fluoridation.

Also of note, is that in Worcester the editorials were published up until Election Day while in New Bedford the last editorial was on June 25, 2006 more than four months prior to the election.

**Letters to the Editor**

Letters to the editor provide interesting insight into the arguments used for both sides and because they are controllable (these letters are written by the advocates on either side and published) and give some insight into how leaders or advocates on either side convey their messages.
In Worcester of the 59 letters to the editor, 32 or 54\% supported fluoridation while in New Bedford 11 of the 18 or 61\% of the letters written were supportive of fluoridation. In both cases the many of the letters from proponents were sent from dentists, physicians or other health care providers while opponents’ professions were mostly unidentified. In Worcester nearly 44\% of the proponents’ letters were from those in the health professions and in New Bedford 41\% of the letters were from health professionals.

In both cases, the thrust of the arguments was similar with proponents claiming an oral health crisis in their respective cities. The solution for this problem was fluoridation, which was touted as safe and cost effective way to prevent cavities. Generally speaking the primary effect of poor oral health was cavities with few authors indicating any other health consequences or links to any other diseases although some represented the problem as a crisis. Authors sometimes blamed the problem on the lack of dentists accepting Medicaid but still advocated for fluoridation as the solution. Many also identified the problem as one mainly of children and the poor. It should be noted that often the letter writers never mentioned the problem that fluoridation was being proposed to solve. A majority of proponent letters cited the safety and effectiveness of fluoridation and discounted any opponent notions to the contrary.

On the opponent side authors identified the problem also as one primarily of cavities but then blamed poor brushing and lack of dental care by the poor as the cause and proposed solutions included education, toothbrushes, treatment programs and improvement in the Medicaid program. Opponents often cited their opposition as one opposed to being “mass medicated” by the government and their right to choose for
themselves what medications they received. The majority of the letters included questions about the health hazards of fluoridation. They often questioned the claims of proponents both of safety and effectiveness.

In Worcester, the letters took on a slightly more negative tone with both proponents and opponents using personal attacks on the opposition group although opponents used negative personal attacks more often.

Overall with the exception of the number of articles written and the slightly more negative tone there was little difference in the cases. The percentage of those supporting or opposing fluoridation was slightly higher in New Bedford as was the percentage of proponents citing the safety and cost-effectiveness but the arguments used were very similar in both cases.

<table>
<thead>
<tr>
<th>Opponent Letters Questioning Safety of Fluoridation</th>
<th>Worcester # Articles</th>
<th>Worcester % Articles</th>
<th>New Bedford # Articles</th>
<th>New Bedford % Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opponent Letters that Question Proponent Claims of Effectiveness</td>
<td>6</td>
<td>22%</td>
<td>1</td>
<td>14%</td>
</tr>
<tr>
<td>Opponent Arguments Using Choice</td>
<td>11</td>
<td>41%</td>
<td>2</td>
<td>29%</td>
</tr>
<tr>
<td>Proponent Letters that Cite Safety and Effectiveness</td>
<td>20</td>
<td>63%</td>
<td>10</td>
<td>91%</td>
</tr>
<tr>
<td>Proponent Letters that Use Endorsement of Professional Association</td>
<td>9</td>
<td>28%</td>
<td>9</td>
<td>88%</td>
</tr>
<tr>
<td>Proponent and Opponent Letters With Negative Tone</td>
<td>21</td>
<td>36%</td>
<td>4</td>
<td>22%</td>
</tr>
</tbody>
</table>

In reviewing the letters from both cases, opponents seem to take proponent arguments and reframe them as support for their own views. One particular argument used by supporters of fluoridation in both cities was that fluoridation was necessary
because of a severe oral health problem in poor children due to a lack of dentists accepting Medicaid. This particular argument was particularly susceptible to reframing because it aligns with current views about oral health i.e. that it is a result of poor oral hygiene and nutrition that could be prevented by better parenting. It also reinforces the private system of care and the perception of dentists as higher income individuals who do not want to treat poorer individuals. In addition, the argument that the Medicaid system is failing those children also reinforces the notion that government programs are somehow mismanaged and ineffective. All of these arguments may bring into question for the average voter why a government solution is the right one.

**Other Media and Advertisements**

The main difference in the proponent paid media campaign for Worcester and New Bedford was the amount of money spent on the effort (almost five hundred thousand dollars in Worcester and less than twenty thousand dollars in New Bedford) as well as the duration and intensity of the paid media campaign. It should be noted that some of the money spent in the Worcester campaign was for consultants who developed the media and the campaign plan and helped design the materials while in New Bedford paid consultants were not used.

On the opponent side in Worcester there was a limited campaign to distribute materials but opponents did not have radio or television spots. In New Bedford, there was no organized effort by opponents to distribute materials in opposition to fluoridation.

Worcester’s advertising started months before the election and was comprehensive and included newspaper advertisements, flyers, billboards and radio and
television spots. Materials were distributed at all of the venues that proponents they participated in. The Massachusetts Dental Society also was involved in the campaign distributing materials to their local members for further distribution to patients.

The newspaper advertisements by proponents in Worcester were identical in style but contained different content. All three included quotes, two from a current or previous Surgeon General and the third from the Consumers Union. Two of the advertisements were positive in tone, one stating that “fluoridation is the single most important commitment a community can make to the oral health of its children and to future generations” and the second one stating, “Community water fluoridation remains one of the great achievements of public health in the twentieth century- an inexpensive means of improving oral health that benefits all residents of a community, young and old, rich and poor alike. These advertisements may also have attempted to appeal to “community values” and the importance of children to future generations. In contrast, the third advertisement was negative in tone indicating that opponent claims regarding the safety of fluoridation having survived this long were “one of the major triumphs of quackery over science in our generation.”

The flyers distributed were almost entirely factual containing information and statistics regarding the oral health problem in Worcester, the safety and effectiveness of fluoridation and the professional organizations that were supportive.

The materials distributed by dentists were also factual including a booklet that answered some of the most commonly asked questions about fluoridation and addressed the most common accusations of opponents in regards to fluoridation.
The visual used as a logo in Worcester was a graphic of a smile with large red lips and a sparkle. This visual contrasted with the factual information presented and could have detracted from the seriousness of the issue providing the reader with the perception that oral health is about cosmetics and looking good.

All of the materials distributed in Worcester appeared to be professionally designed and printed. Some had color and some were glossy. This may have reinforced the opponents’ claims that these were “slick” advertisements.

In New Bedford, the paid media did not begin until two weeks prior to the election and included newspaper advertisements and radio spots. Lawn signs and buttons were also made.

New Bedford’s advocates placed print ads in both of the Portuguese newspapers as well as the Standard Times. The Massachusetts Dental Society worked in conjunction with PACE ensuring that all community newspapers had coverage for the two weeks immediately prior to the election. The ads from each group were slightly different with the PACE group’s advertisements being designed by members of the group, not professionally. The group’s tagline was “Protect Your Health! Vote Yes on Question #4” The advertisement included several local and national organizations supporting fluoride and statements about fluoride’s safety and effectiveness. The only visual on the ad was a graphic of a smiling molar tooth holding a toothbrush. This graphic also clashed with the health message that the group was attempting to convey and also may have diminished the reader’s perception of the seriousness of the problem as noted. In addition the toothbrush may reinforce the message that brushing and flossing is the answer. The Dental Society created two clever ads that used images of a water faucet with running
water in one and the other an image of the face an older woman/ mother/ grandmother that told readers to vote for the measure.

There were multiple television and radio advertisements throughout the summer and through Election Day by the proponents in Worcester while in New Bedford there were radio ads only and they began only two weeks prior to the election. Again, this was a major difference in the paid media campaign.

**Summary**

In reviewing the similarities as well as the differences in these campaigns, one finds that the arguments used by proponents and opponents in both cases are almost identical between the cases. Opponents and proponents clearly view this issue from opposing viewpoints/worldviews. In reviewing newspaper articles from around the country on fluoridation referenda, the same arguments can also be found. This is true whether the cities are large or small, urban or rural, affluent or economically disadvantaged. There are differences in the cases presented here as outlined but the commonalities seem to outweigh the aforementioned differences. But if one looks closely at the media coverage of the controversy one may find that each of the cases as reported has a storyline. This story is a feeling that one gets or a perception that one develops about what the controversy is about. If one thinks of this as a controlled experiment, which it is not, couldn’t we say as a matter of methodology that the scientific arguments and the choice argument as presented in each case are held constant between the two cases? These same arguments are presented in both cases. These constants may in fact represent opposing worldviews and explain the level of controversy surrounding the decisions. But what actually changed the result? Did elements of framing or a redefinition of the
controversy make a difference? In terms of the nature of conflict and conflict expansion was either side able to use these tools to either constrict or expand the contagion of the conflict?

In terms of the debate in Worcester it would appear that opponents were able to steal support from proponents who according to polls at the beginning of the debate had an edge. This loss would be over and above the support lost by those who became fearful after hearing the “potential dangers” of fluoride as well as those who may have been swayed with the “choice” argument and just hadn’t thought about it before it was brought up. Debate in and of itself may invoke this type of emotional response in some. But the “real story” in Worcester that seemed to have taken hold had to do with the Central MA Health Foundation, the initiating group. By portraying this group as a “big business” trying to buy an election and impose its will on the citizens of Worcester, the opponents reinforced negative frames most Americans have about business. By reinforcing these frames and weaving elements of this theme throughout the “campaign” it appears that they were successful in expanding the scope of the conflict from a scientific scope to one involving high level values that Worcesterites could relate to.

In New Bedford proponents were able to contain expansion of the conflict and maintain their support. Were there elements of framing and problem definition that can explain the success? Perhaps although they all may not have been strategic framing choices on the part of proponents, these circumstances may have contributed to their success. Other decisions by proponents were in fact intended to limit the expansion of conflict.
One choice of opponents may have had some unintended consequences and helped proponents by allowing the redefinition of the conflict. This was the firing of Bob Davis from the BOH. This firing may have allowed “the story” to be more about the new mayor and his agenda and less about fluoridation. As mentioned in news article and opinion columns, many citizens may have questioned the “fairness” of his firing and whether disagreement over a policy issue may have led him to terminate Davis’s employment. The other strategic choice by proponents that may have helped them maintain support was the decision to not only oppose the home rule petition/referendum but actually to support it. This in fact did not allow opponents to frame the debate in their terms which often happens during the signature collection process.

In neither Worcester nor New Bedford was exit polling conducted to determine how or why voters made the decisions they did. Therefore, one cannot be certain of which definitions, frames or messages resonated with specific voters during those elections however it does appear that problem definition had an impact on the outcomes.

The next chapter will outline how these commonalities in the opposing sides’ framing and definition of the problem may contribute to the controversy surrounding fluoridation and suggest a future direction for proponent messaging based on the problem definition literature and the initial and limited findings of these case studies.
Chapter 7

“Change We Need”

A Personal Journey

I began this journey with two goals in mind; one clearly personal and the other professional. The primary goal of course was to complete my dissertation, the last step in achieving my doctoral degree. The second was to provide information to my professional colleagues that may help them in their efforts to promote fluoridation. As I stated earlier in this paper, the Massachusetts Coalition for Oral Health was looking for “best practices” in promoting water fluoridation and I agreed to help. I set out to review successful and unsuccessful fluoridation campaigns and reveal the differences.

About four years have passed since I began that research, and I have continued to be involved in fluoridation efforts both with the Coalition and with other groups. I was asked several years ago to join the Oral Health Advocacy Task Force, a statewide coalition of consumers, advocates, health professionals, academics and insurers. The goal of the group is to improve the oral health for all persons in the Commonwealth by expanding access to oral health care educational, prevention and treatment services. The group has a steering committee, of which I am a member, and also has several subcommittees or working groups. One of those subcommittees is a fluoridation workgroup. The goal of this group is to increase the number of cities and towns in Massachusetts with access to community water fluoridation to 100%. I currently chair that workgroup and have done so for the past two years. I was asked to do so, probably because most people in the group knew that my dissertation topic was fluoridation. Of
course, I was a likely choice for them but besides that no one else wanted to do it! I was hesitant to take this on both because of the time commitment required and because of lack of experience in this arena. Frankly, the more I learned about fluoridation the more I felt like I didn’t know. They begged, and I agreed with hesitation to chair the committee.

During this time New Bedford moved to fluoridate its water supply, while voters in Yarmouth defeated fluoridation by a wide margin. A few other communities have expressed interest in fluoridation none so far have gone forward with an order. Legislation requiring cities and towns to fluoridate was filed at the state level during one legislative session, and was sent to study. Proponents decided not to file this legislation during the last session. All of these communities and attempts were different but the basic story is the same.

More on that later. First, let me give you some history on the workgroup prior to my becoming chair. It all goes back to 2001 and the Worcester fluoridation campaign. Do you remember the Health Foundation of Central Massachusetts? Do you remember Jan Yost, the Executive Director of the Health Foundation of Central Massachusetts? Yost became the first chair of the Oral Health Advocacy Task Force. Yost had kept her word and maintained her and her organization’s commitment to improving oral health. As they had argued in their fight for fluoridation in Worcester, there were major problems for poor populations in finding dentists who accepted Medicaid. There were multiple reasons why the program was in trouble but this was a fix to be taken up at the state level. They decided to provide funding for the Oral Health Advocacy Task Force in the hopes of making system level changes. The group also decided that perhaps it was time to change
the venue for fluoridation. And so, as the priorities of the Task Force were developed fluoridation became one of the top priorities.

It was decided that the best way to approach this issue was to file legislation that would authorize fluoridation statewide, just as several other states had done. The group, including Yost and several others advocating for this approach, went ahead and filed the legislation. According to the Yost and the other members of the Task Force Steering Committee, they intended to use this as an opportunity to educate legislators but fully believed that the legislation would go into study and could be refiled in the next legislative session. Unfortunately, this produced some dissention among group members, many of whom thought that the state level approach was the wrong approach at that time and that in order for statewide legislation to be successful more time and education of legislators and others was necessary. They believed in a local approach. To this day, this decision has been criticized by many group members who believe that those initiating the decision did not take the advice of those in the public health community who were more experienced with fluoridation. Frankly, the success rate of that group hadn’t been spectacular either so regardless of the venue this issue was just difficult. When fluoridation went to referenda in local elections, it won less than half of the time. The odds couldn’t be much worse at the state level.

I believed in my gut that the problem that we had with successful fluoridation referenda or the problem that we would have at the state level started with oral health in general and the fact that most people just didn’t think that it was important. Add that to the claims of cancer and we might as well forget it! But I also believed like others in our group that community water fluoridation was truly safe and effective. I believed that
there must be a way to “educate” the public about fluoridation. The buzz around that time was social marketing campaigns and I began to read about this approach in the hopes that we could develop a perfect “marketing” campaign for community water fluoridation. At that time, the Task Force had been working with Frameworks to develop messaging to create awareness around the issue of oral health. In learning about problem definition and framing it occurred to me that somehow some way this approach may be helpful to us in thinking about fluoridation. I just wasn’t sure how.

Survey of state legislators

The group at that time was interested in learning about legislators’ views of fluoridation, so I offered to conduct a survey of state legislators that included a question asking whether dental health can affect overall health. All of the respondents [n = 24] answered YES. There were questions about the legislators’ level of comfort and knowledge with fluoridation status in their district, the laws surrounding fluoridation, the benefits of fluoridation and the safety of fluoridation. We had been distributing educational materials on the legislation and on fluoridation for some months. We believed that opponents of fluoridation would likely do the same. Therefore, a few of the questions on the survey asked if the legislators had received certain materials from either side, whether they had heard from constituents or other legislators on the issue and also whether they had questions or concerns regarding fluoridation. Lastly, we listed more than ten arguments presented by both sides on the issue and asked the respondents to indicate the level to which they agreed or disagreed with the answer. This survey was mailed to all senators and representatives in the legislature. A follow up survey was
mailed as well. Unfortunately, only 26 completed surveys were received, a meager 10% response rate.

Even with the small response rate, we learned something. Of the respondents, 100% believed that dental health could affect overall health. A majority of the respondents (67%) ranked status of oral health in their districts as excellent or good. Of the remainder 29% answered fair, and the remainder did not know. None of the respondents indicated that the status of oral health in their districts was poor. When asked about fluoride in their districts, 79% indicated that there were communities in their districts that were fluoridated, 8% that there were not and 13% did not know.

When asked if they were aware of the legislation that had been filed that would require cities and towns in MA to fluoridate their water supply 67% indicated that they were aware. Of those, 33% indicated that they supported the legislation, 28% indicated that they did not support it, 17% indicated that they did not know and 22% did not answer. There was opportunity for comment on why they did or did not support the legislation. Of those providing comments (12), 42% indicated that fluoride is a local issue and/or would constitute a state mandate for local governments. This was not something the respondents agreed with. The other comments were that they did not want chemicals in their water (1), one had no position, and one wished “to learn all the facts” before voting. The four remaining comments (33%) were from those supporting the legislation and indicated that fluoridation would prevent cavities or tooth decay. Of those one said that it was proven not to be harmful and one also said that tooth decay could lead to systemic infections. There seemed to be no correlation between those that had fluoridation in their district and their support for fluoridation.
Because the Task Force had distributed information and it was assumed that the opposition had also distributed materials we asked if they recalled receiving these materials. Forty-six percent of the respondents did not recall receiving such materials. Of the 13 respondents that did recall receiving information, most received information from both sides. Of those 38% did not support the legislation, 31% supported it and 31% had no position or did not answer. Clearly, if almost half did not recall receiving the information, the group may want to consider how we disseminate information.

Legislators were also asked if they had heard from their own constituents, residents outside their districts, or legislative colleagues regarding the fluoridation issue. Forty-six percent had not heard anything. Of the 54% who had heard, only one indicated hearing from more than five people in any category. This respondent supported the measure and recalls hearing from between six and ten colleagues in the legislature supporting the measure. The following table represents the number of respondents who heard from specific groups listed on the survey.

Table 7.1 Sources of Voting Cues on Fluoridation Legislation

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constituents supporting fluoridation</td>
<td>5</td>
<td>38%</td>
</tr>
<tr>
<td>Constituents opposing fluoridation</td>
<td>8</td>
<td>62%</td>
</tr>
<tr>
<td>Colleagues in House or Senate supporting fluoridation</td>
<td>4</td>
<td>31%</td>
</tr>
<tr>
<td>Colleagues in the House or Senate opposing fluoridation</td>
<td>3</td>
<td>23%</td>
</tr>
<tr>
<td>People outside of my district supporting fluoridation</td>
<td>5</td>
<td>38%</td>
</tr>
<tr>
<td>People outside of my district opposing fluoridation</td>
<td>8</td>
<td>62%</td>
</tr>
</tbody>
</table>
Twelve of the thirteen respondents who had heard from colleagues, constituents and/or outsiders were aware of the fluoridation legislation. Of those twelve, five were not supportive, four were supportive and 3 did not indicate their position.

From the information gathered it appeared that overall this was not a high priority issue. Members of the legislature were not being bombarded by communication from constituents or others, in fact almost all of them indicated that they had heard from less than five people on the issue. It is interesting to note that although the Task Force had spent time informing members of the Task Force of the legislation and asking them to contact their legislators, most may not have done so.

Of the five opposing the measure, all had chosen Strongly Agree on the question of whether fluoridation of water supplies is an issue that should be decided at the local level. Only one indicated a concern with the safety versus the benefit of fluoridation, three disagreed that the fluoridation of water supplies causes adverse health effects, one did not answer and one placed a question mark next to the question. Of the four that were aware of the fluoridation and supported it, only one agreed that fluoridation is an issue that should be decided at the local level. All agreed that the overwhelming weight of scientific evidence indicates that the fluoridation of local water supplies is safe, none agreed that fluoridation causes adverse health effects, and all agreed with the statement that the benefit of fluoridation to reducing the burden of dental decay outweighs the risk with one of the four strongly agreeing to the statement.

The legislators were asked if they had concerns about fluoridation and were asked to place a check mark next to their areas of concern. Forty-six percent (11) indicated that
they had concerns. Table 7.2 illustrates the number and percentage of those indicating they had concerns in specific areas.

Table 7.2. Legislator Concerns

<table>
<thead>
<tr>
<th>Concerns</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trustworthiness of the information I receive</td>
<td>5</td>
<td>45%</td>
</tr>
<tr>
<td>The safety versus the benefit of fluoridation</td>
<td>7</td>
<td>64%</td>
</tr>
<tr>
<td>Requiring fluoridation at the state level versus allowing the decision to remain at the local level</td>
<td>7</td>
<td>64%</td>
</tr>
<tr>
<td>The cost of fluoridating community water supplies</td>
<td>6</td>
<td>55%</td>
</tr>
<tr>
<td>The cost of treatment if communities are not fluoridated</td>
<td>4</td>
<td>36%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>No answer</td>
<td>2</td>
<td>18%</td>
</tr>
</tbody>
</table>

Table 7.3 illustrates the responses when legislators were asked to indicate their level of agreement with arguments normally used by both proponents and opponents of fluoridation.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Answer or Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tooth decay is a serious health problem that needs attention by government leaders</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>The overwhelming weight of scientific evidence indicates that the fluoridation of community water supplies is safe</td>
<td>4</td>
<td>14</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>The scientific community cannot be trusted to give the public reliable health information</td>
<td>0</td>
<td>1</td>
<td>13</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Water fluoridation is a public health measure that benefits people of all ages, not just children</td>
<td>4</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Fluoridation of public water supplies is unconstitutional because it limits religious freedom</td>
<td>0</td>
<td>2</td>
<td>12</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Fluoridation is a public health measure that the state has a right and an obligation to implement in order to protect the health and welfare of its citizens</td>
<td>1</td>
<td>14</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>The state has a right and an obligation to implement water fluoridation even if it means overriding individual objections to it</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fluoridation of water supplies is an issue that should be decided at the local level</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Fluoridation of community water supplies causes adverse health effects</td>
<td>0</td>
<td>1</td>
<td>14</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Fluoridation of community water supplies has been the most important factor in the overall improvement of oral health in our state</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>The benefit of immunization for infectious diseases such as polio outweighs the negligible risks associated with childhood immunizations</td>
<td>6</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>The benefit of fluoridation to reducing the burden of dental decay in children outweighs the risk potential</td>
<td>4</td>
<td>15</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Dental decay in children causes children to miss school days and be less productive</td>
<td>5</td>
<td>13</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Fluoridation of community water supplies saves the Commonwealth money in the Masshealth dental program</td>
<td>3</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>
The views of legislators in the study supported the notion for the group that this issue may in fact be controversial and may not be a high priority (very few of the legislators answered the survey) and also provided the group with little concrete information to predict the success of this legislation. It appeared that just as proponents and opponents were divided so were the legislators who responded. They also appeared to hold particular worldviews with many using instrumental rational for support while others used more expressive rationale for support.

A joint meeting of the Committees for Children and Families and Public Health held a hearing on the legislation on October 27, 2005, and went to study in March of 2006. As stated previously, those leading the charge for this legislation intended for the legislation to be sent to study and intended to use the filing of the legislation as a tool to gage support and educate legislators. It was this meeting that I discussed earlier in this study and served as my awakening to the arguments used by opponents of fluoridation and realization that this issue was extremely controversial regardless of the venue. It also occurred to me that changing to the state level brought with it additional arguments; mainly, that fluoridation of public water supplies was a local issue and many local communities as well as many of the legislators representing those communities thought that the state mandating it was an intrusion on the rights of those cities and towns. I also realized that regardless of whether these legislators agreed or disagreed with water fluoridation, this was a safe position to take in order to avoid the controversy surrounding fluoridation. This also may be true for local officials who may have argued for referenda in order to avoid taking a side on this controversial issue. Most American citizens would hardly criticize a position that argued that the people should decide.
Nine months after that hearing I became chair of our fluoridation subcommittee, at which time I was told that our charge was to begin to think about re-filing the legislation and improving its chances for passage. I reviewed all of the information that the previous chair had gathered including his notes. My predecessor was considered slightly radical in his views, even by his professional colleagues. He was not trained in public health like most of the “usual suspects” but was a periodontist who had spent several years looking at “Evidence Based Dentistry.” Evidence Based Dentistry promotes the practice of dentistry based on the best available scientific evidence of the treatment’s safety and efficacy rather than anecdotal evidence of the same. One would assume that this is how dentistry is practiced, but one would be surprised to learn that there is very little concrete high-level evidence for a significant number of our most common dental treatments. But, I digress. I recall one meeting that we attended together when he asked about alternatives to water fluoridation. He mentioned salt fluoridation. He asked the potential for salt fluoridation as an alternative since it could provide the “choice” that opponents were looking for. The room was silent until someone said that it wouldn’t work and then gave a quick explanation and brought the conversation back to water fluoridation. I remembered questioning in my head why it wouldn’t be possible but trusted the “experts” and moved on as well. I never mentioned it or thought about it again until just recently when I attended a conference where salt fluoridation was discussed as an approach being used in another country. I remembered that conversation and how quickly we had dismissed him. I also remembered e-mail from this same person to the Task Force that I had come across in my research for this project and told myself to retrieve it when I returned home.
My predecessor had stated, “From my perspective there were only three issues: 1. Best evidence; 2. Clinical judgment; 3. Patient values. He being an “evidence” expert stated in the e-mail that after reviewing all of the literature on the topic that he believed, “the net benefit outweighs the net deficits.” He added that he believed the best testament to the clinical experience with water fluoridation is the list of nationally and internationally recognized health authorities that recommend water fluoridation. Last, Niederman said regarding patient values,

“John Kennedy said it best in expressing “our most common link.” “We all cherish our children’s future. And we are all mortal.” “I believe both the “pros” and the “antis” would agree. Thus, in many ways, the argument comes down to whether one believes that water fluoridation honors our children’s future. I believe that it does. I also believe that the antis equally believe that it does not. Thus, all of the issues (e.g., freedom of choice, mass medication, etc.) in a sense reflect back to this central issue. I believe that we can comfortably and effectively stand on this point. (Were I to take a scientific approach to this question, my calculations indicate that water fluoridation could prevent 600,000 people in Massachusetts from having cavities.)”

He distributed the e-mail at a meeting and suggested that we needed to “shape our message from the outset.” We all read the information and ignored the approach he suggested. But we will get back to that later.

The work on fluoridation with the Task Force continued. The divide between the respective groups was apparent. Many strongly favored a local approach and others strongly favored a statewide approach. The rest of us just needed to be convinced.
Despite the differences, we continued on with our education efforts. We also believed that we needed to learn about the feelings and knowledge of the members of the Task Force on fluoridation. We conducted a survey of our own members on fluoridation, and based on those responses developed three separate training programs. One was a Fluoridation 101, for which we brought in the previous state dental director to discuss the basics of fluoridation for the entire Task Force, since some members were not in the dental professions. At another meeting we brought in an expert to discuss the safety and efficacy of fluoridation. Last, we conducted a spokespersons training in conjunction with the Massachusetts Dental Society. This was an all day training that reviewed the basic arguments of opponents and outlined the “facts” on fluoridation. All of this was done for members of the Task Force who had already said they were proponents of fluoridation.

During this time, I was in the beginning stages of researching and writing my dissertation. I had submitted several iterations of the early chapters to my advisor. In one particular version I glossed over the validity of opponents’ arguments about choice. I remember my advisor’s comment that I should think a bit more about this argument. I thought about it. Honestly, I discounted the argument, and moved on to look at the explanations offered regarding the controversy surrounding fluoridation. Later, he mentioned again that perhaps I might want to think about possibility that as Americans we place such high abstract value on individualism and individual choice that fluoridation strikes many as un-American, if not dangerous. I heard what he said but didn’t quite grasp what he was saying until a little later. Even though I had been researching and reviewing the literature on problem framing, I had failed to realize that I was having difficulty even thinking outside of my own particular personal and professional
worldviews. Strangely enough, I had always taken pride in thinking that I was able to view issues through multiple lenses. What I failed to realize was that this particular view was so entrenched that digging myself out would be difficult.

And so it was that I thought I would begin looking at the case studies and see what I would find. At the outset of this project, I believed that I would find that in successful campaigns proponents somehow did a better job framing their issue. This was partly due to the fact that in New Bedford, the referendum results were in favor of fluoridation. I knew that the Task Force’s “framing” experts had gone down and worked with their folks. Perhaps, their message was framed in such a manner as to make the campaign more successful. But I also knew that this “campaign” was very short (only two weeks) and I recalled a conversation with one of the framing folks in which she said she couldn’t convince them not to use the smiling tooth holding a toothbrush for their buttons. But I did remember that they had used a slogan on their lawn sign that tied oral health to overall health. The tagline was “Protect Your Health Vote Yes on Question 4.” This was good! Perhaps, there really were differences.

A deeper more detailed analysis ensued and for the most part the framing in these cases and in many of the others I reviewed was consistent from case to case, but very different between the proponents and the opponents of fluoridation. Did any of the other explanations that I had found in the research explain the differences in Worcester or New Bedford more definitively than the problem definition perspective? My analysis did not reveal that other explanations such as demographics or political structure could fully explain the differences. In fact, what I did find was that the concepts that I had uncovered in my review of the problem definition literature could be useful in explaining why the
issue was so unpredictable and continued to be so controversial and perhaps could be useful for obtaining better success for proponents in the future if they were to develop a message that may appeal to other values besides scientific ones.

In reviewing the fluoridation decisions in Worcester and New Bedford, I took particular note of the media coverage surrounding the referenda. Most voters in municipal elections get their information about local issues through their local newspapers. In both cities there was significant news coverage of the events surrounding the fluoride referenda as well as opinion columns, editorials and a large number of letters to the editor. In addition, advocates placed print advertisements in the newspapers. This material provided a wealth of information on the topic including the particular events and people that reporters chose for their stories and quotes from both opponents and proponents. The reporting revealed the major participants on either side of the issue. It also was telling in that it illustrated the particular frames that both the reporters and therefore the public might view this issue through. There were multiple editorials written in both communities which can often indicate the positions of policy elites in the community while the letters to the editor provided particular insight into the worldviews of those on either side of the fluoridation issue. This included how they commonly framed their issue in debate. These frames could in fact set the stage for the public’s perception of who is responsible for solving the problem and provide a cue to citizens and policymakers for what the appropriate solutions for the problem should be.

My analysis showed that the concepts outlined in the problem definition literature could be found and applied in the fluoridation cases. The analysis indicated support for the hypothesis that problem definition contributes to the explanation both of why
fluoridation remains so controversial and why campaigns by proponents may fail. I think that we would all agree that political campaigns are about emotion. The case studies indicate that proponents of fluoridation rarely insert emotion or language that link to basic high level values held by most Americans but rather try to “teach” the public about the science of fluoridation. On the other hand, opponents of fluoridation who already have the advantage of not having to advance their issue but rather raise just enough doubt to maintain the status quo, in fact do link to the basic values of liberty, security and individualism held sacred by all Americans. When proponents are successful there may have to be a “perfect storm” of factors none of which are entirely predictable or controllable. This is not to say that advocates should give up but rather rethink their strategies and determine if a new course should be charted in this effort. The data on adoption of fluoridation indicates that the number of communities that are adopting is increasing slightly but when the issue is brought to referenda it loses the majority of the time. This may indicate the “intractability” of the issue and the absolute necessity to think about both the scientific arguments for the issue as well as the moral ones and use the value arguments in public discourse. Even if proponents attempt to change the venues i.e. aim for legislation at the state level they will need to understand the strongly held beliefs of legislators. In this venue, it would appear that many legislators whether strongly believing it or not will say that fluoridation is a local issue to avoid the major conflict surrounding fluoridation. Proponents will need to persuade these legislators that this is a “state” issue worthy of their time, resources and political capital with messages that resonate with their current frames of thinking.
The Process: The Role of Issue Experts

An analysis of these and other cases clearly indicates the strong feeling of proponents of fluoridation that this is a public health issue that should be decided by public health experts. In fact, the decision to change Massachusetts law in the 1960’s clearly tried to move the decision making from the public via referenda to local boards of health. The likely intent of this decision, in line with Schattschneider’s insights on the scope of conflict, was to limit the expansion of conflict and keep the control of these decisions in the hands of public health experts. It would appear that the current mechanism for implementing fluoridation through a local board of health with the possibility of a referendum was a compromise on the part of the dental public health community. It is also possible that those advocates promoting that change did not believe that the opponents of fluoridation would necessarily be able to gather the significant numbers of signatures required to go to a referendum believing that those against fluoridation were the “lunatic fringe”.

For advocates of fluoridation, the local boards of health are the first stop in the fluoridation process. Today even the boards of health are not always in favor of fluoridation. In fact, the state group that represents all of the local boards of health in Massachusetts is not on the record in support of fluoridation. Most often though individual members of local boards of health are inclined to be supportive of fluoridation because – like me – normally they are health professionals dealing with public health issues and as such are professionally (if not personally) inclined to support public health measures. This being said, in Worcester, one member of the board of health was opposed
to water fluoridation, and for others the fluoridation issue has become so controversial that many are happy to stay away from it.

When it becomes apparent that a board is considering fluoridation the “experts” on both sides mobilize to provide them with information that ends up producing more confusion than clarity. Regardless of the fact that most members of the board are health professionals, they are unprepared and unequipped to evaluate the conflicting information provided, nor do they want to deal with the conflict. Therefore, boards are usually prompted by others to order fluoridation rather than making that decision on their own, and once ordered often do not participate much in the political process. This was the case in both Worcester and New Bedford where the Central MA Health Foundation and PACE requested board orders. Boards of Health members were quoted a few times in the newspapers but overall their participation in the debate appeared to be limited.

Though the decision to fluoridate a city’s water supply is clearly in the hands of local boards of health, city councilors responsible for the provision of the funds required for fluoridation equipment and maintenance of the system are asked to weigh in on the issue. The same kinds of conflicting expert testimony is provided to them as well causing most to want to shy away from the controversy and advocate for the referenda rather than take a side either way. Some councilors will be out in front with their positions because of their ties to those on either side of the issue and/or their strong feelings about it, but this is not the norm. Often one or two councilors will speak in favor or against the position but the majority remains quiet.

Once it becomes clear the issue is on the ballot, issue experts on either side continue to play important roles. In addition to providing scientific information to the
public and policymakers these advocates on either side of the issue come to the table with other political values and beliefs. Sometimes their arguments reflect these beliefs and sometimes the arguments are cloaked in the back and forth exchange of conflicting scientific facts.

When discussing this issue with proponents of fluoridation, they indicate that fluoridation is more likely to pass in wealthy cities and towns with residents of a higher education status. They also said that dentists were not very good at the political campaign and that a “good” campaign was necessary to win. According to them, a “good” campaign involved education of the public on the merits of fluoridation. In the cases studied, however, wealth or education did not seem to be the determinants of success, but perhaps thinking about dentists being good at the political campaign is worth a look. There are two issues with dentists being involved in the political campaign. The first issue is that most dentists have not developed the political skills needed to be successful in guiding fluoridation campaigns.

“Rationality” versus “Emotion” in Issue Framing

An even more significant issue may be the underlying values of dentists and hygienists (and other health professionals for that matter) who are trained to treat individual patients. Their training in and of itself is not conducive to an understanding of the community’s responsibility in treating oral diseases. They spend much of their time treating diseases that have already occurred and their training in prevention is often limited to teaching individual patients how to brush and floss and providing individuals with preventive treatments such as cleaning and fluoride in their offices. They are taught
that community water fluoridation is safe and effective and are provided with the scientific information to back it up but perhaps the moral reasoning that underlies community water fluoridation is not something that is engrained. Therefore, when they come out in favor of fluoridation they argue about safety and effectiveness but do not provide the necessary value arguments that would sway those undecided voters to make the change to fluoride. One strategy that may help change this is to change the training and experience of dentists to include more around population based care, which could go a long way in eliminating the chasm in thinking that currently occurs between “public health” dentists and hygienists and private practitioners.

The rational “educational” approach to debate currently used by proponents of fluoridation many of whom are dental professionals is not supported by the reality of decision-making nor has it proven particularly successful. According to George Lakoff in *The Political Mind- Why You can’t Understand 21st Century Politics with and 18th Century Brain,* the rational approach was assumed to be:

- Conscious- we know what we think
- Universal- the same for everyone
- Disembodies- free of the body and independent of perception and action
- Logical- consistent with the properties of classical logic
- Unemotional- free of the passions
- Value–neutral- the same reason applies regardless of your values
- Interest–based- serving one’s purposes and interests
- Literal- able to fit an objective world precisely, with the logic of the mind able to fit the logic of the world

According to Lakoff (and others, such as Stone),

“[I]f this is right then politics would be universally rational. If people were made aware of facts and figures, they should naturally reason to the right
conclusion. Voters should vote their interests; they should calculate which policies and programs are in their best interests, and vote for candidates who advocate these policies and programs. But voters don’t behave that way. They vote against their obvious self-interest; they allow bias, prejudice, and emotion to guide their decisions; they argue madly about values, priorities and goals. Or they quietly reach conclusions independent of their interests without consciously knowing why”.  

To Lakoff this is because “emotion is central and legitimate to political persuasion” and because “most reason is unconscious.” Unconscious thinking is “reflexive” rather than “reflective.” It is strongly affected by language and frames and it profoundly affects our morality and politics. This morality and politics cannot be changed at will but rather is deeply embedded patterns in our unconscious thought. 

These patterns of thought can be unconscious but if understood they also can be used to the advantage of issue advocates. All of the literature examining the reasons why a community may make the decision to fluoridate or make other community decisions indicates that decisions in communities differ based upon the type of issue. This suggests a relationship between the underlying thought patterns that individuals and organizations use when making those decisions. These patterns or associations may be either conscious or unconscious but are often unexamined. When examined these patterns often show dominant frames by which issues are explained by issue advocates, discussed in the media and understood by the public. These patterns may be based on ones worldview and
that worldview can transcend multiple issues. Values based on that worldview in turn can have an effect on policy decisions.

*One example*

These patterns exist in oral health discussion as well. As oral health advocates, when we advocate for community water fluoridation, we categorize this solution as a community based prevention. It is safe, effective and affordable. The problem with this argument is that for most Americans, even those who may support fluoridation, health is seen not a community issue but as an individual matter. Worse still is that oral health is often seen separate from and less important than other health issues. Oral health is often understood only as a problem of cavities and worse still as a cosmetic problem. This issue is exacerbated by the popular media around “teeth” which includes extensive information on “whitening” and “invisible” braces and many advertisements for personal products such as toothpastes, toothbrushes, mouth rinses that only enforce the notion that oral health is an individual issue.

So personal oral hygiene, not a community- based program, is the solution. Both the literature and the polling data from Worcester indicate that people do not often associate oral health with other health issues and when asked prioritize it behind many other health issues. The classic definition of this issue then clashes with the solution presented. Therefore there is a need to redefine the issue of oral health as a community issue if fluoridation or any other community solution is to be proposed.

Rochefort and Cobb indicate, “Issue definition and redefinition can serve as tools used by opposing sides to gain advantage. To restrict participation issues may be defined in procedural or narrow technical terms while to heighten participation, issues should be
connected to sweeping social themes such as justice, democracy and liberty.” Driven by their worldview, proponents of fluoridation continue to discuss the issue in technical terms. They may not realize that this may constrict expansion of the issue allowing opponents to expand the issue on their own terms making it appeal to larger and different audiences. For example, opponents have linked their arguments to primary American values of choice and limited government, which may expand their appeal and bring in supporters who may not have been inclined to be opposed fluoridation of their water.

In addition, by limiting the argument to technical arguments based on the scientific facts, proponents leave themselves open to another problem associated with technical issues. Those opposing fluoridation have experts on their side too. These experts proclaim that they have scientific evidence that conflicts with the facts as represented by proponents. In such instances, says Dorothy Nelkin, “Expertise is reduced to a weapon in the political arsenal of competing groups”. She continues:

The political role of expertise in these disputes calls attention to areas of technical ambiguity. The very existence of conflicting technical interpretations generates political activity. And the very fact that experts disagree- more than the substance of their disputes-may fire protest and encourage demand for a greater public role in technical decisions”.

Any ambiguity about risks with a technology discussed by experts is also reported by the media. According to Nelkin, “journalists emphasize competing interests disputed data, and conflicting judgments, and then turn to science as the arbiter of truth. Trying to
balance opposing positions, the media seldom explore the scientific issues involved in risk disputes or the methods of risk analysis that would provide a basis for meaningful judgments about competing claims.” This type of reporting was demonstrated clearly in the news coverage of both Worcester and New Bedford.

Let me be clear: I personally believe that proponents of fluoridation have science on their side. I believe that the evidence available shows fluoride to be both safe and effective. My point here is that this should not be the central argument used in support of fluoridation. In fact, in the public discourse surrounding issues like fluoridation technical arguments play a significant role. This is true even when the issue may really be about political values. She also suggests that there is not much evidence to suggest that technical arguments change anyone’s mind. This is because no amount of data can resolve the underlying conflict and that the positions of the groups are based on well–entrenched beliefs.

In fact, in the case of fluoridation – as with most issues of scientific and technical complexity – more knowledge does not necessarily lead to a change of heart. The majority of people remain with their initial position even after getting extensive information challenging it. This was demonstrated in the California dialogues around fluoridation and also seems to be demonstrated in the polling information from Worcester. This may be support for the fact that this is not just a scientific argument but about opposing worldviews and value judgments and/or that if the science is not complete or understandable one reverts to make decisions based on emotion.

Nelkin also acknowledges that claims about values may be a tactic to gain support but regardless all of us have basic values by which we filter most of our decisions. By
bringing out the aspects of a decision that may relate to common values that most of us hold dear, issues advocates increase the likelihood of support for their position. This appeal to values is central to all political campaigns but often neglected by "scientists” advocating for their issues.

The problem definition literature also stresses the importance of language, symbols and rhetoric in the portrayal of problems and the associated impact this portrayal has on policy discourse and chosen solutions. Rochefort and Cobb outline categories of problem definition claims that are recurrent across different policy areas and may have an impact on the policymaking process. These claims were also found in the fluoridation cases. They include:

**Causality.** Rochefort and Cobb state, “The question of culpability is one of the most prominent of all aspects of problem definition noting that one important distinction is whether the cause of a problem is attributed to individual or impersonal causes.” They add, “Much of the traditional debate between liberalism and conservatism can in fact be explained by the stress given these two competing perspectives.” In the fluoridation cases, proponents clearly blame a failure of the political system. One argument used often in both cases was that poor individuals did not have access to the same dental care as middle class or more affluent individuals because there were so few dentists accepting Medicaid. Those opponents of fluoridation more often placed the blame on parents or children (although not always outwardly) by promoting oral health education and distribution of toothbrushes and or floss implying that the oral health problem could be solved if only people took better care of themselves. These same perspectives can be noted in many areas of health care. One that stands out is obesity where often individuals
are blamed for their predicament while other causes such as the lack of healthy lunch choices in schools, the cost of fresh fruits and vegetables compared to the convenience and low cost of fast foods. Recently, advocates have been able to change this perception of causality to some extent. Without this redefinition, the banning of trans fats in some cities would have been nearly impossible.

Although some of these arguments surrounding causality may be helpful to ones cause it can also be counterproductive. This may have been true in the fluoride cases especially in Worcester where it was so often stressed that fluoridation was necessary because of the major problems with the state’s Medicaid program. Although this was true, opponents used this argument to their advantage by redefining the problem as one of “greed” due to the fact that local dentists were unwilling to treat the poor and suggested that increasing the number of dentists would solve the problem. This argument may have been helpful to the reform of the Medicaid program but may not have been helpful in promoting fluoridation.

Severity Incidence and Crisis. It is likely that problems that are considered to be severe will be more likely to be taken up on the agendas of government officials. The severity of a problem is used to capture attention of officials but the severity of a problem is also something that is often debated in public discourse. Different terms can be used to describe the severity of a problem. In the fluoridation debate in both Worcester and New Bedford, the term “crisis” was used often. Another term used to describe the severity of the oral health problem was the term “silent epidemic”, which conveyed a sense of urgency similar to other health problems such as influenza or AIDS that have also been described as epidemics.
It is interesting to note that although the problem of poor oral health had been labeled a crisis, the rate of decay in the U.S. had actually gone down as a whole at that time. The crisis was actually in the poorer populations that did not have access to dental care. The terms “crisis” and “silent epidemic” in relation to oral health were terms first used in the Surgeon General’s Report on Oral Health in 2000 and the terms seemed to “stick” with many advocates for oral health who repeat them to this day. However, using this term too often neglects the dilemma that for average citizens their own oral health or that of their friends is not likely anywhere near what they would consider to be the crisis stage. Therefore, this label may not only not resonate with them but also may inadvertently create a climate of mistrust.

Also an issue of severity is the notion of preventing oral health problems versus the claims of potential risk asserted by opponents of fluoridation. Generally speaking, proponents of fluoridation do not link their arguments to health impacts that may be exacerbated by poor oral health or the potential deadly effects of oral problems that are not treated. Therefore most generally accept that fluoride prevents cavities but do not extend that prevention to other more serious health issues like infections from decayed teeth which can lead to death. Opponents of fluoridation always link fluoridation to other major health issues such as cancer. In evaluating the two messages, the average person could likely stick with the status quo (no fluoridation) rather than make a change perceived to be risky with no particular benefit to them.

*Problem Populations and Proximity.* Fluoridation campaigns often focus on the benefits of fluoridation for children and even more specifically the benefits for poor children. This was true in the arguments presented in both Worcester and New Bedford. This focus on
children may have an upside since according to Rochefort and Cobb some populations may be considered to be more “deserving” and “sympathetic” and children may be one of those groups. However, according to a Frameworks memo by Susan Bales, the news media rarely connects children’s issues to public policies, whereas parental responsibility is a recurring theme. She states that children’s issues “privatize” easily, with parents the most likely solution to a child’s needs while systemic reforms, public health remedies, and legislative responses are rarely considered.

Focusing on poorer populations may actually have a negative effect on outcomes as well. According to Bales, “The idea of the ‘bad or irresponsible parent’ as the major stumbling block to well-being is a deeply held conviction by Americans of all political persuasions, and Americans can rally to supporting those parents who demonstrate that they are trying hard, working hard and therefore worthy.” But, she says, using this argument may lead to solutions such as “volunteerism, health education, sporadic programming, and social marketing because this type of persuasion does little to advance the understanding of the need for systemic reforms and public policies to support children and families. She also adds that linking the issue with poor or minority families does little for those who already believe that these families are in the positions they are in due to a lack of ambition to work and irresponsibility rather than a problem with the system or government programs.

In fluoridation fights advocates often propose community water fluoridation as a solution and offer facts surrounding the disparities that exist in oral health for minority and poorer populations versus more affluent ones. They also present facts regarding the inability of those with Medicaid to find a dentist willing to accept their insurance. These arguments may in fact reinforce the individual responsibility frame
and reinforce the notion that the solution for the problem would be increased responsibility by the parent to both “work” so that they could pay for their services and to provide better “parenting” to include better nutrition and increased brushing and flossing.

Some advocates for fluoridation recommend “educating” the public on the benefits of fluoridation for adults as well. Although it is true that adults benefit from water fluoridation, it has long been proposed for the benefit of children. This is mainly because until recently its primary mechanism of action was believed to be during tooth formation. In fact, most people still believe this. More recently, researchers have stated that they believe the benefit is “topical” rather than “systemic” and that the benefit from fluoride comes from the teeth bathing in saliva, which contains the fluoride. In Worcester, consultants recommended that proponents focus on educating the elderly of the benefits thinking that if something like fluoridation is directly in the best interest of someone that they would be more likely to support it. Although this may be true this message is new to most and may take time for the public to understand and believe. It is also clear that the direct benefit to oneself or one’s own oral health is not the only consideration being made by voters in a fluoridation referendum or any other referendum. If that were the case, most elderly would have a hard time voting for Proposition 2½ overrides in Massachusetts, which are most often used to pay for schools. In those cases, proponents most often do make the case that children are our future and that without schools all of us would need to contend with higher crime, larger welfare roles etc..

*Instrumental vs. Expressive Orientations.* Rochefort and Cobb also discuss the differences between an instrumental and an expressive orientation. When two sides differ in the importance they place on the means versus the end in public decisions, issues can
become extremely controversial. This is true in the fluoridation debate. There are usually two debates that take place simultaneously during this type of debate. There are the scientific arguments between the camps with both sides presenting facts and figures that the other side contends are not accurate, believable or even could be outright lies. And then there are the value arguments, with the opponent group most often presenting their arguments for choice alongside the scientific arguments. Proponent groups may try to insert values by talking about the poor children who don’t have access to a dentist but mostly they will present the facts.

Often the opponents have a “better story” to tell or at least one that has emotional appeal and their value arguments work in preventing fluoridation. Other times the arguments do not work. When they don’t it may be that there are other values in play in that particular community.

In Worcester, the opponents succeeded. This may be due partly to the ability of opponents to appeal to other values or beliefs. Through the media, opponents were able to portray the Central MA Health Foundation as “big business” trying to control the personal lives of the citizens of Worcester with their wealth. This along with the scientific arguments raised enough doubt with voters that they rejected fluoridation.

In New Bedford, although both the instrumental and expressive perspectives were clearly visible in the early quotes of proponents and opponents in the media, the opponents were not successful in persuading voters to deny fluoridation in the referendum. Perhaps this was because in New Bedford there were some factors that may have helped proponents, whether planned or unplanned. The first was a short period of
back and forth between the groups (prior to the home rule petition). The second possibility was that there was no signature drive to allow opponents to frame the discussion. Lastly, there was a very short formal campaign. This may not have given the opponents time to organize and redefine the issue or the initiating group.

Also, for a few years in New Bedford other community solutions such as sealant clinics had been implemented. The newspaper had reported on the oral health problem as well the solutions being implemented. Perhaps, this increased the public’s perception of the magnitude of the problem and the importance of the issue. The solutions that had already been implemented were community based so perhaps there was already some history that helped in reframing this as a public issue with public solutions.

Although it may be easy to see the pitfalls that issue advocates are up against when you are conducting an analysis of campaigns or community decisions it is far harder to see when you are involved in promoting an issue that you believe in. In fact, Cobb and Ross make a strong point in support of the importance of using words, images and cultural strategies in an issue campaign. They state:

“A key to a successful issue campaign, whether promoting or deflating a cause, is the use of words and images that summarize a point of view. Here is where the use of symbols and cultural strategies comes into play. These factors have not received significant attention in the battle between initiators and opponents. We contend that this is a strategic skill that makes opponents difficult to defeat. In fact one of the problems for initiators is that they lack the skill to package an issue
in cultural terms that will appeal to large numbers of people. Those that are successful are skilled in problem definition. In addition to money, access, and experience, there is a battle for the “hearts and minds” of the public, which occurs at a cultural level”. 318

For this reason, it is important for advocates to take a step back and reflect on their issue, their goals and the potential solutions that exist for solving the problems and be strategic in the advancement of their issue.

Issue proponents sometimes wonder why public opinion often seems to overwhelmingly supportive of fluoridation yet it fares so poorly in public referenda. The literature and research suggest that there may be several reasons for this. One potential cause may be that oral health as a public issue and as a part of public discourse is virtually unknown and that perhaps what support there for policies is shallow and susceptible to reframing. The media coverage, public opinion polling and testimony presented in public discourse on fluoridation appear to be in alignment with the concepts Morgan has identified as the shared elements of the cognitive model of oral health. As stated in a previous chapter, these include:

1. Cavities are the primary effect. This was found throughout the media coverage, the letters to the editor and testimony of those on both sides of the issue.
2. The primary responsibility lies with parents. This also element also was seen throughout the coverage and not only from the perspective of opponents.
Proponents inadvertently present arguments for education and personal responsibility while failing to present community models.

3. There is an expectation that schools will be involved. It appeared that the expectation was that schools should be involved in the educational process surrounding oral health versus actual prevention programs in schools although this element was less common and clear in the cases reviewed.

4. This is part of a larger health picture. Many people do not see oral health as a part of an overall health picture unless prompted making it important for proponents to reinforce this element. In the cases reviewed, they rarely do.

5. Children’s oral health is part of a wider community concern. The research suggests that this element is weaker than others and needs to be cultivated carefully.  

The research also suggests that media coverage is episodic versus thematic and advocates for issues must build frames that are thematic in order to promote their issues. They also extend some framing strategies and provide the five most common mistakes in public interest campaigns. Proponents of fluoridation interested in promoting their issue may want to review these common mistakes.

They include the following mistakes, which at first glance it appears proponents make each and every mistake included on the list:

1. The policy is the message.

2. The public opinion is the message.

3. The message is a slogan or silver bullet.

4. All people need are the facts, or more facts.
5. All we need to do is think like journalists.

On the other hand, from a framing perspective successful campaigns should have certain elements in place. These include clearly identifying the need or issue that the campaign purports to address and that that issue needs to be a problem the community cares about. Clearly, proponent campaigns as reflected in media coverage of the issue often spend more time discussing the proposed solution than the problems it aims to address. Even the consultant hired in the Worcester campaign after reviewing the benchmark polling suggested that the first message that needed to be conveyed in the campaign was that dental disease is a real problem and is totally preventable. At that stage the message should not include fluoride or crisis, and should be about “bad teeth” and the human and financial costs of bad teeth.” She even suggested that the op-eds are about the problem, not the solution. One upside for proponents is that since 2001 issue advocates for oral health have implemented the “Watch Your Mouth” campaign, which is about increasing awareness of the oral health problem and gaining support for community solutions. It is yet to be determined what impact this campaign will have on future fluoridation campaigns.

The Virtue of Ambiguity

Other elements for a successful campaign include choosing messages, messengers, visuals and symbols that are ambiguous so that they can connect with broader thoughts and policies. According to Stone, “Ambiguity enables the
transformation of individual intentions and actions into collective results and purposes. Ambiguity allows leaders to aggregate support from different areas for a single policy and brings together people with wishes for different policies. Ambiguity helps individuals reconcile their own ambivalent and inconsistent attitudes so that they are able to give support to certain policies.” She explains, “Most people do not have a coherent and logically consistent set of beliefs about policy issues and choices and sometimes by emphasizing the symbol instead of the practice, advocates can get support for a policy when people hold contradictory views.” Ambiguity allows people to read different meaning into words.320

One example of a strategy that may lack ambiguity is the choice of dentists as spokespersons or messengers for fluoridation campaigns. For example, using other health professionals may link the issue to overall health and using school nurses and/or teachers may link the issue to schools and a child’s ability to learn and be a productive member of the community. For that matter even the description of a problem as one that affects learning and productivity is ambiguous enough that it may help expand the support for the policy. Clearly, using cartoon teeth or a sparkling smile as a visual for any materials distributed does not advance ones assertion that oral health is a serious problem. The “Watch Your Mouth” campaign often uses children in a classroom as the visual for their materials that were developed to increase awareness of the issue of children’s oral health and also to advance public policies to improve it. This campaign is a change in thinking for dental health professionals and others advocating for dental issues. It is a refreshing change for some us offering hope for success in advocating for our issues. It is considered an inconvenience by others who feel more comfortable with the “facts”.
A policy advocate’s final thought

As “public” health experts and oral health professionals we must begin to realize that this issue is political. Any public program is. Over the years we may have been happy to stay out of the “political world” because it allowed us control and autonomy of our “dental world”. But as times change we must also evolve or we will be lost in a world in which the problems get more complex and advocates get more competitive. I do not suggest that we forget about facts. It is our obligation to the public to continue to explore and confirm the safety and efficacy of fluoridation as well as any other new breakthroughs. I also do not suggest that an ambiguous message is all that is needed. What I do suggest is that whatever path we choose to take whether it is local or statewide we will need to do our homework.

We have developed a strategic plan for the Task Force around increasing the number of cities and towns in Massachusetts that are fluoridated. The goal of the group was developed by consensus in a strategic planning process in the fall and winter of 2007-2008. The final goal was “Support local Boards of Health, decision makers, and communities, as they emerge; proactively work with strategic communities toward fluoridation; educate local and statewide agencies and organizations with the goal of a statewide fluoridation bill when appropriate. Develop benchmarks to define what “when appropriate” means and to aim for those benchmarks.” It seems that in order to achieve consensus even our small group used ambiguity as a tool. We have yet to define what “when appropriate” means exactly. But maybe that is ok. You can be sure it means
different things to different people. For us, ambiguity was the glue that kept our group
together working toward our common goal.

What I am hoping is that as a group that we come to believe that we need a
change in tactics and that we realize that persuasion is key. In our minds we need to
exchange the term education with persuasion. We will need to use all of the tools
available to us-messages, messengers, symbols, facts, and stories to make our case. We
will still need leaders, grassroots organization and dedicated people and monetary
resources to achieve our goal. But the real change we need is moving beyond “facts” into
the world of ideas.
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