

ORAL HEALTH SURVEY MANUAL

Ohio Department of Health
Division of Dental Health
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Introduction

In order to plan public health programs, health agencies must first assess a population's needs and a community's resources. Oral health surveillance includes gathering information about the oral health status of a specific population and periodic monitoring to detect trends. Data obtained through an oral health survey are useful in planning and performing other functions of dental public health programs, some of which are described on pages 41-44.

The purpose of this manual is to describe the protocols and procedures for conducting an oral health survey, from preliminary planning through examinations and data management. This manual should serve as a guide for surveys conducted by the Division of Dental Health, Ohio Department of Health and as an aid for those conducted by local health agencies with the Division's assistance. The Ohio Department of Health's role in surveys conducted by local health agencies will be to assist with site selection, examiner/recorder training, equipment loan, and data management plus basic analysis.

It should be noted that for the purpose of this manual, the terms oral examination and inspection are used interchangeably. The nature of the examination performed in this type of oral health survey is that of a screening for epidemiological purposes as opposed to a more comprehensive clinical diagnostic examination.

I. Planning An Oral Health Survey

Planning for an oral health survey involves several steps, from determining a target population to scheduling exam sites. The planning process, depending on the size and scope of the survey, may take longer than actually conducting the survey itself.

A. Site/Sample Selection

The first step in planning an oral health survey is to determine the population that the agency wishes to study. This will be the target population of the survey. The target population may be a specific group (e.g., schoolage children, nursing home residents) with a suspected high level of need for dental services or a cross-section of individuals in a specific geographic area.

Once a target population has been determined, a sufficient number of individuals who are willing to be examined must be identified. This group should be representative of the target population and is called the sample. Rather than selecting individuals to be in the sample, sites are selected that are likely to yield volunteers for the sample. Individuals who volunteer and are examined are referred to as participants. The goal of site selection is to identify sites that will yield adequate numbers of participants that will, on the whole, be similar to the target population.

Site selection may be done through a variety of methods. One method uses a stratified random process. In this two step procedure, potential sites are first grouped into similar or homogeneous categories (stratified); a random sample within each category is then chosen. The demographic characteristics of the areas in which selected sites are located should be similar to those of the target population to ensure that the sample is representative of the target population. The following factors should be considered when selecting the sample: 1) socioeconomic status (as indicated by the percentage of children eligible for free and reduced meals at school); 2) urban vs. rural; 3) availability of optimally fluoridated water; 4) ethnic origin/race; and 5) geographic distribution. Additional factors to consider in sample selection, if the population surveyed is other than schoolage, would be: 1) census data; 2) eligibility for Chapter I monies; and 3) Medicaid eligibility. Alternative sites should be selected in the event that sites decline to participate in the survey.

Although oral health surveys may be done for a number of target populations and reached through a variety of settings, schoolbased surveys are commonly of interest because school children are accessible to surveyors and public health programs have traditionally been targeted to children. Furthermore, surveys offer the opportunity to educate students about dental health. This manual describes school based surveys but may be adapted for use with other populations in settings other than schools.

B. Gaining Approval (Cooperation) from Site Administration

In Ohio, a letter to superintendents of school systems selected for the statewide survey was signed by the directors of both the state department of education and the state health department. The letter supported the survey and encouraged school systems to cooperate with the health department. Meetings between survey staff and school superintendents or their designates subsequently were arranged.

The superintendent contacts should be made at least four weeks prior to the tentative exam dates. It is very important to obtain the approval of the superintendent or administrative authority, followed by cooperation from individual principals or site directors. Keep in mind that superintendents may prefer to discuss the survey with their staffs before giving final approval. Once final approval is given, meetings with the school principals or site contacts should be scheduled. Topics to discuss during the meetings with the superintendent and principals should include:

- rationale for the survey;
- use of the survey data;
- how that site was selected, and why their participation is so important;
- methods for collecting data;
- tentative exam date for the site; and
- location for exams (See Section I.E., on page 10, for requirements).

Be prepared to offer a convenient date for the survey to the school principal at each site. It would be wise to have a backup date available as well. Exam dates should be days on which participants will be readily available (i.e., not on a day when there is a major activity going on at the site). Under favorable circumstances two sites may be scheduled on the same day. It is best to complete all examinations at each site within one day.

C. Preparation for Examinations

1. Supplies

Supplies for the survey training session(s) and the survey itself must be purchased from local vendors well in advance of the first exam date. Contact several vendors to determine the best combination of price and delivery time. The CPITN probe used for the periodontal assessment may be unfamiliar to many local vendors and can be purchased from the Hu Friedy Co., Chicago, IL, (312) 795-6100.

The following is a list of necessary dental, office, and miscellaneous supplies:

Instruments/Exam Supplies

- a. Instruments
 - 1) Mirrors
 - 2) Explorers
 - 3) CPITN Probes (for assessing periodontal health)
- b. Containers for clean/dirty instrument storage
- c. 2x2 gauze squares
- d. Exam gloves
- e. Masks
- f. Headrest covers

Office Supplies/Forms

- a. Pens/pencils/paper clips
- b. Manila envelopes
- c. Legal pad
- d. Letters to parents (with exam results)
- e. Classroom rosters
- f. Consent forms
- g. Backup data collection forms
- h. Treatment needed forms (for listing participants who require urgent dental care)

Infection Control Supplies

- a. Autoclave bags and tape
- b. Holding solution (for instruments)
- c. Surface disinfectant
- d. Scrub brushes
- e. Heavy-duty rubber gloves
- f. Heat sterilizer (unless instruments are sterilized off site, such as at a local health department)

Miscellaneous

- a. Paper towels
- b. Extension cords/surge protectors/adaptors
- c. Trash bags
- d. Duct tape (to secure electrical cords)
- e. Boxes or containers (to carry supplies to/from survey sites)

2. Equipment

Portable dental chairs, lights, computers, and printers can be loaned by the Division of Dental Health to local health agencies. Page 7 shows the written agreement between the Ohio Department of Health and the local health agency. The agency will be responsible for routine maintenance of all equipment (see Section's III D. and E. for information on equipment maintenance and operation).

The following is a list of equipment and computer supplies:

Portable Dental Equipment

- a. Dental chairs
- b. Dental lights
- c. Extra light bulbs (in light case)

Computer Supplies

- a. Computer
- b. Printer
- c. Printer paper
- d. Program disk (to run the computer program)
- e. Formatted data disks (to record information)
- f. Computer program documentation, (Section III, Part F)
- g. Printer ribbon
- h. Diskette mailer

3. Examination Teams

Each examination team consists of an examiner, recorder, and local facilitator. The responsibilities of the local facilitator include making advance arrangements with sites and managing the flow of participants and paperwork on the examination day. Each examination site must designate a contact person to work with the local facilitator to plan the survey at his or her site and to distribute and collect consent forms.

The number of examination teams needed will depend on the sample size, anticipated duration of the survey, and geographic location of the survey sites. The examiner conducting the oral inspection must be a dentist or dental hygienist who is currently licensed in Ohio. The recorder and local facilitator need not be dental professionals; they may be agency staff or volunteers. Ideally, backup examiners should be available in the event that a regular examiner is unavailable.

AGREEMENT BETWEEN
THE OHIO DEPARTMENT OF HEALTH
AND

This agreement is made between the Ohio Department of Health, Division of Dental Health and _____, hereinafter called the Agency, whose address is _____

This agreement is for the loan of portable dental equipment, to include the following (please indicate all equipment on loan):

<u>Item</u>	<u>ODH serial #</u>	<u>Returned date</u>
Portable dental chair, with headrest and bag	_____	_/_/_
Portable light, extra light bulb and bag	_____	_/_/_
Portable dental unit with instruction booklet	_____	_/_/_
Portable air compressor, instruction booklet and case	_____	_/_/_
Portable personable computer Zenith Z-170, battery, manual and case	_____	_/_/_
Portable printer Epson LX-86, manual and case	_____	_/_/_

The Agency will be fully responsible for the equipment while it is on loan, to include routine maintenance, repair costs, replacement of used or damaged items, and shipping/handling/insurance costs for the return of the equipment. At the conclusion of the project, the Agency will ship the equipment to:

Ohio Department of Health
Division of Dental Health
900 Freeway Drive, Bldg. #8
Columbus, Ohio 43229
Attn: Harold Gray

The Agency will be using the equipment for the following (please indicate all applicable use):

Oral health survey _____
 Child and Family Health Services Project _____
 Dental Sealant Program _____
 Other (provide specifications) _____

NAME/TITLE _____ DATE _____

Return completed form to: Ohio Department of Health, Division of Dental Health, 246 North High Street, Columbus, Ohio 43266-0588.

cc: Tony Yeldell
Harold Gray

4. Scheduling

Once a date for training the examination team members has been confirmed, scheduling the selected sites can begin. Scheduling one site per day per exam team will allow for a backup set of equipment to be brought to each site. Two sites can be scheduled per day but a backup set of equipment will not be available. The decision of whether to visit one or two sites per day will vary depending on the size and scope of the survey and available staffing.

Scheduling the survey team should be done after specific dates have been arranged with each site. The local facilitator is responsible for contacting each examiner and recorder. Providing a sheet with the following logistical information (see page 9 for example) is very useful:

- date(s) of examination;
- directions to sites;
- time when they must arrive at each site (in schoolbased surveys it is best to arrive 30 minutes before school starts for easy entry into the building); and
- listing for local accommodations (if overnight lodging is necessary).

5. Training Plan

It is crucial that a training session for members of the exam team be conducted prior to the initiation of the survey. Preparations for the training include arranging for a site to hold the training, obtaining necessary supplies and paperwork, and identifying participants to be examined. The site and participants used for training the exam team should be as similar as possible to the target population in the actual survey. The training site will be located in the same geographic area of the actual survey. Each examiner should have 5-10 participants to examine. Consent forms for participants used in the training session should be sent out at least two weeks in advance. Training will normally take one full work day, and should be conducted shortly before the survey begins (see Section II on Training).

D. Consent Forms

A consent form should be developed, and sufficient copies made available to participating schools/sites (see page 45-46 for a sample). The local facilitator may mail or deliver the consent forms to participating sites. Consent forms should be distributed three weeks prior to the survey date. Each site should be provided with at least twice as many consent forms as the desired number of participants to allow for non-returns.

It is important to select classrooms that have a cross-section of students; that is, those that are not limited to special needs students, or gifted students, etc. A signed consent form for each student should be returned within three days. It is desirable that a

School Name: Brooklawn Elementary
11801 Worthington Avenue
Cleveland, Ohio 44111
(216) 941-9925

Principal: Ms. Grace Ellis

Target Group: 1, 2, 3, 6

Date: Thursday, October 8, 1987

Times: 8:15 am team arrival
9:00 am classes start

Examiner: Mary Reed

Recorder: Lindee Burnell

Runner: Diane Kandray

Others Involved: Nancy Dittebrand, Secretary
6th grade students will assist with student flow

Directions:
I 480 to Tiedeman Road
Tiedeman to Memphis (west on Memphis)
Memphis to Brooklawn (left hand turn only)
(Memphis becomes W117 - don't let it surprise you!)
School parking lot is off Brooklawn

Best Entrance: Custodian's door off main parking lot to nurse's clinic room 119.
(Turn right when in main hallway after leaving boiler room). Nurse
will not be in building to allow us use of clinic all day. Electrical
outlets (2) available - immediately by door and on wall directly
opposite door. Use custodian's door to back car up to for unloading.

Special Concerns: Classroom roster will not be ready in this school. Recorder/
runner will need to work together to insure a smooth flow here.
School was requested to have consent forms together by classroom
when the team arrives. Mrs. Ellis will confirm with cluster office
our credentials.

Lunch Time Arrangements: Lunch time: 11:50 - 12:30 1, 2, 3
12:40 - 1:20 6th grade
117 & Bellaire - Burger King; teacher lunch room available for
bag lunch or return "eating" of fast foods.

Overnight Lodging:

If Questions Call: Lori Johnsen, RDH
216-283-7234

Sent 9/23/87 DR

consent form be returned for each individual regardless of whether they are going to participate in the survey.

The local facilitator should call three days after the consent forms have been distributed to learn how many have been returned. Based on the number returned, the local facilitator may recommend that additional forms be sent out, either to the same group or to others (e.g., students in additional classrooms). Seven days prior to the exam date the local facilitator should visit each site to retrieve signed consent forms.

Once the consent forms have been retrieved from a site, the local facilitator must check each consent form for completeness. If omissions are evident, the site should be contacted to obtain missing information. Of particular importance is each participant's date of birth, signature of parent or guardian, and any significant health information disclosed on the form.

E. Final Arrangements

Seven days prior to the exam date, final arrangements should be made with the contact person at the exam site. The local facilitator, while picking up signed consent forms, should check the exam area at the site for the following features:

- few or no stairs and the shortest distance possible to a loading area (to facilitate transporting equipment and supplies to and from the vehicle);
- adequate space to accommodate a portable dental chair, light, computer, and printer as well as allowing for safe and smooth movement of participants;
- two tables, one for the computer and printer and another for the examiner supplies;
- sufficient electrical outlets to connect the light, computer, and printer (three prong plugs or an adaptor, as necessary);
- two chairs, one each for the examiner and recorder;
- a sink for preparing instruments for sterilization and for handwashing (the sink does not necessarily have to be in the same room as the exams); and
- a waiting area for students who will be examined (preferably with chairs).

It will be important to decide with the contact person how best to bring participants to the exam area. A parent volunteer, older student, or staff at a school may be available to serve as "runner" for this purpose. One option is for the runner to bring approximately five participants at a time to the exam area; these participants are examined individually and sent back to class as soon as their exam is finished. When the examiner is looking at the third or fourth participant in each group, the runner brings five more to the exam area. It is extremely important to keep a steady flow of participants coming to the exam area. If this is not done, it is unlikely that all the exams will be completed in one day. An average of 90-100 participants can be examined in one day, without incident.

The local facilitator should make the following preparations for exam day:

- (If time permits), a roster listing the names of those scheduled to participate in the examination, (in a school-based survey the roster should list participants by classroom); on exam day, this will help the runner identify participants to call to the exam area;
- to save time on exam day, enter each participant's name, in advance, on the letters that will be sent home (see page 47 for a sample); and ensure that all supplies are stocked and the equipment is in working order.

II. Training

The training session is very important for the examiners and recorders. They will learn to assemble and breakdown equipment, to conduct examinations in a standard fashion according to criteria, and to utilize the direct data entry computer program. In addition, infection control guidelines will be reviewed.

A. Objectives of Training

The objectives of training are:

1. To teach examiners to conduct an epidemiological oral examination in a standard fashion using objective criteria;
2. to provide the examiners an opportunity to practice conducting epidemiological oral exams;
3. to provide the opportunity for multiple examiners to examine the same subjects, discuss differences of opinion, and reach agreement;
4. to familiarize the recorders with the computers and the use of the direct data entry program and completion of forms;
5. to teach all team members how to properly set up and collapse the portable dental equipment;
6. to teach the examination team how to practice appropriate infection control procedures; and
7. to discuss logistics of conducting the survey at selected sites.

B. Procedures

The training will be conducted by the Ohio Department of Health, Division of Dental Health and will include didactic and practice portions. The Division trainer will provide each team member with an information packet at the didactic session where all aspects of conducting a survey will be discussed. Recorders and examiners are strongly urged to review information in their packet prior to the practice session.

The practice session will begin with the survey teams (examiners, recorders, and local facilitators) setting up one or more exam stations. The number of stations set up will vary depending on the size and scope of the survey, and the number of examiners. Each station will include a portable dental chair, dental light, computer, and printer. The general area for practice exams should be accessible to

electrical outlets and large enough to accommodate the equipment. In schoolbased surveys, the auditorium stage is a well suited area. All team members should be involved in equipment assembly and breakdown.

Five to ten participants per examiner should be available for the training. Initially both regular and backup examiners will examine two participants. Their findings will then be compared and discussed. The participants will remain in the dental chair for about 30 minutes to permit the examiners and trainer to compare and discuss discrepancies with each other. This procedure is followed with additional pairs of participants.

Recorders will practice entering data into the computer while the examinations are being conducted. A trainer will be available to assist recorders should questions arise.

III. Examinations

The purpose of the oral examination is to collect information that describes the oral health status of the sample. The examination of an appropriate sample should provide planners (local health departments, community agencies or organizations) with data that can be translated into a preventive or treatment program for the target population.

The examiners will inspect the oral cavity for evidence of dental disease. For the younger age groups (grades 8 and below), teeth will be examined for dental caries. Children in grades 9 and above may also have a periodontal assessment. For the caries segment both the primary and permanent dentitions (with the exception of third molars) will be scored.

A. General Rules

The following are some general rules for use throughout the survey:

1. Instruments used for the oral inspection will include a plane mouth mirror and a sharp explorer; no radiographs will be used;
2. third molars are excluded even if they occupy tooth space in the arch;
3. when both a primary and permanent tooth occupy the same tooth space (e.g., the lingual eruption of mandibular permanent incisors when the primary tooth is still in place or retained primary roots and the succedaneous permanent tooth are in the same area) only the permanent tooth will be recorded; any treatment needs for the primary tooth should be noted, in writing on a separate sheet;
4. use a systematic and consistent approach in the examination of the mouth; for the ease of the recorder, start the exam from the maxillary right (patient's right) posterior segment and proceed anteriorly until the midline; then continue from the maxillary left (patient's left) central incisor to the most posterior maxillary left tooth that is present; proceed with the most posterior tooth in the mandibular left segment and continue all the way around the mandibular arch; the examiner should pause at the end of each quadrant as a signal to the recorder that the

quadrant has been completed; examples of the recording codes are listed separately;

5. the examiner will review each surface of each partially or fully erupted tooth in the following order--mesial (M), occlusal/incisal (O), distal (D), buccal/labial (B), and lingual (L);
6. each tooth and each surface will be designated by a single code even if there is more than one condition on a surface; for example, if a surface is both restored (Codes 4-5) and carious (Codes 2-3), only the caries will be recorded for that surface;
7. a plane mirror and an explorer will be provided for the examination of each participant; the explorer should only be used in areas where caries are suspected upon visual examination (e.g., discoloration, deep pit or fissure);
8. the line angle will be the dividing mark for caries determination; for restorations on posterior teeth the restoration must extend at least one millimeter (1 mm) beyond the line angle to be considered a new surface; for anterior teeth proximal restorations are not considered to extend onto either the labial or lingual surfaces until they exceed one third the distance to the opposite proximal surface;
9. the examiner will disregard orthodontic bands and inspect these teeth in the same manner as non-banded teeth; for the sake of examiner uniformity, any premolar extracted because of orthodontic care will be considered a first premolar.

B. Criteria for Examinations

1. DMF Tooth/Surface Codes for Children

	<u>Primary</u>	<u>Permanent</u>	<u>Both</u>
Sound	0	1	
Decayed	2	3	
Filled	4	5	
Crowned	6	7	
Missing (other than caries)		8	
Unerupted		9	
Examiner suspects pulpal involvement			E
To be extracted (beyond restorative care)			X
Partially erupted*		P	
Sealant present			S
Injury (restorative procedure needed)			I
Missing (caries)		M	

* Occlusal surface not completely exposed (mandible) or tissue covering the mesial to the oblique ridge (maxilla)

Tooth and Surface Codes (Definitions)

[0] - Sound Primary

--Neither carious nor filled.

--When this code is recorded for the tooth, all surfaces are automatically recorded as "0" by the computer.

--All primary dentition codes (i.e., 0,2,4,6) will not be accepted into the computer for tooth codes ending in 6 or 7 (i.e., 1st and 2nd permanent molars).

[1] - Sound Permanent

--Neither carious nor filled.

--When this code is recorded for the tooth, all surfaces are automatically recorded as "1".

[2] - Decayed Primary (The following information on caries diagnosis in epidemiological examinations is from the National Dental Caries Prevalence Survey--Swango)

--Cariou lesions may be categorized into two types: frank lesions and incipient lesions. Frank lesions are detected as gross cavitation and thus present few problems in diagnosis. Incipient lesions on the other hand, are less obvious and are, therefore, more difficult to diagnose consistently. Incipient lesions may be subdivided into 3 categories according to location, each with special diagnostic considerations. The categories are:

a. Pits and fissures on occlusal, buccal, and lingual surfaces: These areas are carious when the explorer catches after insertion with moderate to firm pressure and when the catch is accompanied by one or more of the following signs of decay:

- 1) softness at the base of the area;
- 2) opacity adjacent to the area providing evidence of undermining or demineralization; and/or
- 3) softened enamel adjacent to the area which may be scraped away with the explorer.

A deep pit or fissure in which the explorer catches is not sufficient evidence of decay; it must be accompanied by at least one of the above-named signs of decay.

b. Smooth areas on labial, buccal, or lingual surfaces: These areas are carious if they are decalcified or if there is a white spot as evidence of surface demineralization and if the area is found to be soft by:

- 1) penetration with the explorer; and/or
- 2) scraping away the enamel with the explorer.

These areas should be diagnosed as sound when there is visual evidence of demineralization, but not evidence of softness.

- c. The following criteria apply for areas not available to direct visual-tactile examination (i.e., contacting proximal surfaces): a discontinuity of the enamel in which the explorer will catch is carious if there is softness. In posterior teeth, visual evidence of undermining under a marginal ridge is not acceptable evidence of a proximal lesion unless a surface break can be entered with the explorer. In the anterior teeth, however, transillumination can serve as a useful aid in discovering proximal lesions. Transillumination is achieved by placing a mirror lingually and positioning the examining light so that it passes through the teeth labio-lingually and reflects onto the mirror. A characteristic shadow or loss of translucency seen on the proximal surface, suggests that a carious lesion is present on that surface. Ideally, the actual diagnosis of the lesion should be confirmed with the explorer by detecting break in the continuity of the enamel surface. However, clear visualization of a lesion by transillumination with mouth mirror and operating light can be accepted as a positive diagnosis for anterior lesions.

Stain and pigmentation alone should not be regarded as evidence of decay since either can occur on sound teeth.

When a tooth is carious and filled on the same surface, that surface should be indicated as carious (Codes 2-3). For instance, if there exists recurrent caries on the mesial section of an MOD amalgam, all three surfaces should be recorded as carious. Similarly, if both caries and a restoration (or sealant) exist on a tooth (but not on the same surface), the tooth is recorded as carious (Codes 2-3). But the appropriate condition (i.e., caries, restored, sealed) is recorded for each surface.

When a temporary restoration exists on a tooth the tooth (and affected surfaces) will be recorded as carious (Codes 2-3).

For both caries and restorations, a surface will be recorded as affected when it extends over the line angle and onto that surface.

Examples:

- a. UR15 has both an occlusal sealant and buccal caries. The tooth is recorded as "2" while the occlusal received "S" and the buccal "2". All other surfaces are sound (1).
- b. LL35 has recurrent caries around the MOD restoration. The tooth is recorded as "2" and the M, O, and D all receive "2".

Exception to code #2 for tooth - see Code E

- [3] - Decayed Permanent
 - Same guidelines as #2 (Decayed Primary).
 - No decision is made on the type of restoration needed (e.g., amalgam, crown).
- [4] - Filled Primary
 - When a non crowned "permanent" restorative material exists in the absence of caries.
 - For the tooth code, a "filled" code (4 and 5) takes precedence over a sealed (S) code.
- [5] - Filled Permanent
 - Same guidelines as #4 (Filled Primary).
 - In the case where a fractured anterior tooth has been restored (except for a crown), the tooth will be scored "5" and the restored surfaces as "I".
- [6] - Crowned Primary
 - A primary tooth with full coverage (e.g., stainless steel or polycarbonate crown)--once the tooth receives a "6" code, this will automatically code "6" for each surface of the tooth.
- [7] - Crowned Permanent
 - A permanent tooth with full coverage because of caries or injury. When the tooth receives a "7" code due to caries, each surface receives a "5". When crowned due to injury, then the tooth receives a "7" while each surface is designated as "I".
- [8] - Missing--Other Than Caries
 - This group includes teeth which may be missing because of trauma, orthodontic extraction or congenital absence. For this age group, missing anterior teeth (trauma) and many premolars (orthodontic) will be classified here. A separate note may need to be written to describe special circumstances.
- [9] - Unerupted (Permanent)
 - This code will be used most often for permanent molars

which have not begun to erupt. This category, however, should also be used for spaces with missing primary teeth and unerupted permanent teeth. This code would be used where a space maintainer exists.

[E] - Pulpal Involvement

--This category is to be used when the examiner is suspicious of pulpal involvement either because of caries or marked discoloration on the tooth. The tooth is recorded as "E" with the surfaces noted accordingly. For example, a discolored tooth with no apparent caries would have each surface scored as sound (Codes 0 or 1).

--When the examiner is uncertain whether the tooth has pulpal involvement or needs extraction, the tooth should be scored as "E".

[X] - To Be Extracted

--This code should be used when the tooth is beyond any restorative procedure (e.g., root tips).

--When a permanent tooth is erupting and primary root tips remain, the permanent tooth takes precedence. If treatment is required of the primary root tips, the recorder should note this finding on a separate sheet.

[P] - Partially Erupted

--A partially erupted tooth will be defined as one which does not have either full exposure of the occlusal surface (posterior) or has not reached the table of occlusion (anterior). When "P" is recorded for anterior teeth, each surface will automatically be coded "P". For posterior teeth each surface must be assigned the appropriate codes (1, P) or the unerupted code (9) for surfaces that are completely covered by tissue.

Exceptions--

- a. On the maxillary permanent first and second molars, the tooth will not receive a "P" code when the occlusal surface anterior to the oblique ridge is fully exposed. In the absence of caries or a restoration, the occlusal surface will receive the sound code (1).
- b. If a partially erupted tooth is either decayed (3), filled (5) or sealed (S), these codes will take precedence over the "P" code for the tooth.

This code will be used primarily for program planning for sealant application.

[S] - Sealant

--This code is used when either the occlusal surface or another pit or fissured surface has sealant material in place. This code is used even if the sealant is only partially retained.

--This code is used for the "tooth" when one or more surfaces have sealants present and neither decay nor another restoration is present. Each tooth surface is coded individually.

[I] - Injury

--This category denotes a traumatic injury to an anterior tooth (and surfaces) and where a restorative procedure is needed. If a tooth has a slight chip and only needs smoothing of the enamel, then this tooth (and surface) should be considered sound.

--The "tooth" is coded "I" only when no restorative material is present. If the tooth is restored (except a crown), it receives "5" and "I" is recorded for each surface whether or not the traumatized anterior has been restored.

[M] - Missing (Caries)

--This category is for permanent teeth missing because of caries.

2. Periodontal Assessment (CPITN)

For the study of students in grades 9-11, a modification of the Community Periodontal Index of Treatment Needs (CPITN) will be used on index teeth. A treatment needs score will be developed from this information.

Prior to the periodontal assessment, check with the recorder to ensure that individuals with potential medical problems are excluded. This exclusion includes, but is not limited to, those with a medical history that would indicate the use of prophylactic antibiotics prior to dental treatment (e.g., history of rheumatic fever, prosthetic heart valve). If the responses to the medical history questions have been entered properly, the computer will not accept periodontal data for a student with a medical contraindication.

The following are guidelines for the CPITN:

- a. The mouth is divided into segments (sextants). In each arch the premolar and molar teeth in each quadrant are considered a sextant and the area from canine to canine encompasses a sextant. Thus, the sextants contain the following teeth:

UR17-UR14	UR13-UL23	UL24-UL27
LR47-LR44	LR43-LL33	LL34-LL37

At this age it is recommended that index teeth be scored rather than the entire dentition. The index teeth include:

UR16	UR11	UL26
LR46	LL31	LL36

- b. Follow the same sequence and direction as the caries examination. By calling the scores in proper sequence, the recorder will know the proper teeth.
- c. The CPITN periodontal probe will be used to determine pocket depth, presence of subgingival calculus, and bleeding upon probing. For each index tooth the examiner will insert the CPITN probe into the gingival crevice at the distal contact point and sweep the probe anteriorly until the mesial contact is reached. When the index tooth doesn't have an adjacent tooth in contact the examiner is to approximate the contact point. A light force (20-25 grams) will be used to determine the depth of the periodontal pocket. Do not use a finger rest while probing and remember to parallel the long axis of the tooth.

This procedure is performed on both the facial and lingual sides of the tooth. The examiner will report the worst (highest) score (see item #4) to the recorder. If the examiner finds a pocket depth of greater than 5.5 mm before the entire assessment of the tooth, then the examiner stops the probing of this tooth and has the recorder enter a "5" for this tooth. When an index tooth is missing, have the recorder enter a "6" for that tooth (and sextant).

- d. The following codes will be used for the periodontal assessment:

missing tooth	6
pocket depth, > 5.5 mm	5
pocket depth, 3.5 - 5.5 mm (black band)	4
subgingival calculus alone, or in combination with supragingival calculus	3
supragingival calculus, overhangs of fillings or crowns	2
gingival bleeding (0-30 seconds after probing)	1
no signs of disease	0

- e. For calculus to be scored as present, the deposit has to be clearly visible, or if subgingival, has to be clearly detectable as a ledge of material rather than generalized tooth roughness.

3. Treatment urgency

[0] = no obvious need for dental treatment

[1] = need for non-urgent dental treatment (small lesions, inflamed gingiva)

[2] = need for early dental care due to obvious frank caries (or fracture), but neither pain nor infection. Periodontal conditions/severe calculus accumulations should be included in this category.

[3] = need for immediate dental treatment (pain or infection). An individual with pain or infection should be referred to the school nurse for follow-up. A list of children in this category should be given to the school nurse before leaving the site. (See form on page 49).

C. Sample Chartings

1. DMFS/dfs

SAMPLE

	T	M	O	D	B	L		T	M	O	D	B	L
UR17	P	P	P	9	P	P	LL37	9	9	9	9	9	9
UR16	X	X	X	X	X	X	LL36	M	M	M	M	M	M
UR15	3	1	5	3	1	1	LL35	3	1	3	1	1	1
UR14	1	1	1	1	1	1	LL34	1	1	1	1	1	1
UR13	1	1	1	1	1	1	LL33	1	1	1	1	1	1
UR12	8	8	8	8	8	8	LL32	1	1	1	1	1	1
UR11	5	I	I	I	I	I	LL31	1	1	1	1	1	1
UL21	7	I	I	I	I	I	LR41	E	1	1	1	1	1
UL22	8	8	8	8	8	8	LR42	1	1	1	1	1	1
UL23	P	P	P	P	P	P	LR43	1	1	1	1	1	1
UL24	1	1	1	1	1	1	LR44	1	1	1	1	1	1
UL25	6	6	6	6	6	6	LR45	9	9	9	9	9	9
UL26	E	3	3	3	1	3	LR46	5	1	1	1	1	5
UL27	S	1	S	P	1	1	LR47	S	1	S	1	1	1

TREATMENT URGENCY: 2

Explanation of Sample Charting

UR17 - Tooth is partially erupted with the occlusal surface anterior to the oblique ridge still not fully exposed for placement of a sealant. The distal is completely covered by tissue.

UR16 - This tooth has just root tips remaining.

UR15 - This permanent tooth has both a carious lesion (3) and a restoration (5) on different surfaces. The carious lesion takes precedence for the tooth code.

UR14 - Sound tooth.

UR13 - Sound tooth.

UR12 - The maxillary right lateral incisor is congenitally missing.

UR11 - The tooth has a composite resin build-up on all five surfaces due to an injury.

UL21 - This tooth also had been injured, but a full crown had been placed on the tooth.

UL22 - Congenitally missing.

UL23 - The tooth has not reached the table of occlusion. Since this is an anterior tooth, the "P" code extends for all surfaces.

UL24 - Sound tooth.

UL25 - This primary tooth has a stainless steel crown.

UL26 - This tooth has a large carious lesion on the M,O,D and L. The examiner suspects pulpal involvement.

UL27 - Although the tooth is partially erupted (P - distal), the occlusal surface has a sealant placed.

LL37 - Unerupted tooth.

LL36 - Tooth has been extracted.

LL35 - Caries has been found on the occlusal surface.

LL34 - Sound tooth.

LL33 - Sound tooth.

LL32 - Sound tooth.

LL31 - Sound tooth - This tooth has a small incisal chip, but doesn't require treatment.

LR41 - The examiner suspects pulpal involvement because of severe discoloration. All the surfaces are free of caries.

LR42 - Sound tooth.

LR43 - Sound tooth.

LR44 - Sound tooth.

LR45 - Unerupted tooth. A space maintainer exists in this space.

LR46 - This tooth is banded because of the space maintainer. The examiner finds a small catch with the explorer on the occlusal surface, but it isn't soft at the base. Since the lingual has a small restoration (5) just below the band, the tooth and the lingual surface are recorded as filled.

LR47 - A sealant is present on this fully erupted tooth.

Treatment Urgency:

The examiner has decided this patient would be classified as "2" because neither pain nor infection is associated with any tooth (e.g., UR16, UR15, UL26, LL35, or LR41).

2. CPITN

SAMPLE

UR16 - 1	UR11 - 0	UL26 - 5
LR46 - 2	LL31 - 3	LL36 - 6

Explanation of Sample Charting

UR16-The gingiva bleeds on the buccal approximately ten seconds after the examiner completes the sweep on the buccal side.

UR11-Upon completion of the periodontal assessment of this tooth there is neither pocket depths greater than 3 mm, calculus present, nor any bleeding from the gingival crevice.

UL26-As soon as the examiner inserts the probe into the gingival crevice at the distal contact the probe exceeds 5.5 mm. The examiner instructs the recorder to enter "5" into the computer program and proceeds to the next index tooth.

LL36-This tooth is missing. No substitution is made.

LL31-Both supra- and subgingival calculus are found on the lingual surface of this tooth.

LR46-The gingival crevice on the lingual side bleeds as the examiner is sweeping the instrument around the tooth. There is, however, an overhanging amalgam on the mesial aspect of the tooth near the bleeding site.

D. Equipment Setup and Maintenance

Portable dental chairs and lights are used for surveys conducted by the Division of Dental Health and are loaned to local health agencies conducting a survey with the Division's assistance. The chair and light are stored in soft carrying cases. They are to be setup and maintained in the following manner:

1. Aseptico (# ADC-01) Chair:

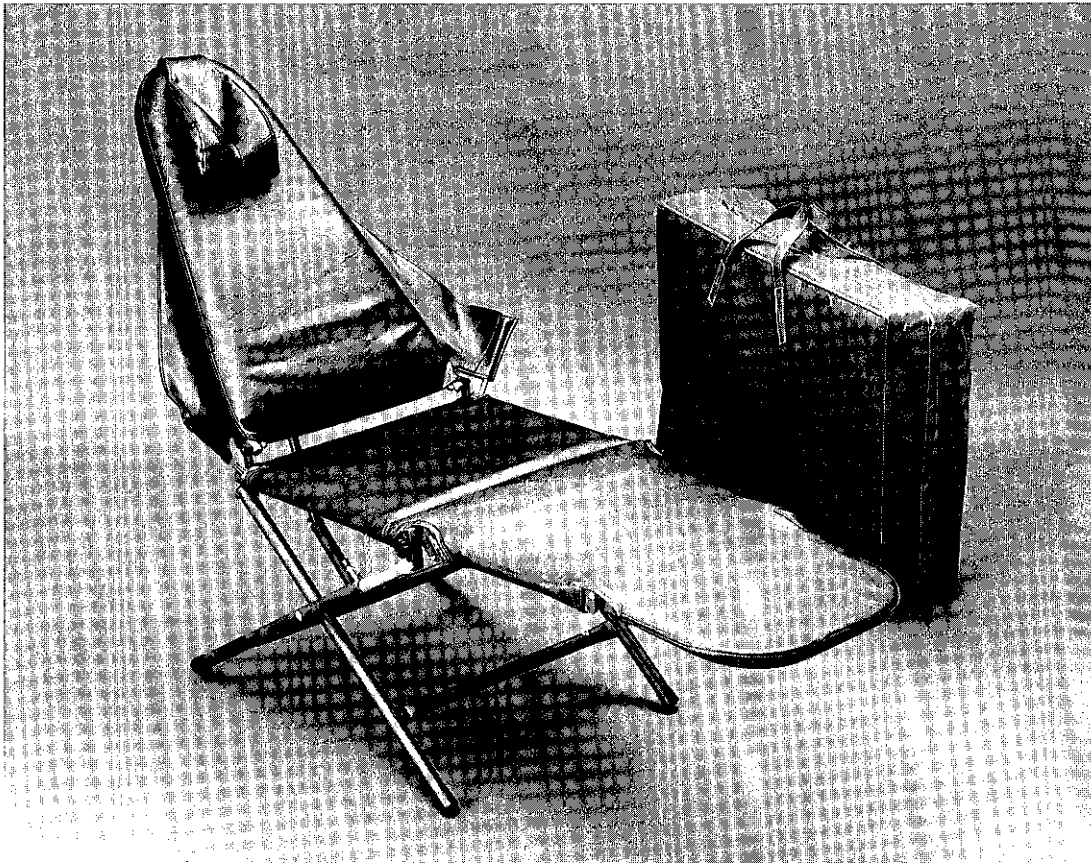
Setup

- a. Remove the chair from its carrying case and set it on the floor, legs downward (see the page 23 for a picture of the chair set-up);
- b. standing in front of the chair, put the toe of your shoe on

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ADC-01



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A STEP AHEAD

one of the front chair legs and lift up on the seat portion; raise the chair seat to the desired height and put the pin in the hole of each leg on the sides of the seat; this keeps the seat at a desired height; and

c. raise the backrest.

d. Footrest

- 1) The footrest may be used to support the legs and feet in a horizontal position, or may be allowed to hang down, so the participant can be in a normal sitting position;
- 2) when the seat has been established at the desired height, fold the footrest forward; it will stop in the horizontal position;
- 3) if you desire the footrest to hang down, the operator should fold the chair at the joint closest to the foot; use your knees to lift the weight of the legrest off of the support mechanism and pull the two black knobs on each side of the knee location, outward; this releases the footrest so it will hang down; the footrest may be locked into the down position by using the snap on the left side.

e. Backrest:

- 1) The backrest may be put in any position from straight upright to full supine;
- 2) to lift the backrest toward a more upright position, simply lift in that direction;
- 3) to lower the backrest toward the supine position, operator should support the back with one hand and lift upward on the release lever behind the chair; keep the lever released while the back is being lowered to a desired position; when the operator lets go of the release mechanism, it will grip on the support rod and prevent further descent.

f. Elbow Rests:

- 1) If the elbow rests are used, simply put the pin that is at the bottom end of the elbow rest into the hole provided at the back end/side of both the right and left seat support bar.

To Collapse the Chair

- a. Fold the footrest back onto the seat as it was originally;
- b. stand in front of the chair with toe on one of the front legs, lift upward on the seat to release the weight of the chair, pull the pins on both sides;
- c. let the chair down slowly toward the floor; as it descends, the back will tend to come forward, and then will catch and stop the descent;
- d. if the elbow rests have been in position, pull the pins out on each side;
- e. the operator now lifts upward on the lever that adjusts the back position; this will allow the back support rod to slide through the lock mechanism as the chair is lowered into its

- fully folded position; and
f. return the chair to its carrying case.

Cleaning and Maintenance

- a. Periodically, the upholstery may be washed with warm soapy water, rinsed, and dried with towels.

2. Aseptico (ALU-29) Light

Setup

- a. Remove the light from its carrying case (see the page 26 for a picture of the light);
b. while holding the fixed stem, slide the base and legs to the end of the stem and tighten the T-nut; next, fold out the legs and set the light on the floor;
c. standing in front of the light, adjust the movable stem (containing the gooseneck light) to a desired height on the main stem and tighten the T-nut on the base;
d. once the light is plugged in and turned on final adjustments can be made; the movable stem may be tilted to any angle and fixed in position by tightening the T-nut at the juncture of the fixed and movable stems; the gooseneck light may be aimed in any direction desired;
e. the on/off switch and light intensity knob are found on the control box attached to the main stem; and the light intensity knob adjusts the brightness of the light.

To Collapse the Light

- a. Make sure the light is unplugged and allowed to cool before packing;
b. loosen the T-nut at the juncture of the fixed and movable stems and fold all the way down so it is parallel to the fixed stem;
c. holding the fixed stem, loosen the T-nut at the base;
d. fold the legs inward and slide the base upward on the main stem and tighten the T-nut to secure the base;
e. return the light to the carrying case.

Cleaning and Maintenance

- a. If needed, the metal casing may be wiped down with plain water using a towel or sponge.

E. Computer Setup/Maintenance and Operation

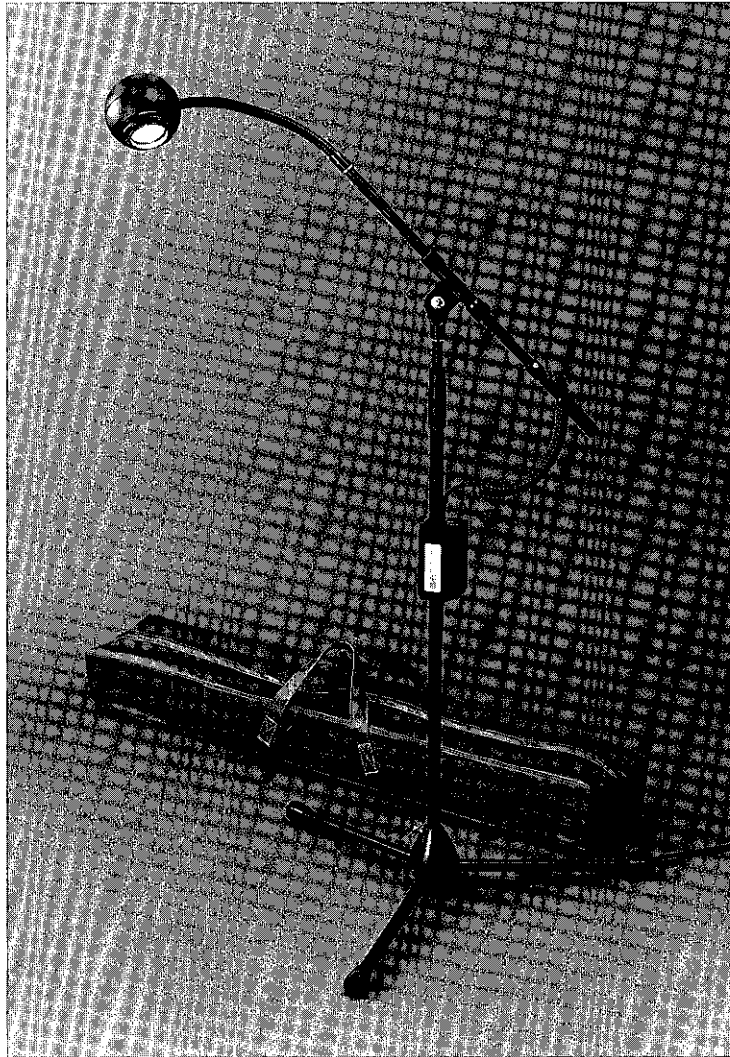
The Division of Dental Health owns two portable computers (Zenith Z-170) and printers (Epson LX-86). Instructions for setting up and operating the computer and printer follow. Refer to section F, for directions on the use of the direct data entry computer program.



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A STEP AHEAD

1. General Information

- a. When moving the computer, use the cardboard shipping inserts to protect the drive heads. If the inserts are misplaced, use an extra floppy disk. Do not move the computer without some type of disk drive protection.
- b. When moving the Epson LX-86 printer, insert the plastic transportation protection strip and remember to remove it before use.

2. Zenith Z-170 Portable Computer

- a. Set on the table; remove the portable computer (PC) from carrying case, and power unit from small zipper pocket in front;
- b. release the two latches found on the top of the PC by pushing away from the user; swing the keyboard down until it rests flat on the table;
- c. attach the power unit to the PC; the thinner cord with the small plug will be inserted on the left side of the PC; plug the other end into a surge protector which is connected to an electrical outlet;
- d. to open the spring activated drive doors, located on the right side of the PC, press the doors gently and release; the disks will automatically eject; insert the software disk in the Drive A (located closest to the screen) and the data disk in Drive B until they catch; leave the door open while turning the PC on and off; once the PC is on, close the door until it latches;
- e. connect the printer to the PC (see directions for the Epson LX-86); the printer cable will be found in the printer case; it will not be necessary to screw the cable heads to the PC; and
- f. you are now ready to turn on the PC; the power toggle switch is located on the left side of the PC.

Note: The screen is a liquid crystal display. When the computer is on, the back light automatically goes off if a key has not been pressed within a one to two minute time period. To turn the light on, press the "Shift" key.

- g. To put the PC away: remove the disks and replace the cardboard shipping inserts, follow the preceding procedures in reverse order starting at step 2 f.

3. Epson LX-86 Printer

- a. Set case on table; open the case and remove the top; release the velcro straps;
- b. connect the cable to the printer; the metal male plug should be inserted in the printer outlet found on the left back side; the gray plastic male plug will be inserted to the backside of the Zenith Z-170;
- c. open the top front cover; remove the plastic transportation protection strip by lifting up; open the paper guide (horizontal metal bar with black plastic rollers) so that the

paper can be threaded through the roller; open the paper sprocket clips;

- d. to insert the paper; thread the paper under the tinted plastic plate, continuing through the roller; roll the paper through using the knob located on the right side of the printer; as the paper comes up past the ribbon it may move the ribbon out of place; if that happens, gently move the ribbon back into place with the point of a pencil; place the paper in the sprocket clips and close the paper guide;
- e. to put away the printer; roll the paper through so that the hard copy can be separated from the rest of the paper; the threaded paper may be left in the printer for the next use; follow the procedures in reverse order starting at step 3 c.; to replace the plastic transportation protection strip, gently move the ribbon carriage to the left side; the strip can be placed between the ribbon carriage and the end of the compartment.

F. Using the Direct Data Entry Program (DDE)

Introduction

The direct data entry computer program is designed to be used in field surveys of dental disease levels and assessments of treatment needs. The computer program is designed to aid the examiner and recorder in the capture of the examination data. This procedure has two major benefits. The first advantage is that the computer program performs validity checks on much of the data as it is being entered so that logical errors are minimized at the time of data capture. The second advantage is that the data are written in a machine-readable form so that the need for further data transcription is eliminated and the data files created by the computer program can be used directly by a data analysis program.

1. Necessary equipment

To use the direct data entry program you will need:

The direct data entry program disk;
a formatted data disk;
an IBM-PC or IBM-PC compatible computer with two 5.25"
floppy disk drives; and
a parallel printer.

2. Starting the program

Place the Direct Data Entry (DDE) program disk in the "A" drive of the computer. Drive A is to the left of drive B when the drives are side-by-side or closer to the screen when the drives are one in front of the other.

Place a formatted disk in the "B" drive. The data that you collect will be saved on this disk.

Turn on the computer (leaving the disk doors open until the power is on) and printer.

The computer screen will then say "booting". Once this is completed the computer will prompt you for the date. Be sure to enter the correct date! The program will save this date in the record of each subject, and this date will be used to calculate the age of each subject. Press the Return key. The computer will also prompt you for the time.

Enter the correct time, and press the Return key. After you have entered the date and time, the program will start up automatically.

If the computer malfunctions or will not start up, the data may be hand scored on back-up data forms (see page 30 for an example). This form looks exactly like the main screen from the DDE program.

3. Using the DDE program

a. Initial Screen

The program will take several seconds to load and begin to run. Simply wait for the Initial Screen to appear. Press the "Caps Lock" key.

The Initial Screen will ask you if you are using a printer. If one is properly connected to your computer and if it is turned on and loaded with paper, enter "Y". If not, enter "N". The following question will now appear across the bottom of the screen: "In which Drive will your data disk be? (A,B,C, etc.)" Indicate "B" and press the Return key. Next you will be prompted for the School Code. The school code will be a two digit number between 01 and 99. All exam sites should have unique two digit codes assigned in advance. Enter the proper number and when you are sure it is correct, press the Return key. You can edit this field any time before you press the Return key by using the Back Space key.

The fourth and final item to be entered on the Initial Screen is the Examiner Initials. This field requires three initials. It can be edited with the Back Space key also. As soon as the Return key is pressed after entering the Examiner Initials, the Main Screen will appear. The Initial Screen is used only once for each session. If you change examiners, it will be necessary to restart the program.

b. Main Screen

The first items on the Main Screen are the three fields for subject identification (SCHOOL + GR + ID). Notice that the first two fields are already filled in with the two digit School Code.

The third and fourth digits are the Grade Level (GR) of the child. The numbers 00 to 12 can be used, with 01 for first

BACK-UP DATA FORM

SCHOOL:	GR:	ID:	GEN:	DOB:	MM:	DD:	YY:	RACE:
	T	M	O	D	B	L		
UR17								
UR16								
UR15								
UR14								
UR13								
UR12								
UR11								
UL21								
UL22								
UL23								
UL24								
UL25								
UL26								
UL27								

16	11	26
46	31	36

TREATMENT URGENCY TU:
 LAST VISIT Q1
 PAYMENT Q2 Q3 Q4 Q5
 SEALANTS Q6
 PURPOSE Q7 Q8 Q9
 HEALTH Q10
 BRACES Q11

grade, 02 for second grade, and so forth. Press the Return key.

The fourth and fifth digits should be filled in with the two digit number (ID) assigned to the child. Each child must have a unique six-digit identification code. This will be accomplished if the first child of the day is numbered 01 and the rest are numbered in sequence (as high as 99), regardless of the grade level.

These GR and ID portions of the identification code can be edited with the Back Space key as long as the Return key has not been pressed. If you want to go back and edit this or any other field on the first line of the form after you have left that field, see "Secondary Editing" on page 33.

After pressing the Return key, the cursor will move automatically to the field for Gender (Gen). Enter an F for female or M for male. These are the only two values that this field will accept. Pressing Return will move the cursor to the month part of the day of birth (DOB) field.

The Month of Birth (MM) field will accept a two digit number between 01 and 12. Both digits must be entered. Any other value will be rejected. Pressing Return moves the cursor to the Date of Birth (DD) field. The DD field will accept two digit numbers between 01 and 31. Both digits are required. Pressing Return moves the cursor to the Year of Birth (YY) field. Two digits between 60 and 85 are required. Pressing the Return key moves the cursor to the Race field. At this time, the the computer calculates the child's age in years from the date of birth entered. The age is displayed to the right of the race field. If that age seems unlikely for the child being examined, you should check the date of birth, or perhaps the current date that you entered on the Initial Screen, which is now displayed in the upper right corner of the Main Screen. If the date of birth is unavailable the MM, DD, and YY fields will also accept the digits 99, for missing data.

The codes for the Race field are numbers between 0 and 6, and are defined on page 34 of this section.

Pressing the Return key moves cursor to the line of questions at the bottom of the Main Screen. There are a series of up to eleven responses that are required before moving into the DMFSS section (Decayed, Missing, Filled, Sealed Surfaces). The questions are abbreviated on the line above the response identifiers (Q1, Q2, ...Q11). With the exception of response Q11 (Braces), the responses will all come from information on the consent form. See page 48 for a sample consent form with numbered responses.

Response Q1 (Last Visit) is indicated by the one choice selected for the question on the length of time since the child's last dental visit. Responses Q2-Q9 each require a response of 1 (indicating that it was checked on the consent form) or 2 (indicating that it was not checked or had a response of "no"). Should an entire question be unanswered, a code of 9 should be entered for each potential response. If Q6 receives a response other than 1, Q7-Q9 will automatically be bypassed by the computer.

The last item on the consent form is a brief health questionnaire (Q10) which applies only to eleventh grade students. A 9 code should be entered for children in other grades. The health questionnaire (Q10) has two parts to it; part one is about health conditions, and part two is about medications. If no blanks have been checked in either part, consider this question (Q10) to be unanswered and give it a 9 code. Otherwise, use the 1 code if something is checked in part one, or the 2 code if nothing is checked in part one, but part two has been answered.

Response Q11 indicates whether or not the child currently has orthodontic appliances (braces), and represents the first part of the clinical evaluation. Once the Return key has been pressed following the entry for Q11, the cursor will move to the DMFSS section. The remainder of the assessment consists of the DMFSS and the CPITN. The CPITN will only be done for eleventh grade students whose medical histories offer no contraindications.

The next part of the Main Screen behaves differently from the previous part of the form in three important ways.

-No carriage return is required to move from one field to the next. Once a valid entry is made, the cursor automatically moves to the next appropriate field.

-The movement of the cursor varies depending on its location and code given. For example, if the tooth is designated as unerupted, the program automatically fills in the same code for all of the surfaces, and moves on to the next tooth position, while if the code for a carious tooth is entered instead, the program requires that the individual surfaces be entered by the recorder.

-The Back Space key will move the cursor back through the form. If the cursor is in a surface position, the Back Space key will move the cursor back one surface at

a time. Once the cursor is in a tooth position, the Back Space key will move the cursor back a tooth at a time. Secondary Editing (see section D) also works for this section.

When all of the teeth and surfaces are recorded for children in grades 1,2,3,6,7, or 8, the cursor will move to the Treatment Urgency (TU) question. For eleventh grade students with completed health histories that do not contraindicate periodontal probing, the CPITN will be recorded in the six boxes to the right of the DMFSS portion of the screen. For these assessments, the cursor will move to the Treatment Urgency (TU) question after the CPITN has been recorded.

After the entry is made and the Return key is pressed, a line will appear on the screen giving the choices:

(R), (N) or (E) which stand for REVISE, NEXT and END, respectively.

The usual choice, if all is correct on the form, is to press N for Next. That will cause the data to be added to the datafile on the disk in the B drive and to be printed out by the printer. The screen will then clear and a new form for the next subject will appear.

If you want to revise anything that you have entered, choose the R (REVISE) option. You will be asked "what" you want to revise. See the "Secondary Editing" section for how to proceed.

If you are through for the day, the choice to take is E for END. This will write the data to the disk in drive B, then to the printer, and end the program.

4. Copying Data Diskettes

At the end of each exam day a back-up copy of the data diskette should be made. The purpose of having a back-up copy would be in case something happens to the original disk (misplaced or damaged). To make copies of your data diskettes, follow this procedure:

- a. @ END prompt, type SYSTEM
- b. @A> prompt, take out the program diskette in the "A" drive and replace with a blank formatted diskette. Then type COPY B:*. * Press the Return key.
- c. This will copy the data from the diskette in the "B" drive to the blank diskette in the "A" drive.
- d. Label the disks appropriately.

5. Secondary Editing

From anywhere on the examination form, with the exception of Q1-Q11, if you press the F1 key, you will immediately jump to the

(R), (N), or (E)? choice. Choose the R (REVISE) option and you will be ask "what?" You can then jump to the necessary position on the form. The legal entries for places to go to are listed below.

Entries for location in Secondary Editing

GR	16	
ID	11	
GEN	26	CPITN
MM	36	
DD	31	
YY	46	
RACE	Q1	
UR17	Q2	
UR16	Q3	
UR15	.	
.	TEETH	.
.	.	.
LR45	Q10	
LR46	Q11	
LR47	TU	

After you have made the changes that you want, you can press the F1 key again to return to the (R), (N), or (E)? choice.

Miscellaneous Oral Health Survey Codes

Gender

M = Male

F = Female

Race

- [1] White
- [2] Black
- [3] Southeast Asian
- [4] Hispanic
- [5] Other
- [6] Unknown

G. Infection Control Guidelines

The infection control guidelines utilized for oral health surveys conducted by the Division of Dental Health and local health agencies are in accordance with the rules of the Ohio State Dental Board.

Disinfection of equipment and instrument preparation for sterilization should be shared by all members of the survey team (the examiner, recorder, and local facilitator). The following infection control guidelines must be followed by all members of the survey team for all participants:

1. Examiner/Dental Professional

- a. An antimicrobial soap should be available for use when indicated;
- b. fresh gloves must be worn during the oral examination for each participant;
- c. masks and protective eyewear will be available for use during the oral examination; due to the nature of the dental procedure utilized for the oral examination where aerosolization and spatter will not take place, the examiner may exercise his or her discretion as to the use of masks or protective eye wear;
- d. if the examiner chooses to wear a laboratory coat, he or she must provide his or her own.

2. Surface Disinfection

- a. An intermediate level disinfectant must be used on the portable equipment at the beginning and conclusion of the morning and afternoon sessions and when indicated between examinations, following the manufacturer's instructions. For routine disinfection, apply the disinfectant to the surface until the entire area is wet. Allow the disinfectant to remain on the surface for a minimum of 10 minutes. Dry the surface, if necessary. If saliva or blood comes into contact with a surface, wipe it up with a gauze square or paper towel followed by wetting the entire area with disinfectant and allowing it to remain for a minimum of 10 minutes.

All surfaces that may be contaminated should be disinfected including but not limited to:

- 1) Chair height and back control - to minimize contamination, adjustment of the chair should be limited;
- 2) light switch/dimmer - if examinations are performed with few breaks between participants, the light may remain at the desired intensity for the entire session, thus minimizing contamination; if it is necessary to adjust the intensity of the light, a gauze square saturated with disinfectant should be placed over the light switch so the examiner does not touch the surface; an alternative would be for the recorder or local facil-

- itator to adjust the light switch;
- 3) light fixture - the examiner should limit adjusting the direction of the light to minimize contamination; the light fixture should be positioned so that it will not interfere with the participant's seating and will provide adequate lighting for the examination; once the direction of the light has been adjusted to the head rest area of the chair, the examiner should ask each participant to move his or her head to the desired position; an alternative would be for the recorder or local facilitator to adjust the light fixture.
- b. A fresh headrest cover must be used for every participant.
 - c. Waste baskets must be lined with plastic bags. At the end of the day, the plastic bag holding the discarded materials should be securely fastened, as a courtesy to the maintenance person.
 - d. The containers holding instruments ready to be processed must be disinfected before and after use.

3. Instrument Sterilization

- a. Contaminated instruments should be placed in a holding solution (disinfectant or water) prior to sterilization.
- b. Heavy rubber gloves should be used when preparing instruments for sterilization.
- c. All instruments will be sterilized using recommended methods; steam, chemical, or dry heat following the manufacturer's instructions.
- d. Heat sterilizing devices must be tested for proper function on a weekly basis by means of a biological monitoring system that indicates microorganism kill. The Ohio State University College of Dentistry has a monitoring system available or a private company may be used.

H. Procedures for Exam Day

On the day of exams, the contact person at the site should be notified when the team arrives and the schedule for the day should be confirmed. Once this is done, equipment setup and examinations can begin.

For surveys conducted by the Division of Dental Health, Ohio Department of Health, and for those conducted by local health agencies with the Division's assistance, the following items should be placed in a large manila envelope at the end of the day:

- Consent forms;
- classroom roster;
- labeled data diskette;

- back-up copy of data diskette;
- printout of data; and
- back-up data forms (if used)

The manila envelope should be clearly marked with the name of the site and date indicated on the outside. The recorders for the survey are responsible for mailing one copy of each data diskette, the computer printout, and any data forms to the Ohio Department of Health, Division of Dental Health, 246 N. High St., Columbus, Ohio 43266-0588, as soon as possible after completion of the survey. The data diskette should be placed in a diskette mailer for protection. The other copy of the data diskette should be retained in the district or local health agency office with the remaining items in the manila envelope. For surveys conducted by the Division, the Division staff are responsible for mailing these items after each exam day.

The contact person from the site should be notified when the team is leaving at the end of the day. A Treatment Needed Form listing participants in need of urgent dental care should be provided to the site contact at this time (see page 49 for sample). After the survey has been completed, thank you letters should be sent to the school superintendent/administrative authority and principals/site contacts (see pages 50-52 for sample letters).

VI. Data Management

Data from the survey will be loaded into a database management system utilizing a program designed by the Ohio Department of Health, Division of Data Services.

A. Standard Data Tables

The following are standard tables that will be compiled from the data:

1. Percentage distribution of subjects according to the number of decayed, missing and filled permanent and primary teeth, and grade level.

of (DMFT + dft)/subject

<u>Grade</u>	<u>0</u>	<u>1-3</u>	<u>4+</u>	<u>Total</u>
1	%	%	%	%
2	%	%	%	%
3	%	%	%	%
6	%	%	%	%
7	%	%	%	%
8	%	%	%	%
11	%	%	%	%

2. Percentage distribution of subjects according to the number of decayed, missing and filled permanent teeth per subject, and grade level.

Same format as above (#1).

3. Percentage distribution of subjects according to the number of untreated carious teeth per subject, and grade level.

Same format as above (#1).

4. Percentage distribution of subjects according to treatment urgency codes (TU).

<u>TU Code</u>	<u>% of subjects</u>
0	%
1	%
2	%
3	%

5. Percentage distribution of subjects according to the number of sealed teeth per subject and grade level.

Same format as above (#1).

6. Percentage distribution of subjects according to highest CPITN code for each subject. (This applies to those groups for which the CPITN was recorded.)

<u>CPITN Code</u>	<u>% of 9-11th graders</u>
0	%
1	%
2-3	%
4-5	%

7. Percentage distribution of subjects according to race.

<u>Race Code (Race)</u>	<u>% of subjects</u>
1 (White)	%
2 (Black)	%
3 (S.E. Asian)	%
4 (Hispanic)	%
5 (Other)	%
6 (Unknown)	%

8. Percentage distribution of subjects according to recency of last dental visit (Q1).

<u>Response Code</u>	<u>% of responses</u>
1 (6 mos.)	%
2 (12mos.)	%
3 (3 yrs.)	%
4 (5 yrs.)	%
5 (never)	%

9. Percentage distribution of subjects according to payment mechanism (Q2, Q3, Q4, Q5).

<u>Payment Mechanism</u>	<u>% of subjects</u>
Family	%
Family/Insurance	%
Dental Insurance	%
Medicaid/ADC	%
Don't Know	%

10. Percentage distribution of subjects according to parental knowledge about dental sealants (Q6, Q7, Q8, Q9).

<u>Heard of Sealants</u>	<u>% of responses</u>
Correctly identified purpose of sealants	%
Incorrectly identified purpose of sealants	%
Never heard of sealants	%

APPENDIX,

Usefulness of a Local Oral Health Survey in Program Development

Mark D. Siegal, DDS, MPH*

Office of Community Dental Programs
Columbus Health Department
Columbus, OH 43215

Barbara Martin, RDH, MS

Division of Dental Health
Ohio Department of Health
Columbus, OH

Raymond A. Kuthy, DDS, MPH

Section of Community Dentistry
Ohio State University
Columbus, OH

Abstract

In 1986, the Columbus (Ohio) Health Department conducted an oral health survey of children in grades 1, 2, 6, and 7. The World Health Organization's Pathfinder methodology served as the basis for survey design. The survey was made possible through collaboration and sharing resources among the local and state health departments and two universities. The findings of the children's portion of the survey proved useful in program planning, marketing (including resource procurement), constituency building, and educating the dental profession and the public. The data were used to support successful grant requests that led to the implementation of a school-based dental sealant program. The local government expanded the health department's dental budget to continue the sealant program beyond the grant period. The state health department considered the survey to be a pilot for a statewide effort.

Key Words: dental health surveys, health planning, oral health, pit and fissure sealants, public health dentistry

Introduction

Local dental public health programs require community-specific data to plan and evaluate their activities. National oral health surveys (1-3) provide information on trends in the prevalence and distribution of oral diseases. The sampling methods of national surveys, however, do not permit extrapolation of their data to specific communities. Local and state dental programs must, therefore, employ their own resources to collect oral health status data on their communities (4).

During 1986, the Columbus (Ohio) Health Department conducted an oral health survey to collect information on basic oral health status indicators. The survey was intended to provide data for planning, evaluating, and marketing the city's dental public health program, as well as educating the public and the dental profession. The Columbus survey was a pilot experience for a statewide survey to be conducted by the Ohio Department of Health.

The survey was made possible through a collaborative effort among the Columbus Health Department, the Ohio Department of Health, the Ohio State University College of Dentistry, and the University of Michigan School of Public Health. Children in grades 1, 2, 6, and 7 ($N = 640$) were examined during a two-week period in May 1986. The methodology for the survey has been described in detail elsewhere (5). The purpose of this article is to describe some ways in which the survey's findings were useful to a local dental public health program.

Use of the Findings

Program Planning. From a planning perspective, the survey provided information for ranking caries prevention strategies and designing specific programs. In addition, the data supported the need for dental treatment programs. The survey's findings confirmed the suspicion that caries experience in the permanent teeth of Columbus schoolchildren was most prevalent on tooth surfaces with pits and fissures, particularly molars. Forty-four percent of children had decayed, missing, or filled (DMF) permanent teeth and 87 percent of DMF surfaces were fissured. Only 4 percent of children, however, had dental sealants on their teeth. These findings indicated that efforts to increase the prevalence of sealants, which effectively prevent pit and fissure caries, would be appropriate for Columbus schoolchildren. Furthermore, a fluoride mouthrinsing

*Send correspondence and reprint requests to Dr. Siegal at the Division of Dental Health, Ohio Department of Health, PO Box 118, Columbus, OH 43266-0118. Manuscripts received: 8/31/87; returned to authors for revision: 10/2/87; accepted for publication: 10/16/87.

program, aimed primarily at smooth-surface decay, should be a lower priority.

The survey also aided in selecting target grades for a school-based sealant program by finding the relative frequencies of children with sealable teeth at each grade level. Table 1 shows that second-grade students had a larger percent of target teeth (first permanent molars) available for sealants than first-grade students and seventh-grade students had more target teeth (second permanent molars) available than sixth-grade students. As a direct result of these findings on eruption patterns, a sealant program was started at the second- and seventh-grade levels rather than at the first and sixth grades.

"The survey data provided the necessary link in developing a supportive constituency and in educating the public."

A need for dental care programs was supported by the finding that approximately 30 percent of examined children had at least one carious tooth. Furthermore, there was an implied relationship between the percent of children in need of dental care and family income levels. The percent of children at each school who were eligible for free or reduced-cost meals was used as an indicator of family income. Schools with the higher percent of eligible students generally had more children who required dental care.

Marketing. Although the term marketing is not usually associated with public health programs, marketing

practices are employed routinely when procuring resources, building a supportive constituency, and educating decision makers.

Procuring Resources. Several grant proposals to local private foundations were strengthened by the survey data. Three of four requests were funded fully to provide start-up costs for a school-based dental sealant program. The grants came from a local private foundation, the United Way, and the state health department. Subsequent conversations with the grantors indicated that they were impressed with the proposal's quantitative objectives, based on local data.

After the sealant program was initiated with the grant funds, the health department convinced the city council to continue it by increasing the dental program's general fund appropriation. The sealant program expansion came at a time when many other city programs were forced to cut back. The oral health survey data enhanced the expansion proposal by documenting need in the community.

Constituency Building. The survey data provided a necessary link in developing a supportive constituency and in educating the public. When the health department issued a press release on the survey's key findings, a newspaper article related them to the health department's sealant program. By informing the news media of the survey, the health department sought to increase its visibility in the community and raise the public's awareness about sealants and other available dental services.

The findings on the relatively high frequency of pit and fissure caries and the low use of sealants were frequently used in presentations to parent groups, community leaders, school administrators, principals, and teachers. This constituency may be helpful if support is needed to ensure continued funding for the school-based dental sealant program.

TABLE 1
Targeted* Permanent Molars Available for Sealants, Grades 1, 2, 6, and 7
(1986 Columbus Oral Health Survey)

	1st Permanent Molars		2nd Permanent Molars	
	Grade 1 (n = 164)	Grade 2 (n = 175)	Grade 6 (n = 145)	Grade 7 (n = 156)
Percent of students with 1 or more sealable targeted molars	86	91	59	75
Percent of students with 4 sealable targeted molars	54	64	27	41
Percent of all targeted molars (4/student) that were sealable**	73	87	38	60
Mean number of sealable targeted molars/student	2.9	3.3	1.5	2.4

*Targeted molars refers to the first permanent molars for first- and second-grade students and the second permanent molars for sixth- and seventh-grade students. All potentially available teeth, unerupted as well as erupted, are included in this category.

**Sealable teeth are those that have occlusal surfaces that are free of decay, fillings, and overlying gingiva, such that a dry field can be maintained during the application process.

Education. From the perspective of a local dental public health program, education is an integral part of marketing, establishing a network of agencies and organizations interested in dental health, and building a supportive constituency. The survey data have been used to help educate a variety of groups, including potential funders, community leaders, the public, and the dental profession. The local board of health accepted a report on the survey's findings and approved a long-range plan that utilized the data. Both documents, the report and the plan, have been effective educational tools.

Although Columbus has had optimally fluoridated water since 1973, it is important to educate the public continually about the benefits of water fluoridation. The low incidence of smooth surface caries implies that fluoridation has been effective in Columbus. The survey's findings will be used to remind people of the benefits of water fluoridation as an example of a successful public health program.

The results of the survey were first offered to the local dental society at a monthly membership meeting. Copies of the report to the board of health were subsequently distributed and discussed with the dental society's executive board. The health department will continue to work with the local dental society's leadership to educate the profession about the dental health of the Columbus population.

Discussion

Local data are an important tool for local dental program directors. National or regional data are less effective for convincing local decision makers to support programs. Community-specific data are more powerful for those purposes because local politicians respond to the needs of their constituency rather than those of the nation. To operate in the political world of local government, dental directors must establish networks, build constituencies, and market their programs as a means for accomplishing their objectives. The availability of local oral health status data facilitated all of these processes in Columbus.

The Columbus survey was conducted for clearly defined purposes reflected in its design and the subsequent use of its findings. Throughout the development process, the planners referred to the survey's purpose—program planning. While national data were useful for developing assumptions about the population, local data were needed to confirm or deny those assumptions while providing information that would be helpful in program planning. For instance, the Columbus survey confirmed that dental caries in the permanent dentitions of Columbus schoolchildren attacked mostly those tooth surfaces with pits and fissures.

Sample selection was accomplished with a purpose in mind: to determine the overall oral health status of the population and logical target groups (e.g., low income) in particular. Thus, cohorts were selected according to grade level rather than age because a school-based sealant program would be offered by grade. The

planners selected grade levels at which a program would most logically be implemented.

The intent of the survey was to collect data that would help answer questions about the types of programs to consider, as well as how best to design them. In retrospect, third- and eighth-grade students should have been included in the survey because many school-based sealant programs follow the recommended practice of reexamining children the year after sealants have been applied (6). The Columbus survey provided information on which single grades had the most children with specific teeth available for sealants, but could not indicate which two grade combinations (initial grade plus follow-up) would likely maximize a program's benefits.

"It is not uncommon for private dentists to raise questions about what they perceive to be competition from public health dental programs. Local data can be effective for educating the professional community about the oral health problems of the population and the need for programs to address them."

Although the primary reason for oral health surveillance relates to program planning, local data also may be useful for marketing programs. Marketing facilitates seeking additional resources—whether from the state health department, a local board of health, health commissioner, mayor, city council, or from private foundations. Programs may be marketed to the public through the media and through group presentations to build a supportive constituency. Local data were helpful in convincing grantors and elected officials to support the Columbus school-based dental sealant program.

Education can diminish or prevent concern on the part of the dental community. It is not uncommon for private dentists to raise questions about what they perceive to be competition from public health dental programs. Local data can be effective for educating the professional community about the oral health problems of the population and the need for programs to address them. An article in a component dental society newsletter can be an inexpensive and effective way to disseminate this information. Data indicating the low prevalence of sealants in the survey sample were convincing evidence that sealants were underutilized in Columbus. The president of the dental society acknowledged the problem and agreed to urge dentists to use sealants more regularly. Furthermore, the survey's findings documented an unmet need for dental care. If the appropriateness of the health department providing dental services were called into question, the data would support the need for intervention.

TABLE 2
Percent of Children (by Grade) with Untreated Cavities (1986
Columbus Oral Health Survey)

Numbers of Untreated Cavities	Grades 1 and 2 (n = 339)	Grades 6 and 7 (n = 301)	Grades 1, 2, 6, 7 (N = 640)
None	69	74	71
1-3 teeth	26	25	26
4+ teeth	5	1	3
Total	100	100	100

The manner in which survey findings are presented and used may have an impact on their effectiveness for education, marketing, and establishing a network. The Columbus data were presented as the percent of individuals found to have various levels of oral health or disease, rather than the mean number of affected teeth or tooth surfaces (Table 2). This approach was taken because patients and the constituencies of elected decision makers are people—not teeth. When their intended use is for education and marketing, findings should be presented in a format that is understandable and meaningful to a lay audience.

In addition to the child cohorts, two adult cohorts (35-44 years, and 65 years and older) were examined in the Columbus oral health survey. The data from the

adult portion of the survey will be reported at a later date.

Acknowledgments

The authors would like to acknowledge Dr. Stephen Eklund's contribution in the planning and evaluation of this project. The authors also wish to thank Drs. Soraya Beiraghi and F. Thomas Hagman, of the Ohio State University College of Dentistry, and the staffs of the Ohio Department of Health Division of Dental Health and the Columbus Health Department Office of Community Dental Programs for their assistance with the survey.

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246 N. High Street
Post Office Box 118
Columbus, Ohio 43266-0118

Telephone (614) 466-3543

RICHARD F. CELESTE
Governor

Dear Parent,

The Ohio Department of Health, in cooperation with your child's school, is conducting an Oral Health Survey to determine how much tooth decay and gum disease exists among Ohio's schoolchildren. Information collected from the survey will be used in planning future dental health and education programs.

The survey will consist of a short questionnaire and an oral inspection at school. No x-rays will be taken and there is no risk involved. We will inform you of our findings the same day that we see your child. The information that we collect on your child will be confidential. If you have any questions, please contact the Division of Dental Health at 614/466-4180.

Please complete the attached yellow form. All forms must be completed and returned to your child's teacher within three days. Only those children whose parent or guardian has checked the box permitting their mouths to be inspected will be seen. **You should complete and return the form even if you do not want your child to participate.**

Sincerely,

A handwritten signature in cursive script that reads "Mark D. Siegal".

Mark D. Siegal, D.D.S., M.P.H.
Chief, Division of Dental Health

Enc.

mf

9/87

PLEASE COMPLETE AND SIGN THIS FORM AND RETURN TO YOUR CHILD'S TEACHER WITHIN THREE DAYS

1. My child's most recent dental visit was within the last: (please check one)
 6 months 12 months 3 years 5 years has never been to dentist
2. Is your child's dental care paid for by: (please check all that apply)
 Family Dental Insurance
 Medicaid/ADC(Health Card) Don't know
3. Have you heard of dental sealants?
 Yes No
- If yes, which of the following best describes the purpose of dental sealants?
 To prevent cavities
 To fix cavities or broken teeth
 To prevent gum disease

PLEASE CHECK ONE BOX:

I GIVE PERMISSION for my child to participate in the Oral Health Survey.
Please answer questions 1 and 2, below:

1. Has your child ever had any of the following?(Check all that apply)
- | | |
|---|---------------------------------|
| <u> </u> abnormal bleeding | <u> </u> heart disease |
| <u> </u> artificial joints or heart valves | <u> </u> rheumatic fever |
| <u> </u> diabetes | <u> </u> sickle cell disease |

2. Is your child now taking any medications? no yes

If yes, specify the name or purpose of the medicine _____

I DO NOT GIVE PERMISSION for my child to participate in the Oral Health Survey.

CHILD'S NAME:

Last	First	MI	Birthdate
Teacher		Grade	Room
Parent or Guardian's Signature			Date
Home Address (street, city, zip code)		Home Telephone #	
		Work Telephone #	

For Office Use

246 N. High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone (614) 466-3543



RICHARD F. CELESTE
Governor

Dear Parent:

Thank you for allowing your child, _____, to participate in the Ohio Department of Health's oral health survey. This survey is being conducted for research purposes and does not replace a complete examination by your family dentist. The dental professional performing the oral inspection indicated that your child had the following dental needs:

_____ Need for immediate dental treatment due to toothache or infection. Please contact your dentist.

_____ Need for early dental treatment due to obvious cavities. Please take your child to your dentist as soon as possible within the next few weeks.

_____ Need for dental treatment of a non-urgent nature. Please take your child to your dentist within the next two months.

_____ No obvious need for dental treatment at this time.

_____ Your child may benefit from dental sealants, which prevent cavities. Please check with your family dentist.

_____ Better brushing and flossing are needed.

Your child should visit your dentist at least once a year for a more complete examination including x-rays, if necessary.

Sincerely,

A handwritten signature in cursive script that reads "Mark D. Siegal".

Mark D. Siegal, D.D.S., M.P.H.
Chief, Division of Dental Health

9/87

PLEASE COMPLETE AND SIGN THIS FORM AND RETURN TO YOUR CHILD'S TEACHER WITHIN THREE DAYS

Q1. My child's most recent dental visit was within the last: (please check one)
 1 6 months 2 12 months 3 3 years 4 5 years 5 has never been to dentist

1 checked 2 not checked 3 question not answered
 2. Is your child's dental care paid for by: (please check all that apply)
 Q2 Family Q4 Dental Insurance
 Q3 Medicaid/ADC(Health Card) Q5 Don't know

Q6 3. Have you heard of dental sealants?
 1 Yes 2 No 3 Question not answered

1 checked 2 not checked 3 question not answered
 If yes, which of the following best describes the purpose of dental sealants?
 Q7 To prevent cavities
 Q8 To fix cavities or broken teeth
 Q9 To prevent gum disease

PLEASE CHECK ONE BOX:

I GIVE PERMISSION for my child to participate in the Oral Health Survey.
 Please answer questions 1 and 2, below:

1 one or more checked in part 1
 2 none are checked in part 1, part 2 is answered
 3 neither part or 2 are answered

Q10 1. Has your child ever had any of the following? (Check all that apply)
 abnormal bleeding heart disease
 artificial joints or heart valves rheumatic fever
 diabetes sickle cell disease

2. Is your child now taking any medications? no yes

If yes, specify the name or purpose of the medicine _____

I DO NOT GIVE PERMISSION for my child to participate in the Oral Health Survey.

CHILD'S NAME:

Last	First	MI	<u>Birthdate</u>
Teacher		<u>Grade</u>	Room
Parent or Guardian's Signature			Date
Home Address (street, city, zip code)		Home Telephone #	
		Work Telephone #	

Q11 BRACES

1. Is currently wearing orthodontic appliances
 2. Is not currently wearing orthodontic appliances

For Office Use

 School GR ID

246 N. High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone (614) 466-3543



RICHARD F. CELESTE
Governor

STUDENTS WITH TREATMENT NEEDED

Pain and Infection URGENT	Obvious Decay	NAME

246 N. High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone (614) 466-3543



RICHARD F. CELESTE
Governor

May 31, 1988

FILE COPY

Homer C. Neff, Jr.
Coventry Local Schools
482 Grant Street
Akron, Ohio 44311

Dear Mr. Neff:

Thank you for your support and participation in the Ohio Department of Health's oral health survey. The purpose of the survey was to assess the dental status and needs of Ohio's schoolchildren. The findings will be used for planning future dental disease prevention and health promotion programs.

The cooperation of the principals and staffs at each of the participating schools made the survey possible in your district. We have truly appreciated their outstanding efforts and willingness to assist with the project.

The survey revealed some interesting information about the oral health of Ohio children. This information should have a significant impact on future programming. Of the 4,879 students in grades 1-3, 6-8, and 11 who participated statewide, 40 percent had experienced decay in their permanent teeth. Greater than 80% of the decay occurred on tooth surfaces that had decay-susceptible pits and fissures. Fewer than 8 percent of children, however, had dental sealants which are the most effective means for preventing these types of cavities. Sealants are plastic coatings which, when applied to surfaces of teeth with pits and fissures, form a barrier to decay-causing bacteria.

Below are the findings of the survey that indicate the need for dental care among the children we saw in your school district:

School Name	No obvious need for dental care	Non-urgent dental care	Early dental care	Immediate dental care
Lakeview Elementary	75	11	8	1
Erwine Middle	47	20	8	1
Coventry High School	11	0	0	0

Mr. Homer Neff, Jr.

Page 2

May 27, 1988

Please share the information in this letter with the principals of the schools that participated in the survey. Should you have any questions, comments or desire a copy of the final report, please contact Shannon L. Daily, at (614) 466-4180.

Thank you.

Sincerely,

Mark Siegal/mf

Mark D. Siegal, D.D.S., M.P.H.
Chief, Division of Dental Health

MDS/mf

246 N. High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone (614) 466-3543



RICHARD F. CELESTE
Governor

February 2, 1988

Ms Sharon Ickes, Principal
Auburn Elementary
109 Auburn Avenue
Shelby, Ohio 44875

Dear Ms Ickes:

Thank you for your participation in the Ohio Oral Health Survey that is being conducted by the Dental Division of the Ohio Department of Health. The following is a list of the grade level, exam date, and the number of students examined:

Grade 1, January 7, 1988, 31 students
Grade 2, January 7, 1988, 30 students
Grade 3, January 7, 1988, 24 students

The staff and students of Auburn Elementary have been most helpful to the dental team members. I would like to especially highlight the assistance given by Elsie Branch, R.N., for coordinating and scheduling the students involved. A letter will be sent to Dr. Russell with the results of the survey. We enjoyed receiving the article and photo from the Shelby Globe.

Don't hesitate to call if I may be of assistance to you. Our number is (614) 466-4180.

Sincerely,

A handwritten signature in cursive script that reads "Shannon L. Daily".

Shannon L. Daily, R.D.H., B.S.
Dental Program Assistant
Division of Dental Health

Dental Needs of Migrant Children in Ohio
D.F. Schmakel, D. Jacoby, S. Fox, J. Bellman
Ohio Department of Health - Northwest District Office
1033 Devlac Grove Drive
Bowling Green, Ohio 43402

The Ohio Migrant Education Program and the Ohio Department of Health cooperated to provide a comprehensive health screening and education program to migrant children in northwest Ohio during the summer of 1988. Each of several health disciplines coordinated participatory educational activities to promote health awareness in addition to providing physical assessment and health screenings in the following areas: vision, hearing, diabetes, hypertension, immunizations, nutrition, and dental health.

The dental screening portion was conducted as an oral health survey by trained examiners using portable equipment and a direct data entry computer program. Of the 469 children, between the ages of 3 and 15 years, who were examined, 56% had untreated caries in one or more teeth. Only 29% showed no evidence of caries experience. Parents reported that 24% of the children had never visited a dentist.

Data from the survey were compared with a 1987 survey of Ohio schoolchildren. Migrant children were found to be three times more likely to have never visited a dentist, 2.4 times more likely to have untreated carious teeth, and about 70% as likely to show no evidence of caries experience.

Migrant children who needed immediate or early dental treatment (pain, infection, or obvious caries) were referred for restorative and preventive services. For the 115 children who received dental care through the program, a mean of 4.22 surfaces per child were restored, including 17 stainless steel crowns.

The survey demonstrated that there is a relatively high level of unmet dental needs in migrant children indicating a need for more preventive and restorative dental services for this population. The findings were consistent with other similar surveys.