Establishing Maternal and Child Health Data Collection Priorities for State and Local Oral Health Programs

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Abstract

Objective: *This paper identifies specific data items for use by state and local agencies in a maternal and child oral health needs assessment model.* ***Methods:*** *A modified Delphi approach was used to develop consensus on items for inclusion in the data set and their relative importance. Initially, 31 data items were chosen from several national sources. All state dental directors, along with other selected administrators and advisory committee members for this process, were asked to categorize each of the data items as core (essential), important but optional, or of lesser importance. Short comments about each data item were accepted, as were additions to the list of data items. Two rounds of comments were held.* ***Results:*** *Eleven data items/types of information were selected as core items to be included in all needs assessments. All but one of these items were determined by the scores of the respondents. The advisory committee strongly recommended that at least one core item relate to the public's perception of oral health. Some differences in perceived importance of several items existed among the state dental directors, local dental directors, and the advisory committee. Twenty-one items were identified as being important, but optional, and seven were considered less than important and not included in the model data set.* ***Conclusions:*** *A modified Delphi approach facilitated the development of core and optional data items for a model oral health needs assessment. This model has potential for a common reporting mechanism so that states and local dental programs can share data. [J Public Health Dent 1997;57(4):197-205]*

Key Words: needs assessment, maternal and child health, health planning, state programs, oral health.

The quantity of staff and resources within state oral health programs varies greatly, from none to more than 80 employees. In addition, several states, and perhaps most localities, do not have dental programs that are administratively linked to Maternal and Child Health (MCH) programs (i.e., serving women of childbearing age and children under 21 years of age) (1). Even when the programs are linked, many oral health programs are unable to demonstrate their effectiveness for the MCH population because of a paucity of data and lack of appropriate use of existing oral health and programmatic data (2). For instance, little is known about the oral condition of women of childbearing age, particularly those who are unemployed; children younger than 5 years of age; and children with special health care needs (3,4). Since the late 1980s the federal government has renewed efforts to build the capacity of oral health programs for the MCH population. Recognizing the deficiencies in systems of oral health care for mothers and children, the United States Public Health Service convened a national workshop in 1989 (5). Of the workshop's 10 work groups, seven included at least one recommendation for improving either data collection or needs assessment.

Amendments to Title V of the Social Security Act contained in the Omnibus Reconciliation Act of 1989 (OBRA 89), also known as the MCH block grant, included prescriptive language for states. Integration of needs assessment and planning into state applications for these federal funds became required. Needs assessment is an activity that seeks to identify the extent and types of existing and potential problems in a community, the current services available in the community, and the extent of unmet needs or underutilized resources to plan appropriate services (6,7). Needs assessment is not an end in itself, but the initial step in the development of a comprehensive program plan. When used effectively, it serves to integrate information about health status, the existing health system, and health resources. Needs assessment relies on a systematic data collection and analysis process that is translated into an action plan (8).

In the years following OBRA 89, the federal Health Resources and Services Administration (HRSA) offered several ways of integrating oral health issues into MCH block grant applications: health education, referral and follow-up of oral health problems, comprehensive preventive and primary health care services, local system linkages, and specific data reporting items. In addition, HRSA designated an oral health objective (to increase sealant prevalence among 8- and 14-year-old children) among the 28 original national MCH objectives, drawn from "Healthy People 2000: National Health Promotion and Disease Prevention Objectives" (9). States were required to adopt or adapt all 28 national objectives in their Title V MCH block grant applications and state MCH plans. The number of national MCH objectives was reduced to 18 in 1994; however, the dental sealant objective remained. Additional oral health objectives may be included in state appli-

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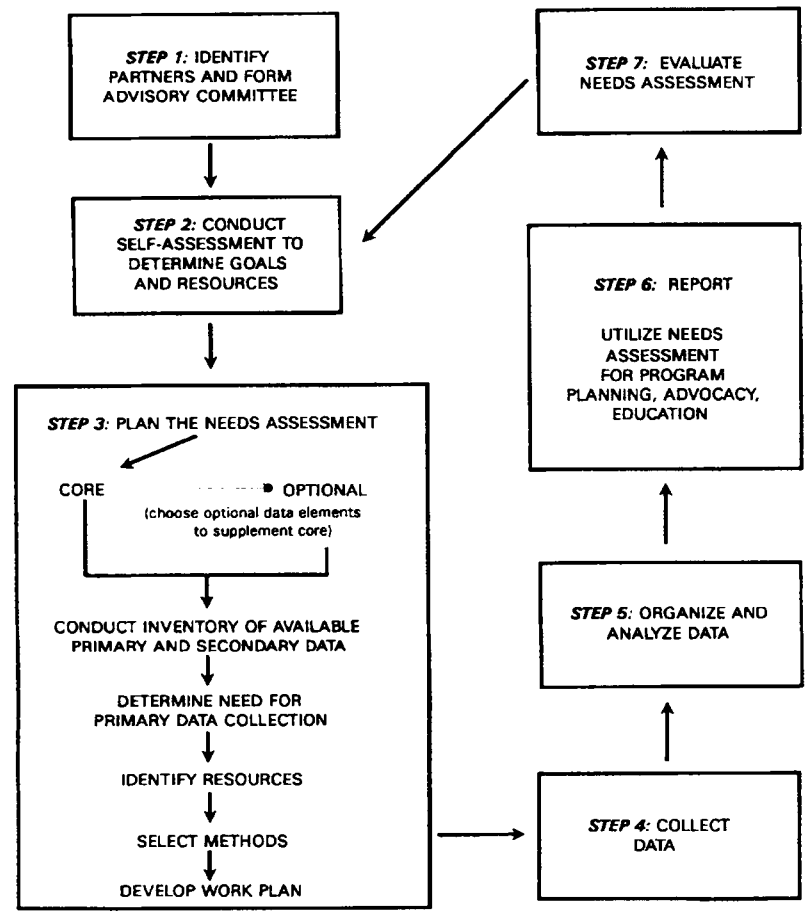
cations as guided by state and locally identified needs.

Unfortunately, a review of several MCH block grant applications in the years immediately following OBRA 89 suggested that little, if any, oral health needs assessment was being conducted and reported by the states. Furthermore, when either a plan for an oral health needs assessment or the assessment itself appeared in an MCH block grant application, it generally was limited to school-aged children and adolescents. Most often, oral health plans only addressed the sealant objective of the national MCH objectives.

National studies cannot adequately identify state and local populations with a high prevalence of oral diseases. Therefore, states must find methods to determine the oral health needs of its citizens and, at the same time, direct preventive and therapeutic programs in response to these needs. Ultimately, states should take needs assessment to the local level and carry out a plan of periodic needs assessment to keep a pulse on the population they serve. Since resources are finite, public oral health programs generally cannot investigate all potential oral health problems, but only those for which there is an overriding social obligation or for which the state or community has expressed its will through legislation.

In October 1991 the Association of State and Territorial Dental Directors (ASTDD) was awarded an MCH Special Projects of Regional and National Significance (SPRANS) grant to develop a model oral health needs assessment that states could use for their MCH block grant applications. In addition, the model was intended for incorporation into the program planning and implementation phases of state and local dental programs. An 18-member advisory committee was formed to guide the project director and consultants through the development of the needs assessment model. Members of the committee represented a wide range of local, state, national, and federal organizations. Besides individual state members of ASTDD, other members represented were the Centers for Disease Control and Prevention, Health Resources and Services Administration, two state MCH program directors, Association of Maternal and Child Health Programs, American Dental Association, American Academy of Pediatric Dentistry, and local health departments. Additionally, there were two academicians on the advisory committee — one a dentist and the other a health provider with expertise in needs assessment.

FIGURE 1
Model Oral Health Needs Assessment



This paper reviews the process by which a set of data items and other types of information (e.g., qualitative information or perceptions about oral health needs) was developed for step 3 of the seven-step needs assessment model shown in Figure 1 (10). The data set is intended to help states using the model plan their needs assessments while enhancing the potential for comparable state and local data that can be compiled nationally.

Methods

One of the first recommendations of the advisory committee was that ASTDD solicit input from dental directors in determining data needs and their relative importance. In other words, the project should perform its own needs assessment to determine the priorities and resources available. The Delphi approach (11-13) — in which participants not only score each data item, but may write brief, pertinent comments concerning this information — was selected to provide guidance in the selection of priority data elements for the needs assessment process. The Delphi technique is an iterative process that generally brings participants to a consensus on a specific topic area. The process allows equal scoring weight for each participant; thus, it minimizes strong personalities and allows a freer exchange of comments because of the anonymity of the participants.

At the time of the survey, 14 states were without a state dental director. The first round of mailings were sent to all state dental directors, 10 selected local dental directors, and 14 advisory committee members or consultants to this project who were not included in either of the other two categories. Because only one local dental director was selected to the advisory committee, the committee recommended that additional local dental directors participate in the Delphi process. These additional nine local dental directors could provide valuable insight, especially since they are more likely to engage in an ongoing dialogue with potential users of oral health services. Moreover, for many states the local programs are an important resource for primary and secondary data; thus, the local directors could provide feedback on the feasibility for collecting specific data. Although the participants knew in this case that other state and local dental directors as well as the advisory committee were part of the process, only the coordinator of the activity could link the individuals' scores and short written comments.

Each round of the mailed survey contained a cover letter describing the purpose of the investigation, explicit directions for completion of the form, and a preaddressed stamped envelope. Although the cover letter generically mentioned the sources for the data items or types of information, none of these items were identified specifically with the corresponding source document. The choices for the scoring of each data item were: (1) core—information that is critical or essential for reporting and decision making for an MCH oral health needs assessment; (2) important, but optional — information that is important to know, but is not critical or essential; and (3) less important — information that is nice to know, but of lesser importance than either of the other options. Convergence of scores for most data items was anticipated within two iterations of the process. The final individual item scores were ranked according to the percent of individuals who judged the particular data item as core.

The initial survey contained 31 data items/types of information, classified into 12 categories (Table 1), using stem

TABLE 1
Data Items/Types of Information Included in Round 1 Survey by Disease, Condition, or Perceived Need

Dental caries
- % of children with one or more DMFT*
- % of children with one or more carious teeth (DT + dt)*
- % of children with sealant on permanent molar teeth*
- % of women (childbearing age) who have never lost a permanent tooth*
- % of children with baby bottle tooth decay (BBTD)†
- % of children with enamel fluorosis‡
- % of people served by community water systems with optimal fluoride*
- % of people not on fluoridated water who use topical or systemic fluoride*
- % of parents/caregivers using infant feeding practices that prevent BBTD*

Periodontal diseases
- % of women (childbearing age) with gingivitis*
- % of women (childbearing age) with destructive periodontal diseases*

Oral cancer
- Oral cancer mortality rates (MCH population)*
- % of adolescents/young adults using smokeless tobacco†

Malocclusion
- % of adolescents with untreated malocclusion†

Injury
- % of MCH population with oral injuries‡
- Organizations that sponsor sporting and recreational events that require head, face, eye, and mouth protection*

Regulatory
- % of children entering school programs for the first time who have received an oral screening, referral, and follow-up*
- % of all juvenile homes/detention facilities (MCH population) providing oral exams/services within 90 days of entry*
- % of compliance with CDC water fluoridation guidelines†

Cleft lip/cleft palate
- System for recording and referring infants with cleft lip/palate*

Knowledge, attitude, behavior
- % of people who can identify the primary methods for preventing dental diseases†
- Perceived oral health needs of the public§

Patient utilization
- % of eligible children who receive dental services through EPSDT‡
- % of Head Start children completing dental care§
- % of women (childbearing age) utilizing oral health care system*

Provider information
- Number of dental providers in a state§
- % of dentists participating in Medicaid program§
- Dental professional shortage areas (HPSA)§
- Other public resources for dental care§

Demographics
- Population demographics (number of children <21; racial composition, etc.)§

Other
- Number of F mouthrinse, educational programs, etc.‡

Source:
*Healthy People 2000 (modified).
†Healthy Communities 2000: Model Standards (modified).
‡ASTDD Data Needs and Analysis Committee.
§Advisory Committee.

TABLE 2
Percent Distribution of Respondents by Data Item/Type of Information and Response Round *[continued next page]*

	Round 1			Round 2		
	Core	Important But Optional	Less Important	Core	Important But Optional	Less Important
Dental caries						
% of people served by community water systems with optimal fluoride	87.0	13.0	0.0	94.0	3.0	3.0
% of children with sealant on permanent molar teeth	75.0	25.0	0.0	92.0	5.0	3.0
% of children with one or more carious teeth	77.0	15.0	8.0	91.5	8.5	0.0
% of children with one or more DMFT	70.0	30.0	0.0	88.0	12.0	0.0
% of children with baby bottle tooth decay (BBTD)	67.5	32.5	0.0	73.5	26.5	0.0
% of children with enamel fluorosis	15.5	46.0	38.5	12.0	59.0	29.0
% of parents/caregivers who use infant feeding practices that prevent BBTD	20.5	38.5	41.0	12.0	32.0	56.0
% of people not on fluoridated water who use topical or systemic fluoride	12.5	40.0	47.5	8.5	43.0	48.5
% of women (childbearing age) who have never lost a permanent tooth	5.0	7.5	87.5	3.0	3.0	94.0
Periodontal diseases						
% of women (childbearing age) with destructive periodontal diseases	15.0	47.5	37.5	6.0	54.0	40.0
% of women (childbearing age) with gingivitis	12.5	25.0	62.5	3.0	19.0	78.0
Oral cancer						
Percent of adolescents/young adults using smokeless tobacco	60.0	37.5	2.5	77.0	20.0	3.0
Oral cancer mortality rates (MCH population)	36.0	18.0	46.0	21.0	24.0	55.0
Malocclusion						
% of adolescents with untreated malocclusion	5.0	27.5	67.5	0.0	21.0	79.0
Injury						
Organizations that sponsor sporting & recreational events that require head, face, eye, and mouth protection	20.0	42.5	37.5	15.0	29.0	56.0
% of MCH population with oral injuries	21.0	58.0	21.0	6.0	85.0	9.0
Regulatory						
% of children entering school programs for the first time who have received oral screening, referral, and follow-up	56.5	38.5	5.0	79.0	18.0	3.0
% of compliance with CDC water fluoridation guidelines	50.0	42.0	8.0	60.0	40.0	0.0
% of all juvenile homes/detention facilities (MCH population) providing oral exams/services within 90 days of entry	5.0	40.0	55.0	3.0	29.0	68.0
Cleft lip/cleft palate						
System for recording and referring infants with cleft lips/palates	42.0	24.0	34.0	28.0	25.0	47.0

phrases from or modifications of: the oral health objectives from Healthy People 2000 (9); Healthy Communities 2000: Model Standards (14); the ASTDD Needs and Analysis Committee (an ad hoc committee that previously surveyed each state for data capacity) (15); and other general types of information useful in needs assessment, such as public perceptions and the number of dental providers in the state. In the first round of the process (October 1992), participants also were encouraged to include additional data items or types of information they thought should be considered for the data set.

The second round of the process was sent out within one month of the initial mailing. Each person received a percent distribution score (i.e., percent of individuals who ranked each item as core, important, or less important) for each of the data items along with any comments from the respondents. All comments from the initial round were retained; minor modifications were made to reduce space on the form. Eight additional data items, suggested by one or more participants, were added to the list for the second round. All individuals received the second round mailing, regardless of whether or not they returned information from the first round. The advisory committee suggested that allowing first-round nonparticipants the opportunity to participate would provide a more favorable participation response from states and local health departments in the implementation phase of the model. Each individual once again was asked to classify the data items in light of the aggregated first round scoring and comments from the other

TABLE 2
[continued from previous page]

	Round 1			Round 2		
	Core	Important But Optional	Less Important	Core	Important But Optional	Less Important
Knowledge, attitude, behavior						
Perceived oral health needs of the public	35.0	35.0	30.0	53.0	34.5	12.5
% of people who can identify the primary methods for preventing dental diseases	20.0	35.0	45.0	9.0	37.0	54.0
Patient utilization						
% of eligible children who receive dental services through EPSDT	75.0	17.5	7.5	88.5	8.5	3.0
% of Head Start children completing dental care	62.5	25.0	12.5	70.0	30.0	0.0
% of women (childbearing age) utilizing oral health care system	10.0	51.0	39.0	3.0	46.0	51.0
Provider information						
% of dentists participating in Medicaid program	77.0	15.0	8.0	97.0	3.0	0.0
Number of dental providers in a state	59.0	18.0	23.0	86.0	6.0	8.0
Other public resources for dental care	58.0	31.5	10.5	83.0	17.0	0.0
Dental professional shortage areas (HPSA)	52.5	31.5	16.0	62.0	29.0	9.0
Demographics						
Population demographics (# of children <21; racial composition, etc.)	68.5	18.5	13.0	94.0	6.0	0.0
Other						
Number of fluoride mouthrinse, educational programs, etc.	37.5	45.0	17.5	54.0	43.0	3.0
Additional items						
% of children eligible for EPSDT and actually enrolled in Medicaid				48.0	36.0	16.0
% of children screened by EPSDT who are actually treated by a dentist				47.0	47.0	6.0
Number of children uninsured (or underinsured) for preventive and restorative services below 185% of poverty				43.0	47.0	10.0
% of school-aged children in need of (a) emergency care, (b) care in near future, (c) no care				39.0	39.0	22.0
% of school-aged children needing emergency care and receiving the care				19.0	55.0	26.0
% of preschool children in organized programs (e.g., day care, Head Start)				18.0	46.0	36.0
% of MCH individuals in long-term care facilities who receive dental care				16.0	32.0	52.0
Self-reported oral health practices				6.0	26.0	68.0

participants.

Within a month of the second round mailing, all of the scores were tabulated. Each of the core and optional data items were placed into one of four categories: demographics, oral health status, risk reduction, and systems development/access. These findings were presented to the advisory committee for comments prior to inclusion in the seven-step needs assessment model.

Results

Information was received from 42 people during the first round, 26 of whom were state dental directors. In the second round, 36 participants responded, 23 of whom were state dental directors. Eighteen state dental directors completed both rounds. Seven of 10 local dental directors responded to either one or both rounds. The local communities with respondents were Baltimore, Boston, Cincinnati, Denver, Los Angeles, Portland [Multnomah County], and New Orleans. Twenty-seven individuals from all three groups (i.e., state, local, and advisory committee members) completed both rounds.

Table 2 lists items within each of the original 12 categories, by percent rank order for the core category after the second round. An increase in the core percentage scores for 17 of the original 31 data items occurred between the first and second round. Conversely, 12 of these items showed a decrease in core percentage scores and two were within two percentage points between rounds. Even though the first round of comments set the tone for establishing priorities, only minor differences in responses were observed among those who participated in the second round only versus those who participated in either the first round only or both

TABLE 3
Sample Results from Modified Delphi Process (Rounds 1 and 2)

Data Item/Type of Information	Core (%)	Important But Optional (%)	Less Important (%)	Comments from "How You Would Use Information" in 1st Round/Other Comments in 2nd Round
% children with BBTD				
Round 1	67.5	32.5	0.0	Obtain reliable state prevalence data Assess need for preventive approaches For targeting education in WIC, Head Start, local agencies* Need standard definition* Obtaining additional funding Determine if there are high-risk groups Establish baseline data This is totally preventable* Need an ICD-9 code so this can be tracked Include this as a reportable disease Intervention strategies to parents Need to plan a more effective health education program for targeted groups Justify expenditures
Round 2	73.5	26.5	0.0	Change to infant caries — not just BBTD Anticipate very low numbers* May help in evaluating success of education program Important to have, but until we establish a standard definition, we will not be able to compare state data with national data* Prevalence cannot be documented without behavior assessment May be more appropriate for evaluation of specific interventions Hard to assess preschool children Use resources for oral health education with targeted populations — not to gather data which this would require Would like to see this as a reportable disease Preventable and lots of repercussions if not Very important for collaboration and training of other health providers
% children entering school programs for first time who have received an oral screening, referral and follow-up				
Round 1	56.5	38.5	5	Establish baseline as they enter school A basic monitoring function* Background for mandatory program legislation* Target education and screening programs Progress toward year 2000 objective* Evaluate program impact at the county level Puts dental health on par with general health Needed to plan activities Would document need for preschool dental outreach programs* This should be mandatory* If this statistic becomes a valid measure, then push for implementation of screening, gaining support from dental associations Important to demonstrate need for resources to address problem Important time to reach parents as to importance of regular dental care
Round 2	79	18	3	Indicates success level for programs directed at preschoolers Wording is bad — impossible to track More important to know % who have untreated dental problems If resources available, screening and referral should be ongoing part of dental public health program To establish a baseline on the need for this to become a requirement by the state board of education Roadblock has been "what do you do with all the disease you find" As a needs assessment requirement, will bring pressure on communities to implement Very important to have dental on same level as general health Not mandatory in our state — difficult to gather such data Requires dental access Very important, especially as it relates to EPSDT access

*Two or more respondents gave similar responses.

TABLE 4
Core and Optional Dat Items/Types of Information for MCH Oral Health Needs Assessment

Core

Demographics
- Description of population (e.g., age, race, SES, school enrollment)

Oral health status
- % of children with 1 or more carious permanent or primary teeth (DT+dt)
- % of children with 1 or more decayed, missing, or filled permanent, or primary teeth (DMFT+ dft)

Risk reduction
- % of people served by community water systems with optimal fluoride
- % of children with sealant on 1 or more permanent molar teeth

Systems development/access
- Number of dental providers in a state (by county or other division)
- Dentist participation in Medicaid program (number participating and level of participation)
- Number (%) of eligible children who receive dental services through EPSDT (specific for screening, preventive, treatment services)
- Description of public resources for dental care (e.g., C/MHCs, local health departments, dental school clinics)
- % children entering school for 1st time who have received an oral screening, referral, and follow-up
- Perceived oral health needs of consumers and their assessment of accessibility, acceptability, and affordability of oral health care received

Optional

Demographics
- Number (%) of children below % of poverty who are uninsured (or underinsured) for preventive and restorative services
- Number (%) of preschool children in Head Start programs and other day care programs

Oral health status
- % of children, aged 2–5 years, with BBTD
- % of children needing dental treatment according to urgency of need
- % of children with oral injuries
- % of children with enamel fluorosis
- % of women (childbearing age) with destructive periodontal diseases

Risk reduction
- % of adolescents/young adults using smokeless tobacco
- % compliance with community water fluoridation standards
- % of parents/caregivers who use infant feeding practices that prevent BBTD
- % of people not on fluoridated water who use topical or systemic fluoride

Systems development/access
- Dental health professional shortage areas (HPSA)
- % of Head Start children completing dental care
- % of women (childbearing age) utilizing oral health care system
- Existence of system for recording and referring infants with cleft lips/palates
- Number of public dental disease prevention programs (e.g., fluoride mouthrinse, educational, sealants) and number of individuals served
- Perceptions of key informants (e.g., government officials, community leaders)
- Perceptions of oral health care providers (e.g., dentists, dental hygienists)
- Perceptions of school personnel (e.g., teachers, nurses, principals)
- Perceptions of health care providers (e.g., pediatricians, well child clinic providers, nurse practitioners)
- Organizations that sponsor sporting and recreational events requiring head, face, eye, and mouth protection

rounds of the modified Delphi process.

Table 3 provides two examples of the scoring and comments of the respondents. The second example, "% of children entering school programs for the first time who have received an oral screening, referral, and follow-up" had one of the most substantial gains from the first to the second round. A list of the final core and optional data items is shown in Table 4. Some minor modifications of data items were made when there was apparent redundancy with another item.

While there was no predetermined number of core data items, the advisory committee wanted the number to be manageable by program administrators. The consensus was that if there was not a clear dichotomy for inclusion and exclusion within the core group, then up to ten items should be considered for inclusion. All but one of the final core items had a second round core percentage score at or above 79 percent. The exception was "perceived oral needs of the public," which the advisory committee strongly recommended as a core data item. In turn, this item was rewritten as "perceived oral health needs of consumers and their assessment of accessibility, acceptability, and affordability of oral health care received." The rationale for this decision is based on the concept that without input from potential recipients of the services there will be no "buy-in" for any of the selected data items/types of information. None of the eight additional items included after the first round had a high enough rating to become core; however, several of them were retained as optional. Several data items were eliminated from this list because of one or more of the following: a very low score as a core element; a high score as a less important item; and, in the opinion of many participants, (1) data collection for the item would be extremely difficult or impossible, (2) the state could offer very little as a program to change this perceived problem, or (3) the particular item was not as relevant to the MCH population as to other populations. These items included percent of women (childbearing age) with gingivitis, percent of

adolescents with untreated malocclusion, percent of people who can identify the primary methods for preventing dental diseases, percent of MCH population in long-term care facilities who receive dental care, percent of women (childbearing age) who have never lost a permanent tooth, percent of all juvenile homes/detention facilities providing oral exams and services within 90 days of entry, self-reported oral health practices, and oral cancer mortality.

Although no statistical testing between the groups was performed, some contrasts existed between the state and local dental directors and those members of the advisory committee who are affiliated with other entities (e.g., academia, federal government, nondental personnel). Nondental advisory committee members ranked the following data items higher than state dental directors: percent of children with baby bottle tooth decay; percent of children with dental fluorosis; percent of people not on fluoridated water who use topical or systemic fluoride; percent of women of childbearing age with destructive periodontal diseases; organizations that sponsor sporting and recreational events that require head, face, eye, and mouth protection; percent of all juvenile homes/detention facilities providing oral exams and services within 90 days of entry; system for recording and referring infants with cleft lip/palate; and dental professional shortage areas.

Both the local dental directors and the advisory committee rated the perceived oral health needs of the public higher than the state dental directors. Conversely, state dental directors rated the following two items higher than their local colleagues: percent compliance with Centers for Disease Control and Prevention water fluoridation guidelines; and number of children participating in fluoride mouthrinse, educational, and other dental programs. State dental directors rated percentage of eligible children who receive dental services through EPSDT (Early, Periodic, Screening, Diagnosis, and Treatment) higher than the nondental members of the advisory committee.

Discussion

Needs vary by locale and time. The decisions that were made by the respondents in 1992 might not be as relevant from state to state or city to city at the current time because of social and political changes. What is reflected in the development of the core and optional data items for the model oral health needs assessment are the perceptions of the participants, both dental and nondental. Like planning in general, this process must be ongoing, with additions, deletions, and modifications made on a regular basis. Additionally, the needs assessment and planning processes also must be sensitive to potential ethnic differences.

The findings from this initial attempt at prioritizing oral health needs may demonstrate bias toward child health activities, as traditional oral health programs target children because of their easy access via schools. Also, administrators might have a tendency to elevate already existing programs to core or essential status. Moreover, because this project was funded by the Maternal and Child Health block grant, the scope of oral health needs is not complete for most of the adult population (i.e., males and females beyond the reproductive years). This limitation should not discourage local and state programs from using a similar approach to identify data items for an adult population.

The public's perceptions of oral health needs can be quite different from those of program administrators—hence the decision by the advisory committee to include input from the public as a core item. All too often public health program administrators have good ideas about approaches to reduce morbidity or mortality in a population. These approaches can fail, however, when the public does not perceive a given issue as relevant. The inclusion of the public's perceptions serves as a cornerstone of any long-standing program. Certainly, the best situation is when consumers and planners agree on a common problem and approach to solving the problem. While reaching such agreement may be daunting to public health administrators in program planning and initiation, they should determine whether the public has a similar view of the perceived problem and whether the approach in solving this problem is acceptable and affordable to the potential consumer.

The Delphi process, or any modifications to this process, is not without detractors. As with any process in determining need, the Delphi approach has strengths and shortcomings. It is a relatively inexpensive and fast way to solicit sentiment about topics or issues and ways to solve specific concerns. While the current study did not solicit "experts" in the field, but included all state dental directors, selected local dental directors, and advisory committee members, it provided an opportunity for administrators to express their opinions about numerous topics. For instance, strong feelings existed both for and against including enamel fluorosis in the core group. Comments ranged from "data could be used to counter concerns that none is too much fluorosis" to "we had better intervene before others do." And in response to one person's comments indicating "we know it's going up but not critical," another state dental director responded with "get real!" Thus, it allowed many individuals who might otherwise not express themselves in an open forum to write brief comments. These comments also might influence how individuals scored each item because it allowed them to capture the essence of the competing sides in terse statements.

This study provides a foundation for the needs assessment process in oral health. It also validates some of the issues addressed as problems in the Healthy People 2000 objectives for the nation. While some other Healthy People oral health objectives did not fare well in this process, the reason for exclusion could have been that limiting adult objectives to the maternal component was not a high priority. An example is the objective concerning loss of one or more permanent teeth. All in all, most of the Healthy People objectives remained as either core or optional data items.

Differences between local and state dental directors concerning the relative importance of a few data elements will always exist. The needs assessment process, however, allows for the flexibility of elevating an optional data element within a jurisdiction, while retaining essential data items that should be collected by all oral health programs. This report demonstrates the use of a modified Delphi process to assist planners of a model oral health needs assessment. In essence, this process was a self-assessment of the priority of existing and proposed

data items or types of information that dental public health programs should be addressing. This assessment, along with the selection of appropriate methods to determine the problem within a community or state, provides a framework for establishing a protocol of activities addressing the problems that are uncovered. Needs assessment then becomes a vital and ongoing component of short- and long-term planning for dental public health programs.

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