A Report of State Identified Barriers to Participation in the Water Fluoridation Reporting System (WFRS)

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Executive Summary

To address timeliness of community water fluoridation surveillance and improve state fluoridation monitoring efforts of communities, the Centers for Disease Control and Prevention (CDC) Division of Oral Health (DOH), in collaboration with the Association of State and Territorial Dental Directors (ASTDD), developed the Water Fluoridation Reporting System (WFRS), a web-based system for monitoring the quality of water fluoridation. At the time states were assessed, there were eighteen states currently utilizing the WFRS program. The purpose of this study is to identify state reported barriers to WFRS utilization and participation. The data source for this study was an assessment instrument sent via the ASTDD list-serve to state dental directors fielded by ASTDD (Spring 2002). A total of twenty-four assessments were completed. The data indicated that most of the dental directors have tried using WFRS. Lack of resources, specifically personnel and time, were identified as major barriers to WFRS participation. Recommendations were developed for both CDC and ASTDD based on assessment results and comments from respondents, as well as, knowledge and experience from CDC personnel. To address the evolving needs of states and enhance state participation in WFRS, among the recommendations for CDC are:

1) Explore alternative funding opportunities to support states and encourage the successful adoption and utilization of WFRS program in state fluoridation programs to optimize oral health.
2) Provide technical assistance to states that currently have a plan to incorporate WFRS into their current fluoridation surveillance mechanisms, but lack needed resources.
3) Explore personnel alternatives for states that lack dental directors, data, fluoridation, and/or epidemiological expertise to alleviate staffing issues that interfere with state participation in WFRS. Devise plans where states can share employee time and expenses associated with having access to qualified and capable data, statistical, and other public health professionals.
4) Inform, orient, and train new state personnel about WFRS and increase understanding that WFRS was designed to meet state needs in collecting, monitoring, and reporting community water fluoridation.
5) Take advantage of ASTDD's and other partners' support for WFRS by increasing collaborative work efforts and CDC visibility at ASTDD-sponsored functions to foster relationships with states and increase state participation in WFRS.
6) Promote WFRS to state drinking water personnel and professional organizations including: The Association of State Drinking Water Administrators (ASDWA), the American Water Works Association (AWWA), and the National Rural Water Association (NRWA). Encourage improved collaboration between state oral health and drinking water personnel.
7) Conduct focus group discussions about WFRS utility and usability testing of the current design during major oral health conferences and annual meetings of state drinking water association personnel. Coordination with large annual meetings would enhance participation rates as well as provide forums for states to learn from each other's experience, share positive and negative outcomes and exchange

innovative ideas about incorporating the WFRS program that were not captured in this assessment.

8) Strengthen the ongoing relationship with states to support continual feedback on WFRS utility and feasibility. Make comment fields available so that states can submit their suggestions and questions about the program while they are logged into the WFRS program. Additionally, conduct periodic assessments of changes in state resources and working environments.
9) Where feasible, modify WFRS to incorporate improvements identified by assessment respondents, focus group discussions results, and other feedback mechanisms.
10) Evaluate effectiveness of WFRS use in improving fluoridation quality and consistency.

Among the recommendations for ASTDD are:

1) Encourage increased use of WFRS among states. Increase publicity and marketing of WFRS as a state tool for surveillance of fluoridation, as well as increased publicity and marketing of WFRS training courses.
2) Encourage additional exploration of funding and resources in state government for operation of WFRS as part of the state fluoridation program.
3) Promote the successful adoption and utilization of WFRS to state drinking water personnel and organizations including: The Association of State Drinking Water Administrators (ASDWA), the American Water Works Association (AWWA), and the National Rural Water Association (NRWA). Encourage improved collaboration between state oral health and drinking water personnel.
4) Increase awareness in both the public and among health professionals about the availability of fluoridation information available to the public through "My Waters Fluoride" and "Oral Health Maps".

This study provides an understanding of factors that impede state participation in WFRS and offers insight toward program improvement and enhanced state participation in WFRS.

Background and Introduction

The Association of State and Territorial Dental Directors (ASTDD) is a national non-profit organization representing the directors and staff of state health agency programs for oral health. Among CDC's oral health goals are: support of state and community programs to prevent oral disease, the promotion of oral health nationwide in communities, schools, and health care settings, and evaluation of the cost-effectiveness of selected preventive strategies. Proven preventive measures like water fluoridation can reduce oral disease. CDC supports community water fluoridation through training, technical assistance, equipment grants, and quality assurance program efforts at state, tribal and local levels. CDC and ASTDD worked collaboratively on the development of the Water Fluoridation Reporting System (WFRS) to increase states' effectiveness and efficiency in monitoring and tracking community water fluoridation.

Since 1945, the positive effect of optimally fluoridated drinking water in preventing dental decay has been widely recognized. Water fluoridation continues to be the single most effective public health measure to protect the American population against dental decay, which remains one of the most prevalent diseases in humans. In an extensive review of 95 studies conducted between 1945 and 1978, Murray et al. (1991) reported the modal caries reduction following water fluoridation to be between 40 and 50 percent for primary teeth and 50 and 60 percent for permanent teeth. A recent analysis by the Task Force on Community Preventive Services reported caries reductions of 30-50% (CDC 2001). Despite a record of effectiveness and safety, only 65.8% of the U.S. population served by public water supplies have access to water containing optimal concentrations of fluoride (a range from 0.7 to 1.2 milligrams per liter, concentrations vary by environments) (CDC, 2002).

Survey methodology, information and communication technologies are now being used to monitor correlates of diseases and may help reduce health disparities through their potential for promoting health, preventing disease, and supporting clinical care for all (Eng et al, 1998). For fluoridation, as with all surveillance efforts, the utility of surveillance data depends on the timeliness and thoroughness of reporting, analysis, interpretation, and dissemination of the data (Backer, Bissell, Stanley, and Vugia, 2001). In the past, the quality of water fluoridation was monitored nationally through the use of three data systems: the CDC Fluoridation Census, CDC Laboratory Proficiency Testing Program, and the ASTDD Fluoridation Quarterly Report. While each of these mechanisms provided an overview of particular fluoridation activities, they operated independently and, taken together, lacked the detail and timeliness necessary to monitor, plan, and effectively implement programmatic changes.

The first fluoridation census report was compiled in 1956 by the Division of Dental Public Health, Bureau of State Services, Public Health Service, Department of Health Education, and Welfare. Since 1963, the fluoridation census has provided a summary of the fluoridation status for each state and county in the United States, as well as a listing of fluoridated water systems. Data for the census, submitted by individual states to CDC, included: fluoridated water systems and the communities served by each of those systems; the status of fluoridation — adjusted, consecutive, or natural; the population receiving fluoridated water; the date on which fluoridation started; and the chemicals used for fluoridation of adjusted systems. The fluoridation census captured substantial detail, but required many resources to compile the information. As a result, it was conducted and disseminated at irregular intervals. (Reeves, 2002).

The ASTDD Fluoridation Quarterly Report (AFQR) was launched in 1980. Its purpose was to provide summary data to describe the quality of fluoridation in each state as determined by the ability of fluoridating systems to conduct monitoring and maintain optimal fluoride levels (CDC, 1995). Typically, 20 –25 states utilized the AFQR in any given quarter, and the criteria used to determine “optimal” systems varied by state. As a result, the reports were not complete and consistent across states, making it difficult to capture an accurate assessment of fluoridation nationally (Reeves, 2002; Apanian, 2003).

To improve the accuracy of fluoride analysis among state and tribal laboratories, the CDC Fluoride Proficiency Testing Program was implemented in 1979. Its purpose is to assure state and tribal laboratories' ability to accurately analyze drinking water for fluoride content. Each month, CDC sends three blind reference water samples to participating state and tribal laboratories for analysis. After analysis, the laboratories send the results of their analysis back to CDC for validation. The analysis results for labs must be within 5% of CDC results to be considered accurate. (Reeves, 2002; Apanian 2003).

In response to ASTDD's request for an integrative tool that would be easy to use for community fluoridation surveillance, DOH worked collaboratively with the Information Resource Management Team at the National Center for Chronic Disease Prevention and Health Promotion (NCCDHP) to develop the Water Fluoridation Reporting System (WFRS). WFRS replaced the ASTDD Fluoridation Quarterly Report and was designed to complement the CDC Laboratory Proficiency Testing Program. Annual reports based on WFRS provide a timelier update on the status of water fluoridation than the Census could offer. WFRS development was guided by the following system requirements:

- require minimal hardware and software at the state level,
- allow access via the Internet,
- accommodate the needs of individual users,
- easily support future modifications,
- provide annual reports of fluoridation status,
- provide ease of use and navigation,
- serve as a tool that states could use to monitor their water fluoridation program and track the number of optimally and non-optimally fluoridated water systems.

WFRS can also be used to track state progression toward Healthy People 2010 Objective 21-9: Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water (U.S. Dept. of Health and Human Services, 2000). Additional features of WFRS are the integration of its data with CDC's Oral Health Maps, a geographic information system (GIS) application and "My Water's Fluoride, an online data system providing real time access to the fluoridation status of community water systems. To date there are seventy-nine registered users of the WFRS program representing twenty tribes and thirty-five states. Of those, there are twenty-five states and five tribes that are using WFRS consistently for monitoring, tracking and reporting community water fluoridation.

Current research suggests a number of factors (e.g. behavior, attitudes, knowledge, and environments) work together to enhance or impede behavior change, use of new technology, and the internalization of new ideas (Bandura, 1986). The objective of this assessment is to identify state reported barriers to WFRS utilization and participation. Additionally, this assessment serves as a guide toward improving the utility of WFRS for consistent monitoring and tracking of community water fluoridation.

Methodology

In the spring of 2002, ASTDD asked its members to complete a 2-page, 7-item questionnaire (Appendix A). ASTDD distributed the assessment to state and territorial dental directors and conducted a follow-up mailing one month later. The assessment was designed to characterize: (1) current methods used to monitor water fluoridation levels and quality; (2) parties responsible for monitoring and tracking fluoridation levels; (3) knowledge of WFRS; (4) WFRS usage; (5) satisfaction with current methods used to monitor and track community water fluoridation; (6) attitudes about the internet, technology, and computers; (7) comments on the current WFRS design and elements of the program that enhance or impede community water fluoridation program efforts. Using a five-point Likert scale, with one being strong agreement and five being strong disagreement, states were asked to indicate their agreement with three statements related to: 1) satisfaction with their current methods for monitoring, 2) tracking and reporting fluoridation rates and quality, and 3) Internet and computer self-efficacy. Assessments were sent via list serve and respondents were instructed to return assessments within two weeks of receipt via e-mail, the U.S. Postal Service, or fax to ASTDD. ASTDD requested assistance from CDC in analyzing results. Assessment response data were analyzed using EpiInfo2000 (Dean et al, 2000).

Results

Respondents

Assessments were sent via the ASTDD list serve to all state and territorial dental directors (n=58). The analysis of responses consisted of twenty-four state dental directors. The majority of respondents (n=17, 71%) had tried using the WFRS program (See Table I-Appendix B). All but three of the states responding currently had a state dental director at the time of response. More responses were received from the Midwest and Northeast Regions.

WFRS Utilization

Of the 17 states reporting that they have tried using WFRS, fourteen (82.4%) continue to utilize WFRS (See Table II-Appendix B); while three states reported that they do not currently use WFRS as a surveillance mechanism in their community water fluoridation program. Of the 14 states using WFRS, the majority (78.6%) use WFRS to monitor the fluoridation status of their water systems. Fluoridation census reports, identification of optimally fluoridated water systems, identification of non-optimally fluoridated water systems, and fluoride level reports are being utilized by half (50%) of respondents (Table III). Other reported uses of WFRS included:

- sending quarterly reports,
- updating population and fluoridating systems,
- using WFRS as a web backup to the state database,
- storing information about system contacts.

Approximately equal proportions of states currently use WFRS on a monthly (28.6%), weekly (21.4%), and quarterly (21.4%) basis (Table IV). Of those states that currently use WFRS (n=14), 78.6% are satisfied with the current design and/or utility of the current WFRS system. Some reasons for state dissatisfaction with WFRS include:

- not user friendly for a novice,
- the upload to initialize is difficult,
- information not readily available,
- lack of accessibility to actual training while in the system (on-line training),
- current order of systems arrangement, prefer systems to be listed by county.

When asked to select all of the parties responsible for collecting data and producing reports for fluoridated water systems in their states, 14 states (50%) identified state drinking water personnel as the party responsible for collecting data and producing reports for fluoridated water systems in their states, 11 states (45.8%) identified state oral health offices as responsible parties, 5 states (20.8%) identified Public Health Departments as responsible parties, and 7 states (29.2%) identified other offices and agencies as responsible parties. Other parties include: environmental protection agencies, environmental services agencies, local engineering field offices, and state drinking water associations (Table V). Of states reporting state drinking water personnel as the responsible party, 57.1% (n=14) have tried and continue to use WFRS. The results are similar for state agencies that collect the data and produce the reports (Table VI). Most states collected fluoridation data on a monthly basis (54.2%) and less than half the states (45.8%) indicated that state fluoridation quality data was collected on a monthly basis (Table VII). Most states (n=20, 83.3%) reported having a method in place to record water system fluoridation quality (Table VIII). States identified computer databases and spreadsheet applications such as Microsoft Excel and Access as the methodology used most frequently to capture system fluoridation quality data (Table IX).

Satisfaction

On the 5-point Likert Scale, respondents were neutral (mean 3.04) about their satisfaction with their current system for monitoring, tracking and reporting fluoridation rates and quality. The states were confident (mean 2.13) that their personnel could effectively search the Internet and use Web based forms for work. Overall, states were fairly confident (mean 2.42) in the skills and abilities of their personnel to effectively use spreadsheet databases like Microsoft Access and Excel for work. In the additional comments section, comments included:

- Lack of interest, time, resources and personnel,
- Direct e-mail capability with individuals at each fluoridating water system that maintain the water systems' fluoridation equipment and fluoride levels,
- Integration of WFRS databases with EPA for ease of use,
- Challenges with logging into the WFRS website, and
- Repetitious data collection.

Barriers to Using WFRS

When asked to identify barriers to trying or continuing to use WFRS, lack of interest, time, personnel and other reasons were listed more frequently among states that have tried using WFRS but do not continue to use WFRS (n=3). States that have not ever tried using WFRS (n=7) identified personnel, time, training, and other reasons for not trying to utilize WFRS (Table X). Of the 10 respondents who reported not currently using WFRS, all respondents reported lack of resources, specifically personnel and time, as the major barrier to WFRS participation. Other reasons identified for never trying to use WFRS or discontinued use of WFRS included:

- Lack of access to water system data;
- Currently utilize personal database to maintain information on fluoridation quality;
- Fluoridation is another agency's responsibility;
- A combination of a lack of time, resources, and interest in the office that currently collects monitoring data;
- Require more extensive training on the WFRS system.

Discussion and Summary

Findings

There were a total of 17 states that reported having tried using WFRS, two of which were not registered as actual WFRS participants. Barriers identified by states include: time, resources, inability to navigate the WFRS system, and personnel constraints. Personnel constraints were identified most frequently. Of the twenty-four states responding, eleven have three or fewer oral health staff, seven have ten or fewer staff persons, and five have ten or more staff personnel. Personnel issues are major hurdles that states face as outlined in the findings. Periodic feedback from users could increase efficiency, efficacy, and effectiveness of the products that they use. Current responses suggest that states have varying challenges and barriers affecting WFRS utilization. For the most part, states reported using similar methodologies to monitor, track, and record water fluoridation quality. While methods used to monitor water fluoridation are similar, the evidence suggests that there is no unique solution to address all of the challenges that states face with WFRS.

Limitations

Not all states responded so the results may not represent the entire WFRS user group. However, because responses came from the various regions of the country, this assessment offers insight towards understanding and assessing barriers to using WFRS. Although "My Water's Fluoride" and Geographic Information Systems (GIS) "Oral Health Maps" are current utilities of WFRS, these features were not functional components of WFRS at the time the assessment was fielded. State opinions on these

applications are not included in this report. These programs are currently undergoing usability testing.

Strengths

In addition to highlighting barriers to WFRS use, this report also identifies attitudinal, environmental and administrative constraints that states face in conducting surveillance of community water fluoridation systems.

Recommendations

Recommendations were developed based on structured responses and written comments from respondents, and address the evolving needs of states as well as the goal of enhancing state participation in WFRS.

Recommendations for the Centers for Disease Control and Prevention:

1. Explore alternative funding opportunities to support states and encourage the successful adoption and utilization of WFRS.

2. Provide technical assistance to states that currently have a plan to incorporate WFRS into their current fluoridation surveillance mechanisms, but lack needed resources.

3. Explore personnel alternatives for states that lack dental directors, data managers, fluoridation managers, and/or epidemiological expertise to alleviate staffing issues that interfere with state participation in WFRS. Devise plans where states can share employee time and expenses associated with having access to qualified and capable data, statistical, and other public health professionals.

4. Inform, orient, and train new state personnel about WFRS and increase understanding that WFRS was designed to meet state needs in collecting, monitoring, and reporting community water fluoridation.

5. Promote WFRS to state drinking water personnel and professional organizations including: The Association of State Drinking Water Administrators (ASDWA), the American Water Works Association (AWWA), and the National Rural Water Association (NRWA). Encourage improved collaboration between state oral health and drinking water personnel.

6. Conduct focus group discussions about WFRS utility and usability testing of the current design during major oral health conferences and annual meetings of state drinking water association personnel. Coordination with large annual meetings would enhance participation rates as well as provide

forums for states to learn from each other's experience, share positive and negative outcomes and exchange innovative ideas about incorporating the WFRS program that were not captured in this assessment.

7. Strengthen the ongoing relationship with states to support routine feedback on WFRS utility and feasibility. Make comment fields available so that states can submit their suggestions and questions about the program while they are logged into the WFRS program. Additionally, conduct periodic assessments of changes in state resources and working environments.

8. Where feasible, modify WFRS to incorporate improvements identified by respondents, focus group discussions, and other feedback mechanisms.

9. Evaluate effectiveness of WFRS use in improving fluoridation quality and consistency.

Recommendations for the Association of State and Territorial Dental Directors:

1. Encourage increased use of WFRS among states. Increase publicity and marketing of WFRS as a state tool for surveillance of fluoridation, as well as increased publicity and marketing of WFRS training courses.

2. Encourage additional exploration of funding and resources in state government for operation of WFRS as part of the state fluoridation program.

3. Promote the successful adoption and utilization of WFRS to state drinking water personnel and organizations including: The Association of State Drinking Water Administrators (ASDWA), the American Water Works Association (AWWA), and the National Rural Water Association (NRWA). Encourage improved collaboration between state oral health and drinking water personnel.

4. Increase awareness in both the public and among health professionals about the availability of fluoridation information available to the public through "My Waters Fluoride" and "Oral Health Maps".

Conclusion

This assessment was implemented to identify, understand, and address state barriers to WFRS participation. CDC and ASTDD continue to support WFRS and the best methods to expand WFRS participation. The findings suggest a number of the competing factors that affect state utilization of WFRS. One consistent theme as identified by states is a lack of resources, specifically personnel and time. While the respondents have unique

working environments, it is important to consider common methods to address the lack of resources identified by respondents. Although this assessment has highlighted certain areas of consideration about WFRS and the WFRS design, it is clear that continual evaluation research should be considered to effectively identify and understand state issues surrounding WFRS utilization. This study serves as a helpful tool in beginning to understand barriers that states face in WFRS participation.

APPENDICES

APPENDIX A:
Assessment of Barriers to State Participation in WFRS

Instructions: Please check the one box that best represents your answer to each question that requires a "YES" or "NO" response and provide the most appropriate written responses where spaces are provided. Feel free to use the back of the pages provided if you need more room; please remember to indicate the question number to your responses on the back of pages.

PLEASE ENTER THE NAME OF YOUR STATE HERE:_____

1. **Have you ever *tried using* the Water Fluoridation Reporting System (WFRS)*?***
   - □ Yes
   - □ No (**if No, Skip to question 2e below**)

2. **a. Do you *currently use* WFRS?**
   - □ Yes
   - □ No (**if No, Skip to question 2e below**)

   b. How do you currently use WFRS? (Check all that apply)
   - □ Monitor Fluoridation Status of Systems
   - □ Monitor Quality of Fluoridation
   - □ Fluoridation Census Reports
   - □ Monthly Reports
   - □ Annual Reports
   - □ Training Report
   - □ Inspection Report
   - □ Fluoride Level Reports
   - □ Identification of systems with optimally Fluoridated Water Systems
   - □ Identification of systems with no optimally Fluoridated Water Systems
   - □ Other _____

   c. How often do you use WFRS?
   - □ Daily □ Monthly □ Annually
   - □ Weekly □ Quarterly

   d. Are you satisfied with the current design and/or utility of the WFRS system?
   - □ Yes
   - □ No **(if no, please explain)**_____
     _____
     _____

   e. Please identify reasons why you do not currently use or have not ever tried using WFRS. (Check all that apply).
   - □ Lack of personnel □ Lack of time □ Lack of interest □ Lack of training
   - □ Lack of equipment □ Lack of computers □ Lack of knowledge about WFRS
   - □ Other _____

3. **Which agency in your state is *responsible* for collecting data and producing reports for fluoridated water systems in your state? (Check all that apply)**
   - □ Oral Health □ Public Health Department
   - □ State Drinking Water Personnel □ No state requirements
   - □ Other_____

4. a. Which agency in your state *actually conducts* the data collection and produces fluoride reports of your state water systems? (Check all that apply)

□ Oral Health □ Public Health Department
□ State Drinking Water Personnel □ No state requirements
□ Other_____

b. How often does the state agency identified above currently check fluoridation levels?

□ Daily □ Monthly □ Annually
□ Weekly □ Quarterly

5. a. Do you have a method in place to record water system fluoridation quality? ***Fluoridation quality refers to making sure that fluoridation levels fall within the optimal range recommend to prevent tooth decay.***

□No □Yes (If yes, check all that apply).
□ Paper and Pencil
□ Mainframe
□ PC Databases/Spreadsheets (Excel, Access, etc,)
□ WFRS
□ Other_____

b. How often do you currently record water system fluoridation quality?

□ Daily □ Monthly □ Annually
□ Weekly □ Quarterly

6. On a scale from 1 to 5, Please circle the number that best describes your agreement with the following statement(s):

a. *I am satisfied with our current system for monitoring, tracking and reporting fluoridation rates and quality.*

1 2 3 4 5
Strongly Agree Neutral Strongly Disagree

b. *The personnel in our Oral Health Unit can effectively search the Internet and use web based forms for work.*

1 2 3 4 5
Strongly Agree Neutral Strongly Disagree

c. *The personnel in our Oral Health Unit have the skills to effectively use spreadsheet databases like Microsoft Access and Excel for work.*

1 2 3 4 5
Strongly Agree Neutral Strongly Disagree

Please provide comments that you feel could improve monitoring of fluoridation rates and fluoridation quality of water systems and any additional comments that you feel would enhance the current WFRS system. Please place an asterisk (*) by items of greatest importance.

_____
_____
_____
_____

APPENDIX B:

Table of Responses to Assessment of Barriers to State Participation in WFRS

Question 1:
Have you ever tried using the Water Fluoridation Reporting System (WFRS)?

Table I. Trial Use of WFRS by States.

Ever Tried	State Frequency (N=24)	Percent (%)
Ever Tried	17	71.0
Never Tried	7	29.0

Question 2a:
Do you currently use WFRS?

Table II. Use of WFRS by States.

Current Use	State Frequency (N=24)	Percent (%)
Currently Use WFRS	14	58.3
Do Not Currently Use WFRS	10	41.7

Question 2b:
How do you currently use WFRS?

Table III. State utilization preferences of WFRS by users, (multiple answers allowed). Please refer to Table II.

Preference	Frequency (n=14)	Percent (%)
Monitor Fluoridation Status of Systems	11	78.6
Fluoridation Census Reports	7	50.0
Identification of Systems with Optimally Fluoridated Water	7	50.0
Identification of Systems with No Optimally Fluoridated Water	7	50.0
Fluoride Level Reports	7	50.0
Monitor Quality of Fluoridation Status of Systems	6	42.9
Monthly Reports	5	42.9
Annual Reports	4	28.6
Other Reasons	4	28.6
Training reports	1	7.1
Inspection Reports	1	7.1

Question 2c:
How often do you use WFRS?

Table IV. Utilization Frequency of WFRS by Users.
Please refer to Table II.

Time Frame	Frequency (n=14)	Percent (%)
Monthly	4	28.6
Quarterly	3	21.4
Weekly	3	21.4
Daily	2	14.3
Annually	1	7.1
No Response	1	7.1

Question 3:
Which agency in your state is responsible for collecting data and producing reports for fluoridated water systems in your state?

Table V. Parties responsible for collecting state fluoridation data and producing fluoridation reports, (multiple answers allowed).

Parties	Frequency (N=24)	Percent (%)
State Drinking Water Personnel	14	50
Oral Health	11	45.8
Other Parties	7	29.2
Public Health Department	5	20.8
No State Requirements	1	4.2

Question 4a:
Which agency in your state actually conducts the data collection and produces fluoride reports of your state water systems?

Table VI. Parties that actually collect state fluoridation data and produce fluoridation reports**,** (multiple answers allowed).

Parties	Frequency (N=24)	Percent (%)
State Drinking Water Personnel	13	54.2
Oral Health	10	41.7
Other Parties	6	25.0
Public Health Department	6	25.0
No State Requirements	2	8.3

Question 4b:
How often does the state agency identified above currently check fluoridation levels?

Table VII. Data collection frequency of state agencies.

Time Frame	Frequency (N=24)	Percent (%)
Monthly	13	54.2
No Response	5	20.8
Daily	3	12.5
Quarterly	1	4.2
Weekly	2	8.3
Annually	0	0

Question 5a:
Do you have a method in place to record water system fluoridation quality?

Table VIII. State methods to record water system fluoridation quality.

Method	Frequency (N=24)	Percent (%)
Method in Place	20	83.3
No Method in Place	4	16.7

Table IX. State methods utilized to record water system fluoridation quality, (multiple answers allowed). Please refer to Table VIII.

Parties	Frequency (N=20)	Percent (%)
PC Databases/Spreadsheet Applications	12	60.0
Paper and Pencil	7	35.0
WFRS	5	25.0
Other Methods	3	15.0
Mainframe	2	10.0

Question 2e:
Please identify reasons why you do not currently use or have not ever tried using WFRS.

Table X. Barriers to WFRS participation by non-users, (multiple answers allowed). Please refer to Table II.

Barriers	Frequency (n=10)	Percent (%)
Lack of Personnel	9	90.0
Lack of Time	6	60.0
Other Reasons	6	60.0
Lack of Interest	4	40.0
Lack of Training	4	40.0
Lack of Knowledge About WFRS	3	30.0
Lack of Equipment	1	10.0
Lack of Computers	1	10.0

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