# Identification and Description of Mobile Dental Programs – A Brief Communication

**Brian R. Carr, BS, BA; Umo Isong, DDS, MPH, PhD; Jane A. Weintraub, DDS, MPH**


## Abstract

***Objectives:*** *The purpose of this study was to identify and describe mobile dental programs in California.* ***Methods****: The programs were identified by Internet searches, county health officers, local dental society directors, mobile program directors, and others. A cross-sectional survey was mailed to program directors if their programs provide clinical dental services beyond screening and education.* ***Results****: In California, 33 programs were identified; survey response rate was 70 percent. The populations most likely to be served were those with low-income (100 percent), elementary (77 percent) and preschool (68 percent) children, non-English speakers (64 percent), and the Medicaid-eligible (64 percent). At least half of the programs were providing services in designated Dental Health Professional Shortage Areas. Most program directors indicated that if their program was discontinued, it would be "very difficult" (61 percent) or "difficult" (35 percent) for the target populations to get dental services.* ***Conclusions:*** *Mobile dental programs are a highly variable, but important, strategy for bringing dental care to many underserved populations.*


*Key Words: Health services accessibility, dental health services, delivery of health care, public health dentistry, mobile health units*

## Introduction

Providing dental care to underserved populations in the United States is a major challenge facing the profession. Some mobile dental programs have been implemented in an attempt to improve access to dental care. Most of the published reports about this delivery system have been individual case studies (1-6); however, in one report, three programs were compared (7). There have been no large-scale regional assessments. The goals of this descriptive, cross-sectional study were to identify and characterize currently operating mobile dental programs in California (CA).

## Methods

This study, approved by the University of California, San Francisco's Institutional Review Board, consisted of two phases:

- Identification of eligible CA programs and their director's contact information
- Survey administration to the program directors

**Phase I: Identification.** To be eligible for study inclusion, programs had to provide clinical dental services in a mobile facility. The CA Dental Board's definition of a mobile dental clinic or unit was used: "any self-contained facility in which dentistry is practiced which may be moved, towed, or transported from one location to another" (8). Programs providing only screening or education services were excluded, as were programs using portable equipment to provide on-site care.

The CA Dental Practice Act requires mobile operations to be registered with the State Dental Board (8). The Board maintains a Web site that allows a search for license or permit verification, but this information is not maintained electronically in a searchable format for mobile programs. Thus, unfortunately, no comprehensive list of mobile dental programs was available from this source. Other sources contacted to identify programs included the Association of State and Territorial Dental Directors, mobile dental van manufacturers, the state dental Medicaid Office, the American Dental Association, the California Dental Association, the California Department of Health Services, all 58 county health departments, CA component dental societies, CA dental schools, and the dental public health electronic Listserv. The Internet was also searched using Google and PubMed. Internet searches using the name of a specific CA county and "mobile dentistry" as key words, with Google as the search engine, proved to be the most effective Internet search strategy. Other key words and groupings were tried, yielding poorer results. The first 100 results were reviewed

Send correspondence to Jane A. Weintraub, DDS, MPH, Center to Address Disparities in Children's Oral Health, University of California, San Francisco School of Dentistry, 3333 California Street, Suite 495, San Francisco, CA 94143-1361. Tel.: 415-476-3033; Fax: 415-502-8447; e-mail: Jane.Weintraub@ucsf.edu. Brian R. Carr, Umo Isong, and Jane A. Weintraub are with the Center to Address Disparities in Children's Oral Health, University of California, San Francisco School of Dentistry. Umo Isong passed away after the manuscript was written. Reprints will not be available from the authors. **Sources of support:** NIH/NIDCR T32 07236-09 (training grant) and NIH/NIDCR/NCMHHD U54 DE14251 (Center to Address Disparities in Children's Oral Health). **Poster presentations:** Portions of the results of this study were presented at the March 10, 2006, American Association for Dental Research meeting in Orlando, FL, and the May 1, 2006, National Oral Health Conference in Little Rock, AR, where Brian R. Carr was the recipient of the first-place award in the predoctoral student research category for his work. Manuscript received: 3/5/07; accepted for publication: 8/19/07.


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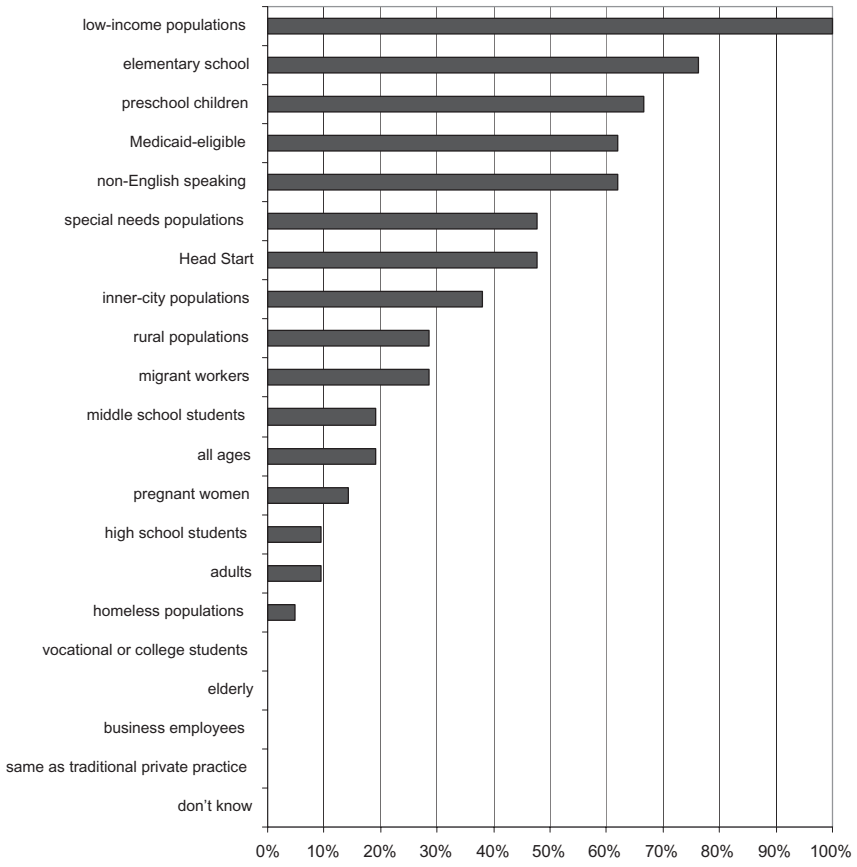
**Figure 1**
**Target populations ($n$ = 22)**




for each search to seek contact information for mobile clinics operating in that particular county.

**Phase II: Survey.** A survey was developed and pilot-tested for comprehension and modified to improve clarity. A cover letter, the survey, a $5 gift card to a national coffee retailer, and a stamped return envelope were mailed to program administrators who met the inclusion criteria. A second mailing was sent to nonrespondents about a month later.

## Results

**Phase I: Identification.** About half of the programs were identified using multiple methods, and 15 by only one method. Of the 33 programs identified, 24 programs were identified using the Internet, the most effective tool, including six programs that were identified only this way. County health department staff identified 14 programs; component dental society contacts identified nine. Other sources identified fewer programs. Public health nurses provided helpful contact information for mobile programs because they often made patient referrals to dental clinics.

**Phase II: Survey.** The response rate was 70 percent, from 21 program directors in charge of 23 different programs. One program director completed two surveys, one for each of the two mobile units that each served different populations. Data were analyzed based on the number of program responses for each question.

One program had been operating since 1977; however, 77 percent of the programs had begun operation in the past 5 years. Forty-one percent of the mobile dental programs were parented by nonprofit organizations, 27 percent by hospitals, 18 percent by dental schools, 14 percent by health departments, 10 percent by hospital foundations, and 19 percent had no parent organization. One program was operated by one of each of the following: community health center, school, school district, and a for-profit organization.

Sixty-four percent of the programs surveyed operated vans, as opposed to trailers or trucks, with 41 percent being 40 ft or longer. The majority, 73 percent, of the mobile clinics contained two dental chairs. About a third of the programs provided other health services besides dentistry.

Mobile dental clinics were currently serving at least 30 of the 58 counties in CA. At least 50 percent of the program directors reported serving areas designated as Dental Health Professional Shortage Areas (9). Schools were the most common location for the programs to administer services (91 percent). The most prevalent target populations were low-income populations and elementary and preschool children (Figure 1).

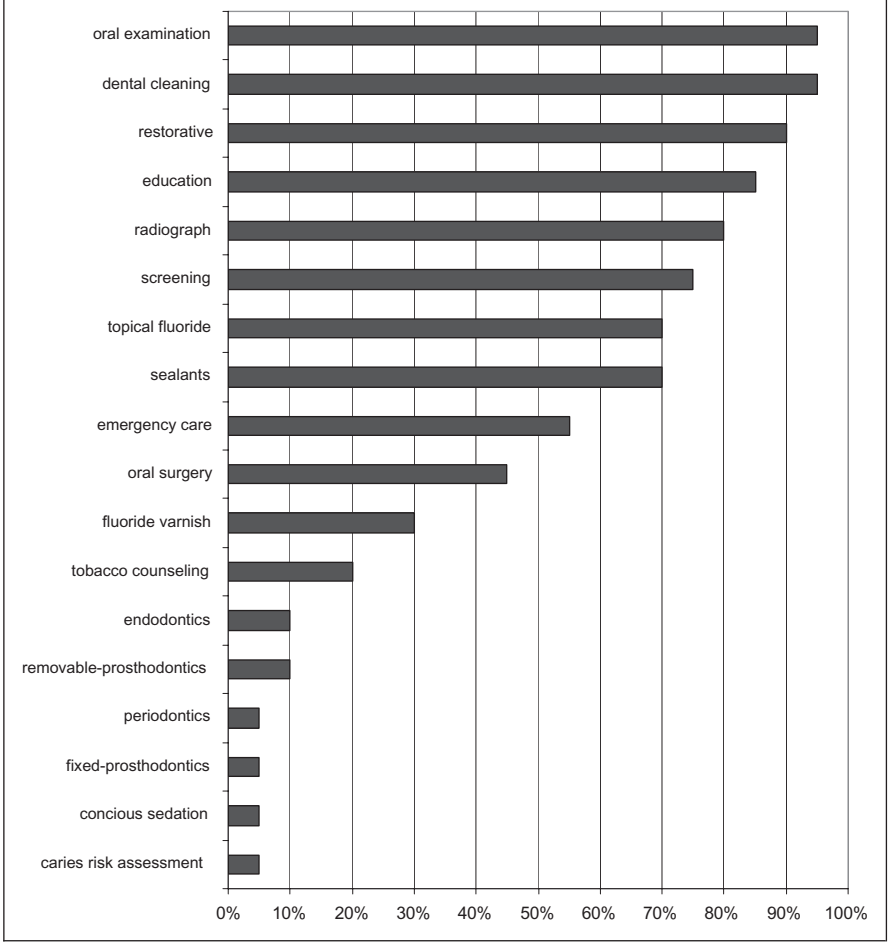
Fifty-seven percent of the programs reported accepting Medicaid as a form of payment, although 91 percent reported serving patients covered by Medicaid. Multiple funding sources, including both public and private, for a program were common.

A mix of paid and volunteer dental personnel staffed the programs. Dentists were more likely to be paid rather than to be volunteers. Hygienists staffed only five programs, and two-thirds of the programs had a driver.

Programs were operating from less than 10 hours/week and less than 10 weeks/year to as many as 40 hours/week and up to 52 weeks/year. Hours/year ranged from 100 to 2,080, with seven operating up to 1,000 hours/year, nine from 1,001 to 2,000 hours/year, and six more than 2,000 hours/year. Program respondents reported serving a mean of 14.2 [standard deviation (SD) = 9.6] patients/day, and performing a mean of 19.4 (SD = 13.0) procedures/day.

The most prevalent patient services provided (Figure 2) were oral examination, dental cleaning,

**Figure 2**
**Patient services (*n* = 21)**




restorative treatment, and education. Programs rarely provided specialty services such as endodontic and prosthodontic care. Almost two-thirds of respondents reported providing follow-up care for patients. When referrals were needed, they were most often made to private general dentists or specialists.

Major program challenges faced were continued funding (91 percent), followed by sufficient personnel (43 percent). Respondents were asked about the annual costs for administering their programs in categories such as maintenance, fuel, and personnel. Many (44 percent) did not provide this information. Personnel costs were the largest ongoing annual expense, ranging from $20,000 (programs operating 10 hours/week – 10 weeks/year) up to $400,000 (programs operating 40 hours/week – 50 weeks/year).

Sixty-one percent of program directors indicated that if their program were discontinued, it would be "very difficult" for the target populations to get the dental services they provide, while 35 percent indicated that it would be "difficult." They were also asked to what extent their program had increased access to care for their target populations. Two-thirds (65 percent) indicated a large extent, 26 percent a moderate extent, 9 percent a small extent, and none indicated "not at all."

## Discussion

The best way to identify these programs was by using the Internet, but dentally underserved populations with low income and low health literacy may be less likely to find out about these services electronically. Internet-savvy case managers, school administrators, and other key informants are needed to disseminate the Web-based information.

The large variability among CA programs mirrored the variability found in the case studies. Although programs were providing services in the majority of CA counties to diverse population groups, the mobile programs were not increasing access to the underserved at both ends of the age spectrum. Less than a third of the programs provided services to children aged 0 to 2, even though the American Association of Public Health Dentistry recommends that a child's first dental visit occurs around age 1 (10). None of the programs served the elderly, even though the CA dental Medicaid program includes eligible adults.

The findings may not be generalizable to all regions and all types of programs because of CA's unrepresentative demographics and the study's focus on programs providing clinical services. The results are based on self-report; program directors may incorrectly report program activities. The lack of reporting on financial data was problematic. More cost and revenue data are needed to determine how many programs are profitable and sustainable, and what type of subsidies are provided. In-depth longitudinal clinical and economic assessments are needed to help identify the "best practices" and most effective methods of increasing access for and meeting the needs of dentally underserved populations.

Expected sources of information such as dental societies and health departments were often not able to provide adequate information about programs operating in their jurisdictions. Thus, this list of programs may help CA communities find mobile programs in their areas. State, regional, and local health officers should assist in making this type of information readily available to the public and those making referrals for dental care. If the consumers who need their services can find them, mobile dentistry can be a useful model for the delivery of dental services to many underserved populations.

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