# The Head Start Dental Component: Evaluation of an Urban Program

WARREN A. PARKER, DDS, MPH
R. PAUL FULTZ, DDS, MPH
WILLIAM R. NAIL III, DDS, MPH

Dr. Parker is Associate Professor, and Dr. Fultz is Professor and Chairman, Department of Community Health and Preventive Dentistry, Baylor College of Dentistry, Dallas, TX. Dr. Nail is Director, Public Health Region 5, Texas Department of Health, Arlington.

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Tearsheet requests to Dr. Parker, Baylor College of Dentistry, 3302 Gaston Ave., Dallas, TX 75246.

**Synopsis**

*To evaluate the dental portion of a Head Start Program, the investigators determined the degree of compliance in providing children aged 3–5 years with annual examinations, topical fluoride, followup care, and a dental curriculum for their classroom. The study included (a) an audit of the children's health records, (b) a clinical assessment of care needs, oral cleanliness, and restoration quality, and (c) an evaluation in the last month of the school year. The evaluation procedures were standardized, and dual examiners were used for all assessments. Differences of opinion between examiners were settled immediately, and the consensus was noted in the evaluation record for the study.*

*A review was conducted of the health records for the 564 children enrolled in eight Head Start centers in Dallas, TX. According to those records, 74 percent of the children had been examined. Nearly 24 percent had required dental care because of caries—the range among centers was 11 to 43 percent. Of the group requiring care, 85 percent had received all the care needed. With the use of World Health Organization criteria, a mean score of 2.47 for oral cleanliness was determined for a random sample of 178 children. This sample also exhibited 1.45 decayed and 1.18 filled deciduous teeth per child. Restoration quality was rated; 94 percent were judged to be acceptable by Ryge's criteria. At all the centers, the dental health curriculum met the program standards set for Head Start by the Public Health Service, Region VI.*

*This investigation showed that the centers did not uniformly comply with the clinical care standards devised for Head Start by the Public Health Service, but they did provide dental services that otherwise might not be available to children enrolled at the eight centers.*

PROJECT HEAD START was funded in 1965 as a national program to prepare children of low-income families to cope with school and their overall environment. Initially the program was designed to be a comprehensive 8-week summer session for children aged 3–5 years. It has evolved into a full year program that is locally administered but federally funded (*1*).

In 1975 performance standards were developed and adopted for the four program components—education, health, parent involvement, and social services (*2,3*). Dental health services are a required and important element of the health component.

Since 1966 the Public Health Service has provided dental consultation to the Head Start Bureau of the Administration for Children, Youth, and Families to establish and maintain dental health programs (*1*). The standards for the dental program emphasize the importance of maintaining accurate and thorough medical-dental histories and records of the services given. The standards stipulate also that these basic dental services will be provided (*2*):

- dental examination,
- services required for the relief of pain or infection,
- restoration of decayed primary and permanent teeth,
- pulp therapy for primary and permanent teeth as necessary,
- extraction of nonrestorable teeth,
- dental prophylaxis and instruction in self-care oral hygiene procedures,

• application of topical fluoride for communities without adequate fluoride levels in the public water supply.

From conversations with the Department of Health and Human Services Region VI dental consultant, we learned that the Public Health Service had never formally evaluated any dental programs sponsored by Head Start in Region VI. We then undertook to evaluate the dental portion of an urban Head Start program in Dallas, TX, by ascertaining the extent to which the program was meeting its objectives, that is, to what degree the program was complying with the standards by

1. providing an annual dental examination of the children
2. providing topical fluoride applications
3. providing followup care for children, when indicated
4. maintaining records to document performance and services.

This paper reports our findings.

## Method

The data on which we based the evaluations were collected from all eight operating centers in Dallas. Our visits to the centers were planned with the cooperation and aid of the Head Start program director and the health coordinator for the local program.

On the first visit to each center, every dental record on file was reviewed. Information from each record was copied on data collection instruments designed for this study. We three investigators worked as a team until we had established uniformity in interpreting and recording the information; then we worked independently. A two-reviewer team (W.A.P. and R.P.F.) visited each center to discuss and resolve any problems that arose during the review of records.

On a return visit, a sample of children was selected for clinical examination and evaluation. The clinical evaluation consisted of a Debris Index, the criteria for which have been established by the World Health Organization (*4*), a DMF-def index, and an evaluation of the clinical quality of restorations (*5*) placed during the previous school year as part of the dental program. Two of us (W.A.P. and R.P.F.) conducted the evaluations, which were standardized by a dual examination process at the first center. Conflicting assessments were few, and the dual examiner procedure was used in all but two centers. One dentist served as the examiner; the other one observed the principal examiner and served as the recorder. We alternated roles at each center. We interviewed center directors to evaluate the dental health education curriculum and the procedures for applying topical fluoride.

## Findings and Discussion

A major finding that had a great impact on our reporting procedures for this study concerned the utilization of the recommended records system for Head Start dental programs. The Head Start Form 5, "Dental Health Record," which is part of the 12-page health packet, had not been used as intended. Rarely had this form been completed by either the Head Start personnel or the dentists. Rather, information on dental treatment had been recorded almost exclusively on an obsolete form, which was placed in the health folder. (It appears that the dental health record form should be reviewed by program administrators to ensure that it has been completed properly.)

A total 564 health folders at eight Head Start centers was reviewed. Of those folders, 124 (21.99 percent) contained no dental record. Compliance among the centers varied from 2.27 to 49.92 percent. When health aides were available on site during the review of the records, they usually could account for missing records as being at the attending dentist's office or in the custody of the local program health coordinator awaiting eligibility-related approval under Title XIX. Only one center used a checkout system that enabled the reviewers to identify why dental records were not in the health folder. There, whenever a record was removed, a preprinted form on which were noted the record's whereabouts and the reason for removing it was placed in the folder. (Such a system would be beneficial to all centers.)

According to the records, 418 (74.11 percent) children had had a dental examination for the current school year. The compliance rate ranged from 97.73 to 50 percent among the centers. Further, 403 records (71.45 percent) indicated that all necessary diagnostic, preventive, and therapeutic care had been completed; therefore, those records were classified as "completed cases." In 99 of the 418 records (23.68 percent), a need for care beyond the examination was identified—primarily for restorations and extractions. All the care needed had been given to 84 (84.85 percent) of the 99 children.

Table 1. Summary of review of dental health records for 564 children in eight Head Start centers

| Category | Number | Percent | Range | |
|---|---|---|---|---|
| | | | High | Low |
| Children whose health folders had no dental records | 124 | 21.99 | 45.92 | 2.27 |
| Children who had received the annual dental examination | 418 | 74.11 | 97.73 | 50 |
| Children who had received all the dental care needed | 403 | 71.45 | 97.73 | 46.94 |
| Children needing therapeutic care | 99 | [1]23.68 | 42.86 | 11.24 |
| Children who had received all the therapeutic care needed | 84 | [2]84.85 | 100 | 75 |

[1] Based on the number of children who had received the annual dental examination.

[2] Based on the number of children who needed therapeutic care.

The preceding information is summarized in table 1 along with the ranges among the centers. Information about the cost of care could not be abstracted validly from the records, nor could the source of payment be identified—Head Start, "In Kind" care (care for which the dentist is not reimbursed), or Title XIX of the Social Security Amendments of 1965.

After the records were reviewed, 178 children were evaluated clinically, as described earlier. They constituted a 31.56 percent sample of the children whose health folders had been reviewed. The Debris Index score per child may range from 0 to 6. The mean debris score for the survey sample was 2.47 with a range among centers from 3.83 to 1.40. The mode, or most frequently occurring debris score, was 0 and was found for 63, or 35.39 percent, of the children (table 2). With the use of criteria developed by Ryge (*5*), 135 restorations were evaluated for quality (table 3). Approximately 94 percent were rated as acceptable. This proportion is considered to be a very acceptable level and reflects the high quality of care being provided in this program.

Among the children sampled, 1.45 decayed deciduous teeth per child were found, with a level of 1.75 decayed deciduous surfaces per child. This figure was not considered to reflect disagreement between the findings from the records review and those of the clinical evaluation because many of the children had been examined early in the school year. Among the children surveyed, 1.18 filled teeth per child and 2.27 filled surfaces per child were found. These mean figures result from a skewed distribution and should be generalized with caution. That is, a small proportion of the sample had very high decayed and filled rates, and these have increased the mean values for the sample. It should be noted that the children at the centers varied greatly in terms of need for care. For example, the range between centers is from a high of 2.14 decayed teeth per child to a low of 0.15

Table 2. Status of oral cleanliness among children enrolled in eight urban Head Start centers[1]

| Center | Number rated | Mean score | Most frequently occurring score |
|---|---|---|---|
| 1 | 25 | 3.2 | [2]0, 6 |
| 2 | 24 | 1.8 | 0 |
| 3 | 11 | 1.7 | 0 |
| 4 | 28 | 3.4 | 3 |
| 5 | 22 | 1.4 | 0 |
| 6 | 13 | 1.6 | 0 |
| 7 | 23 | 3.8 | 6 |
| 8 | 32 | 2.0 | 0 |
| Overall | 178 | 2.5 | 0 |

[1] World Health Organization Oral Debris Index was used as a measure of oral cleanliness.

[2] Distribution was bimodal.

Table 3. Quality of 135 dental restorations in children enrolled in eight urban Head Start centers[1]

| Quality categories | Number | Percent |
|---|---|---|
| Totally acceptable (the range of excellence) | 115 | 85.19 |
| Acceptable with minor defects | ... | 8.89 |
| Replace for preventive reasons | 3 | 2.22 |
| Replace immediately | [2]5 | 3.70 |

[1] Rated by Ryge's criteria.

[2] All restorations completely missing.

Only 11 posterior deciduous teeth were found to be missing or to have been extracted because of caries.

The table that follows shows the priority-of-care distribution for children examined during the survey.

| *Priority of dental care needed by 178 children* | *Number of children* | *Percent of sample* |
|---|---|---|
| Need care immediately | 10 | 5.62 |
| Need care soon | 26 | 14.61 |
| Need routine care | 44 | 24.72 |
| No apparent care needed | 98 | 55.06 |

Approximately 45 percent of the children required care. These findings indicate a greater need for care relative to the number of children studied than that found by the audit of the records. As mentioned, however, the survey was conducted several months after many of the Head Start-required examinations had been done and, therefore, may reflect the incidence of caries for the period between examinations. Also the sample may have been biased, although there was no intent to select children who had not been seen by a dentist during the current year or to select children with a history of high incidence of dental caries.

Interviews with each center director revealed that all centers were using the Tattle Tooth (*6*) dental health education program in the classrooms and that a dental hygienist from the State department of health had visited the center early in the school year as a consultant. All teachers were reported to have attended Tattle Tooth workshops.

Toothbrushes were individually stored and each was marked with a child's name. The directors indicated that brushing and flossing is supervised by the teacher or classroom aide. Tablets that disclose unclean tooth surfaces were not used routinely in the classroom. Gel Kam (*A*) was being used as the topical fluoride source, and both application and dispensing were supervised by a teacher. The gel was stored out of the children's reach; there were no containers of the gel for individual children. In addition to topical fluoride programs conducted at the centers, virtually every child seen by a dentist received a fluoride application during the examination visit.

## Recommendations and Conclusions

Incomplete and missing dental records and inconsistent or missing information on required forms were observed to be major problems. Therefore:

1. Head Start personnel who complete the health forms should be made aware that information should be entered on portions of the form when the child is registered and interviewed.
2. Dental treatment information to be included in the health packet should be recorded on the form designed for that purpose.
3. Participating dentists should be reminded to enter on the appropriate dental form all the information that has been requested, or the form should be revised and unnecessary sections removed.
4. A records checkout system should be instituted so that records which are removed can be traced.

Of use to Head Start dental consultants, directors, and administrators is the feedback from this model of urban Head Start centers.

- Centers within the same geographic area differed considerably in the percentages of children who had received annual dental examinations and had all their dental care needs satisfied.
- The dentists caring for these children had given high quality services, as evidenced by the excellent restorations.
- The dental educational and oral hygiene portion of the Head Start program had been conducted as designed. These centers had not met the dental performance standards 100 percent. They were, however, effectively teaching dental health preventive practices to the children.

## References


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**Supply**

*A*. Scherer Laboratories, Inc., Dallas, TX 75244.