

Water Fluoridation in Massachusetts: A Thirty-Year Review

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Water fluoridation is one of the most cost-effective preventive measures in dentistry. This report provides the history and political nature of water fluoridation in Massachusetts since the new fluoridation law was enacted in 1968.

Water fluoridation, the most cost-effective preventive measure in dentistry, began as a politically contested issue in Massachusetts in the 1950s. The political nature of water fluoridation in Massachusetts was highlighted when the compulsory referendum law on fluoridation was enacted in 1958.¹ This law required a public referendum before a local Board of Health could order fluoridation. Coupled with the self-governing autonomy of each of the 351 communities in Massachusetts, the law allowed the antifluoridationists to be successful in stopping fluoridation from being implemented.¹

From 1958 to 1967, 37 communities had referenda, with 19 (51 percent) winning and 18 (49 percent) losing.² Only five (26 percent) out of the 19 winning communities implemented fluoridation.¹ In 1967, Massachusetts was ranked 48th in the nation with only 442,000 people or 8.2 percent of its population living in fluoridated communities.³

In 1966, the Special Legislative Commission on the Condition of Dental Health was established by the Massachusetts legislature to study the prevalence of dental disease and ways to improve the dental health of school age



and pre-school age children. The Special Commission advised that the compulsory referendum law of 1958 be repealed and water fluoridation be ordered by the local Board of Health on the recommendation of the State Commissioner of Public Health.⁴ The Legislative Commission filed this recommendation as a bill in 1967.¹

After an arduous, successful educational campaign by the dental and public health community, the bill passed in the state legislature and Governor John Volpe signed the new fluoridation law in 1968. This new law allowed a local Board of Health to order fluoridation based on the recommendation of the State Commissioner of Public Health. If 10 percent of a community's registered voters signed a petition within 90 days of the publication of the order, the fluo-

ridation order had to be placed on the ballot for a vote at the next city, town, or district election. This law has remained essentially intact for the last 30 years.

Purpose and methodology

The purpose of this study is to provide a detailed summary of the status of community water fluoridation in Massachusetts since the new fluoridation law was enacted in 1968. The dates of

fluoridation orders and implementation of fluoridation in five-year intervals from 1968 through 1997 were reviewed, summarized, and analyzed. Significant terms used in the study are defined as follows:

Fluoridation order: When a local Board of Health orders fluoridation for its community based on the recommendation of the State Commissioner of Public Health.

Fluoridation implementation: The actual introduction of fluoride into a community's water supply. A community may order fluoridation one year, but not implement it until several years later because of construction, funding, or community inertia.

Binding referendum: A vote by a community's registered voters that is legally binding.

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FIGURE 1

Community	Population	Yr. Fluoridated	Fl. Population	Yr. Ordered	Referendum
Acton	17,872	1970	same	1968&69	1970*
AGAWAM	27,323	-	-	-	1983
AMESBURY	14,997	1968	same	-	-
Amherst	35,228	1987	same	1984	1984*
Andover	29,151	1969	same	1969	1970*
Arlington**	44,630	1978	same	1969	-
Ashburnham	5,433	1957	same	-	-
Athol	11,451	1952	same	-	-
ATTLEBORO	38,383	1973	same	1970	-
Ayer(Ft.Devens)(p)	6,871	-	-	1986	-
Bedford	12,996	1978	same	1980	-
Belmont**	24,720	1978	same	1970	-
BEVERLY	38,195	1952	same	-	-
Billerica	37,609	1992	same	1969	-
BOSTON**	574,283	1978	same	1970	-
Bourne(Otis)(p)	16,064	1960	5,000(E)	1969	-
Braintree	33,836	-	-	1972	1972*
BROCKTON	92,788	-	-	1972	-
Brookline**	54,718	1978	same	1970	-
Burlington	23,302	1993	same	1988	1988@
CAMBRIDGE	95,802	1974	same	1972	-
Canton	18,530	1978	same	1971	1972*
Charlton(p)(pfn)	9,576	1996	300(E)	-	-
Chelmsford	32,383	-	-	1968&73	1974#&81
CHELSEA**	28,710	1978	same	1970	-
CHICOPEE	56,632	-	-	1969&83	1969#&83#
Cohasset	7,075	1956	same	-	-
Concord	17,076	1970	same	-	-
Danvers	24,174	1951	same	-	-
Dedham	23,782	1977	same	1973	1974*
Dighton(p)	5,631	1971	2,200(E)	-	-
Dracut	25,594	1982	same	1983	-
Dudley(pfn)	9,540	-	45(E)	-	-
Duxbury	13,895	1987	same	1971, 80&84	1972*, 80@#&85*
E.Bridgewater	11,104	-	-	1969	-
Easton	19,807	-	-	1970&86	1971#&87#
Essex	3,260	1970	same	1952	-
EVERETT**	35,701	1978	same	1970	-
Fairhaven	16,132	-	-	1972	-
FALL RIVER	92,703	1973	same	1968	-
FITCHBURG	41,194	1975	same	1969	-
Framingham**	64,989	1970	same	1969	1970*
FRANKLIN	22,095	1970	same	1969	-
GARDNER	20,125	1987	same	1974&85	1975#
GLOUCESTER	28,716	1981	same	1969&77	1969#&79*
Greenfield	18,666	-	-	1974	1974#
Groveland	5,214	1995	same	1969&86	1970#&87*
Hamilton	7,280	1956	same	-	-
Hanover	11,912	-	-	1968	1970#
HAVERHILL	51,418	1971	same	1969	-
Hingham	19,821	1953	same	-	-

^ Charlton is partially fluoridated naturally in one of its water systems and is partially fluoridated in another of its water systems because of a shared water supply.

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Advisory referendum: A vote by a community's registered voters that is not legally binding and advisory only.

Information was obtained from the Massachusetts Department of Public Health, the Secretary of State, the Boston Public Health Commission, and direct communication with the communities.

Major findings

By the end of 1997, there were 121 communities in Massachusetts with community water fluoridation serving 3,523,615 people (see Figure 1). Eleven of the 121 communities are partially fluoridated due to a shared water supply with a community which had become fluoridated (see Figure 2). Three of these 11 are naturally partially fluoridated.

In 1967, according to the 1990 United States census, there were 385,542 people in 25 communities with fluoridation. Three of these communities were naturally partially fluoridated and one was partially fluoridated due to a shared water supply (see Figure 3). From 1968 to 1997, there were 135 fluoridation orders by 112 communities, of which 78 communities implemented fluoridation from fluoridation orders. Eleven other communities implemented fluoridation, but their order date was unknown, and seven others became partially fluoridated because of a shared water supply. Another community was naturally partially fluoridated in one of its water systems and became partially fluoridated in another of its water systems because of a shared water supply. These 96 communities added 3,138,073 people to the 385,542 people in the 25 communities fluoridated before 1968, for a total of 3,523,615 people in 121 communities by the end of 1997.

From 1968 to 1997, there were 67 (49.6 percent) binding referenda from the 135 fluoridation orders, with 30 (45 percent) winning and 37 (55 percent) losing the vote. Seventy-eight (58 percent) of the 135 orders were successfully implemented. For a complete summary of fluoridation activity by five year time periods from 1968 to 1997, see Figure 4.

Also during these years, the average

Community	Population	Yr. Fluoridated	Fl. Population	Yr. Ordered	Referendum
Holbrook	11,041	-	-	1970&82	1971#&83#
Holden	14,628	1995	same	1969&88	1970#
Holliston	12,926	1970	same	1969	-
HOLYOKE	43,704	1970	same	-	1973!
Hopedale	5,666	-	-	1969	-
Hudson	17,233	1985	same	1968&82	-
Hull	10,466	1953	same	-	-
Ipswich	11,873	1971	same	1969&70	1970#&71*
LAWRENCE	70,207	1983	same	1981	-
Lenox	5,069	-	-	1984&88	1984#&88#
LEOMINSTER	38,145	-	-	-	1979!
Lexington**	28,974	1978	same	1969	-
Lincoln	7,666	1971	same	1969,70&71	1970#&71*
Longmeadow	15,467	1989	same	1986	1986*
LOWELL	103,439	1982	same	1974	-
LYNN	81,245	1983	same	1969	-
Lynnfield**	11,059	1972	same	1970	1971*
MALDEN**	53,884	1978	same	1970	-
Manchester	5,286	1983	same	1981	1982*
Mansfield	16,568	1997	same	1991	-
Marblehead**	19,971	1978	same	-	-
MARLBOROUGH	31,813	1982	same	1980	1980*
MEDFORD**	57,407	1978	same	1971	-
Medway	9,931	1953	same	-	-
MELROSE**	28,150	1978	same	1970	-
Mendon	4,010	-	-	1969	-
METHUEN	39,990	-	-	1981	1981#&97!
Middleborough	17,867	-	-	1985	1986#
Middleton	4,921	1951	same	-	-
Milford	25,355	-	-	1969	1970#
Millis	7,613	1983	same	1985	1985@
Milton**	25,725	1978	same	1971	-
Nahant**	3,828	1978	same	-	-
Natick	30,510	1997	same	1968, 80&88	1981#, 88*&97!
Needham**	27,557	1971	same	1969	1970*
NEW BEDFORD	99,922	-	-	1972	1973*&79#
Newbury(p)	5,623	1969	1,000(E)	-	-
NEWBURYPORT	16,317	1969	same	-	-
NEWTON	82,585	1963	same	1963	-
N.ADAMS	16,797	-	-	1971	1971*
NORTHAMPTON	29,289	-	-	1973	1973@&74#
N.Andover	22,792	1975	same	1972	1972*
N.Attleboro(p)	25,038	1973	2,000(E)	1982	1982#
N.Reading	12,002	1971	same	1968	-
Norwood**	28,700	1978	same	1971	-
Oak Bluffs	2,804	1991	same	1986	-
Oxford	12,588	1987	same	1985	-
PEABODY	47,264	1983	same	1969	-
Pembroke	14,544	1969	same	1968	-
Pepperell	10,098	-	-	1984	1984#
QUINCY	84,985	1978	same	1970	-

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amount of time for a community to implement fluoridation after the order from the local Board of Health was seven years, with a range of less than one year to 29 years. Therefore, most communities who ordered during one five-year period did not implement until the next five-year period. Sixteen communities with a total population of 534,626, ordered and did not implement fluoridation (see Figure 5). The following text reviews the fluoridation orders of each five-year period, and the years of referenda and fluoridation implementation.

1968 to 1972

Seventy-eight communities with a total population of 3,213,869 ordered fluoridation during this time period. Acton, Ipswich, and Worcester all ordered twice while Lincoln ordered three times, giving a total of 83 orders. Thirty-three (40 percent) of the 83 orders had 34 binding referenda contests, with 18 (53 percent) winning and 16 (47 percent) losing the vote. (New Bedford had one order and two referenda due to a court decision, with a win in the first referendum and a loss in the second). Eventually, 49 (59 percent) of the 83 orders made during this time period were implemented, adding 2,251,638 people to those in fluoridated communities.

From 1968 to 1972, 24 communities with a total population of 545,465 implemented fluoridation based on fluoridation orders before 1968 and during this time period (see Figure 1). Three other communities (Dighton, Newbury, and West Newbury) became partially fluoridated, adding an estimated 5,700 people to those in fluoridated communities because of a shared water supply. A total of 551,165 people were added to those in fluoridated communities during 1968 to 1972.

1973 to 1977

Eight communities with a total population of 306,232 ordered fluoridation during this time period. Six (75 percent) of them had binding referenda, with two (33 percent) winning and four (66 percent) losing the vote. Ultimately,

Community	Population	Yr. Fluoridated	Fl. Population	Yr. Ordered	Referendum
Randolph	30,093	-	-	1970	1971*&83l
Reading	22,539	1970	same	1968	-
REVERE**	42,786	1978	same	1970	-
Rockport(pfn)	7,482	1984	same	1969&81	-
1970#,81@&82*					
Royalston(pfn)	1,147	-	400(E)	-	-
Rutland	4,936	1985	same	1984	-
SALEM	38,091	1952	same	-	-
Saugus**	25,549	1978	same	-	-
Scituate	16,786	1954	same	-	-
Seekonk	13,046	1952	same	-	-
Sharon	15,517	1953	same	-	-
Shrewsbury	24,146	1953	same	-	-
Shirley	6,118	-	-	1970	-
Somerset	17,655	1969	same	-	-
SOMERVILLE**	76,210	1978	same	1970	-
Southboro	6,628	1996	same	1993	-
SOUTHBRIDGE	17,816	1971	same	1969	-
SRINGFIELD	156,983	-	-	1969&83	1969#&83#
Stoneham**	22,203	1978	same	1970	-
Stoughton	26,777	-	-	1982&86	1982#&87#
Sturbridge	7,775	1990	same	1985	-
Sudbury	14,358	1960	same	-	-
Swampscott**	13,650	1978	same	1971	-
Swansea	15,411	1969	same	-	-
TAUNTON	49,832	1981	same	1973	-
Templeton	6,438	1951	same	-	-
Tewksbury	27,266	1983	same	1983	1984*
Topsfield	5,754	1953	same	-	-
Tyngsborough(p)	8,642	1987	5,000(E)	-	-
Wakefield**	24,825	1978	same	1970	-
Walpole	20,223	1977	same	1972	-
WALHTAM**	57,878	1978	same	1970	-
WATERTOWN**	33,284	1971	same	1969	1970*
Wayland	11,874	-	-	1969	1970#
Wellesley	26,615	1987	same	1969&84	1970#&84*
Wenham	4,212	1967	same	-	-
Westborough	14,133	1974	same	1969	-
WESTFIELD	38,372	-	-	1985	1985#
Westford	16,392	1994	same	1988	-
Westminster	6,191	1968	same	-	-
W.Newbury(p)	3,421	1969	2,500(E)	1986	-
Weston**	10,200	1973	same	1969	-
Westwood	12,557	1977	same	1972	-
Weymouth	54,063	1972	same	1969	1970*
Whitman	13,240	-	-	1972	1974*
Wilbraham	12,635	-	-	1986	1986#
Winchendon	8,805	-	-	1969	1970*
Winchester	20,267	1956	20,267	1956	-
Winthrop**	18,127	1978	same	-	-
WOBURN(p)**	35,943	1978	7,325(E)	-	-
WORCESTER(p)	169,759	1995	250(E)	1969,71&96	1971#&1996#

Key - Figure 1

CITIES ARE CAPITALIZED

- * winning binding referendum
- # losing binding referendum
- @ winning advisory referendum
- l losing advisory referendum
- does not apply
- ** under Massachusetts Water District (MWD) Authority
- (p) partial fluoridation
- (pfn) partially fluoridated naturally
- (E) estimated population.

four (50 percent) of the eight orders were implemented during 1973 to 1977, adding 205,769 people to those in fluoridated communities.

From 1973 to 1977, ten communities with a total population of 371,769 implemented fluoridation based on fluoridation orders before 1973 and during this time period (see Figure 1). North Attleboro became partially fluoridated, adding an estimated 2,000 people to those in fluoridated communities because of a shared water supply. A total of 373,769 people were added to those in fluoridated communities during 1973 to 1977.

1978 to 1982

Twelve communities with a total population of 292,538 ordered fluoridation during this time period. Nine (75 percent) had binding referenda, with three (33 percent) winning and six (66 percent) losing the vote. Of these 12 communities, six (50 percent) orders were implemented, adding 145,017 people to those in fluoridated communities.

From 1978 to 1982, 30 communities with a total population of 1,646,534 implemented fluoridation based on fluoridation orders before 1978 and during this time period. Woburn became partially fluoridated, adding an estimated 7,325 people to those in fluoridated communities because of a shared water supply. A total of 1,653,859 people were added to those in fluoridated communities during 1978 to 1982. The high number of implementation was due to the efforts put forth by a committee, started in 1969, for

FIGURE 2

Communities that are partially fluoridated due to a shared water supply

Community	Population	Fl. Population	Yr. Implemented
Bourne(Otis)(p)	16,064	5,000(E)	1960
Charlton(p)(pfn) [^]	9,576	300(E)	1996
Dighton(p)	5,631	2,200(E)	1971
Dudley(pfn)	9,540	45(E)	-
Newbury(p)	5,623	1,000(E)	1969
N.Attleboro(p)	25,038	2,000(E)	1973
Royalston(pfn)	1,147	400(E)	-
Tyngsborough(p)	8,642	5,000(E)	1987
W.Newbury(p)	3,421	2,500(E)	1969
WOBURN(p)	35,943	7,325(E)	1978
WORCESTER(p)	169,759	250(E)	1995
TOTAL:	290,384	26,020	

FIGURE 3

Communities that implemented fluoridation before 1988

Community	Fl. Population	Yr. Fluoridated
Ashburnham	5,433	1957
Athol	11,451	1952
BEVERLY	38,195	1952
Bourne(Otis)(p)	5,000(E)	1960
Charlton(p)(pfn)	300(E)	1996
Cohasset	7,075	1956
Danvers	24,174	1951
Dudley(pfn)	45(E)	-
Hamilton	7,280	1956
Hingham	19,821	1953
Hull	10,466	1953
Medway	9,931	1953
Middleton	4,921	1951
NEWTON	82,585	1963
Royalston(pfn)	400(E)	-
SALEM	38,091	1952
Scituate	16,786	1954
Seekonk	13,046	1952
Sharon	15,517	1953
Shrewsbury	24,146	1953
Sudbury	14,358	1960
Templeton	6,438	1951
Topsfield	5,754	1953
Wenham	4,212	1967
Winchester	20,267	1956
TOTAL:	385,692	

Key - Figures 2 & 3

CITIES ARE CAPITALIZED

(p) partial fluoridation

(pfn) partially fluoridated naturally

(E) estimated population

- does not apply

[^] Charlton is partially fluoridated naturally in one of its water systems and partially fluoridated in another water system because of a shared water supply.

regional fluoridation in greater Boston.⁵

The Boston Water System was a part of a larger distribution system—the Metropolitan Water District (MWD)—which served about 2 million people in 33 municipalities within 15 miles of Boston.⁵ Because of its practicality and economic benefits, a regional approach to fluoridation was pursued and implemented.⁵ Communities under the MWD authority are denoted ** on Figure 1.

1983 to 1987

Twenty-four communities with a total population of 559,652 ordered fluoridation during this time period. Fifteen (63 percent) had binding referenda, with six (40 percent) winning and nine (60 percent) losing the vote. Of the 24 orders, 13 (54 percent) were implemented, adding 205,120 people to those in fluoridated communities.

From 1983 to 1987, 14 communities with a total population of 376,983 implemented fluoridation based on fluoridation orders before 1983 and during this time period (see Figure 1). Tyngsborough became partially fluoridated because of a shared water supply, adding an estimated 5,000 people to those in fluoridated communities. Thus, a total of 381,983 people were added to those in fluoridated communities during 1983 to 1987.

1988 to 1992

Six communities with a total population of 106,469 ordered fluoridation during this time period. Two (33 percent) had binding referenda, with one (50 percent) winning and one (50 percent) losing the vote. Ultimately, five (83 percent) orders were implemented out of the six that were issued during 1988 to 1992, adding 101,400 people to those in fluoridated communities.

During this time period, four communities who ordered fluoridation before 1988 also implemented it, adding 63,655 people to those in fluoridated communities.

FIGURE 4

Summary of Massachusetts fluoridation activity by five year time periods from 1968-1997

	# Orders	Binding Referendum	Advisory Referendum	#Implns	Fl. Ordered Population	Fl. Population
1968-1972	83	34 (W:18)(L:16)	0	24	3,213,869	545,465
1973-1977	8	6 (W:2)(L:4)	2 (W:1)(L:1)	10	306,232	371,769
1978-1982	12	9 (W:3)(L:6)	4 (W:2)(L:2)	30	292,538	1,646,534
1983-1987	24	15 (W:6)(L:9)	3 (W:1)(L:2)	14	559,652	376,983
1988-1992	6	2 (W:1)(L:1)	1 (W:1)	4	106,469	63,655
1993-1997	2	1 (L:1)	2 (L:2)	7	176,387	113,242
TOTALS:	135	67 (W:30)(L:36)	12 (W:5)(L:7)	89	4,655,147	3,117,648

W denotes winning referendum
L denotes losing referendum

Key - Figures 4 & 5

CITIES ARE CAPITALIZED

- (p) partial fluoridation
- (pf) partially fluoridated naturally
- (E) estimated population
- does not apply
- ^ Charlton is partially fluoridated naturally in one of its water systems and partially fluoridated in another water system because of a shared water supply.

1993 to 1997

Two communities with a total population of 176,387 ordered fluoridation during this time period. One had a losing binding referenda during that time period. Ultimately, one (50 percent) order was implemented out of the two that were issued during 1993 to 1997, adding 6,628 people to those in fluoridated communities.

From 1993 to 1997, seven communities with a total population of 113,242 implemented fluoridation based on fluoridation orders before 1993 and during this time period (see Figure 1). Worcester became partially fluoridated, adding an estimated 250 people to those in fluoridated communities because of a shared water supply. Charlton, which is naturally partially fluoridated in one of its water systems, became partially fluoridated in another of its water systems because of a shared water supply, adding an estimated 150 people to those in fluoridated communities. A total of 113,642 people were added to those in fluoridated communities during 1993 to 1997 (see Figure 1).

Natick, a town which originally ordered fluoridation in 1968, ordered again in 1980 and 1988 and won a binding referendum in 1988. A 1997 advisory referendum was against fluoridation, but at the town meeting several months later fluoridation was supported. Natick then became fluoridated in late 1997, 29 years after its first order.

FIGURE 5

Communities that order fluoridation and never implemented

Community	Population	Yr. Ordered	Referendum
Ayer(Ft.Devens)(p)	6,871	1986	-
Bourne(Otis)(p)	16,064	1969	-
Braintree	33,836	1972	1972*
BROCKTON	92,788	1972	-
E. Bridgewater	11,104	1969	-
Fairhaven	16,132	1972	-
Hopedale	5,666	1969	-
Mendon	4,010	1969	-
New Bedford	99,922	1972	1973*&79#
N. ADAMS	16,797	1971	1971*
Randolph	30,093	1970	1971*&83!
Shirley	6,118	1970	-
W. Newbury(p)	3,421	1986	-
Whitman	13,240	1972	1974*
Winchendon	8,805	1969	1970*
Worcester(p)	169,759	1969,71&96	1996#
TOTAL	534,626		

Fluoridation is still the most cost-effective preventive measure for dental disease and needs to be promoted once again in Massachusetts.

Discussion

In 1992, Massachusetts ranked 35th in the nation with 57 percent of its population living in fluoridated communities.⁶ Although Massachusetts has improved since 1967 when only 8.2 percent of the population had fluoridation, its 1992 national ranking of 35 has shown little improvement since 1967 when it ranked 48. Between 1968 to 1997, 49.6 percent of the 135 fluoridation orders were contested by referendum, with 45 percent being victorious. The majority of implementations were during 1968 to 1987, with most of the population added to fluoridated communities during that time period due to the regional fluoridation program of the greater Boston area.

The Massachusetts Citizens' Committee for Dental Health (MCCDH), comprised mainly of leaders from the state's health community, was very influential in raising the awareness of decision makers and legislators in the state on the health and economic benefits of fluoridation. This concerted effort to obtain fluoridation for greater Boston resulted in the largest single increase in the size of the population served by fluoridation. From 1988 to 1997, only 11 communities fluoridated compared to 78 during 1968 to 1987. The number of additional communities becoming fluoridated has decreased in Massachusetts. Between 1968 to 1987, 2.96 million people were added to those in fluoridated communities in contrast to only 177,297 from 1988 to 1997. This is probably due to a lack of fluoridation promotion and the fact that some communities were easier to fluoridate.

From 1968 to 1972, 18 (53 percent) of the 34 binding referenda were won; however, from 1973 to 1987, only 11 (37 percent) of the 30 binding referenda were won. This may be due to the educational efforts focusing on fluoridating greater Boston from 1968 to 1972. From 1988 to 1997, there were only three binding referenda, and only one was won. There has been a lack of fluoridation activity in Massachusetts in the last ten years. Based on the 1990 United States census, only 121 communities (59 percent of the population in Massachusetts) were receiving fluoridated water, serving 3,523,615 people by the end of 1997. Eleven communities, three of which are naturally fluoridated, are partially fluoridated communities. Massachusetts is once again behind in fluoridation promotion in the United States. Recently, the American Dental Association and the United States Public Health Service renewed their efforts to promote fluoridation.^{7,8}

In this time of increased health care prevention and health care costs, it is critical that local and state dental and health organizations, public health officials, and community leaders make fluoridation a much higher priority in Massachusetts. Fluoridation helps prevent dental disease epidemics, and an organized effort is needed to promote fluoridation to better serve the public.

Summary

By the end of 1997, only 121 communities (59 percent) of the population in Massachusetts were receiving fluoridated water serving 3,523,615 people. Eleven communities, three of which are naturally fluoridated, are partially fluoridated communities. According to the 1992 Fluoridation Census, Massachusetts was ranked 35th in the nation by percentage of its population living in fluoridated communities.

From 1968 to 1997, there were 135 fluoridation orders by 112 communities, of which 67 (49.6 percent) had binding referenda, with 30 (45 percent)

winning and 37 (55 percent) losing the vote (one community had one order and two referenda due to a court decision). Eventually, 78 (58 percent) of the 135 orders resulted in fluoridation being implemented. The average length of time from the order of fluoridation to its implementation was seven years, with a range of less than one year to 29 years. From 1968 to 1977, there were 91 fluoridation orders as compared to only eight from 1988 to 1997.

Fluoridation is still the most cost-effective preventive measure for dental disease and needs to be promoted once again in Massachusetts. ■

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