

Identifying Unaddressed Systemic Health Conditions at Dental Visits: Patients Who Visited Dental Practices but Not General Health Care Providers in 2008

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We assessed the proportion and characteristics of patients who do not regularly visit general health care providers but do visit dentists and whose unaddressed systemic health conditions could therefore be identified by their dentist. Of the 26.0% of children and 24.1% of adults that did not access general outpatient health care in 2008, 34.7% and 23.1%, respectively, visited a dentist. They varied by census region, family income, and sociodemographics. Dental practices can serve as alternate sites of opportunity to identify health concerns among diverse groups of US patients. (*Am J Public Health*. 2012;102:253–255. doi:10.2105/AJPH.2011.300420)

Many systemic diseases manifest in the oral cavity.^{1,2} Therefore, dental providers can often use direct clinical observations and radiographic findings to detect patients' systemic health disorders.³ Through systematic assessment and referral, dentists and dental hygienists can alert these patients about the need for follow-up with primary care providers, when warranted. This is especially important for those dental patients who do not regularly access general health care. To better inform the extent to which a dental practice can serve as a site of opportunity for assessment and identification of systemic health disorders for such patients, we analyzed data

collected in 2008 as part of the Medical Expenditure Panel Survey (MEPS). We determined the proportion and characteristics of children and adults who were seen by a dentist in 2008 but not by a general health care provider in an outpatient setting during that year.

METHODS

The MEPS is an annual survey sponsored by the Agency for Healthcare Research and Quality.⁴ The MEPS Household Component of the survey, completed by US families and individuals across the United States, is supplemented with data from their health care providers. The 2008 sample was drawn from a nationally representative subsample of households that participated in the National Health Interview Survey. Data were collected regarding the health services that the families and individuals used in 2008.

With the interactive MEPSnet query tools,⁵ we used deidentified MEPS 2008 Household Component public use data files to examine characteristics of those who had visited a dentist during 2008, but not a general health care provider (e.g., physician, nurse, nurse practitioner, physician assistant, physical therapist, optometrist, chiropractor) on an outpatient basis in an office, hospital outpatient department, or hospital emergency room. We separately examined data involving children (aged < 18 years) and adults (aged ≥ 18 years). We considered their census region (i.e., Northeast, Midwest, South, and West), demographics (i.e., age, gender, race, and ethnicity), education level, marital status, employment status, and whether they had health insurance coverage. We also considered family income relative to the applicable poverty line based on family size and composition (as computed by MEPS⁶), classifying individuals as poor (< 100% of the poverty line), near poor (100% to < 125% of the poverty line), low income (125% to < 200%), middle income (200% to < 400%), or high income (≥ 400% of the poverty line). The MEPS is among the sources of public use data approved by the University Committee on Activities Involving Human Subjects at New York University, thereby allowing New York University investigators to use the database without review and approval by that committee.

RESULTS

A total of 31 262 individuals were included in the MEPS 2008 Household Component public use data files, representing a US population of 304 375 942 individuals. This sample included 9134 children, representing 74 292 754 individuals who were younger than 18 years. It also included 22 128 individuals aged 18 years and older, representing 230 083 188 adults.

Children

Of the 9134 children, 2686 did not interact with a general health care provider in an office, at an outpatient hospital facility, or in an emergency room in 2008. When extrapolated to the US population, this represents 19 303 336 children, or 26.0% of the children in the United States in 2008. However, of this latter group of children, 867 (representing 6 691 646 children), or 34.7%, were seen at a dental practice at least once that year.

As shown in Table 1, the children who accessed a dental practice but not a general health care provider in 2008 varied considerably in some of their characteristics. These children were about equally divided between boys and girls. About two thirds (67.8%) were in the South or West, with the remainder more than twice as likely to be in the Midwest as in the Northeast. The majority (92.9%) were of school age (5–17 years). More than two thirds (70.8%) were White, but a sizeable minority were Black (17.8%) or Hispanic (20.8%). More than one third (38.7%) were from low-income, near-poor, or poor families, and one fourth (26.4%) were from families with high income. Almost all (92.8%) had at least some health insurance.

Adults

A total of 6280 adults, representing 55 513 237 people (or 24.1% of those aged ≥ 18 years), did not have contact with a general health care provider in an office, at an outpatient hospital facility, or in an emergency room in 2008. Of these 6280 adults, 1181 (representing 12 849 496 people, or 23.1% of those adults) did see a dentist during that year.

As shown in Table 1, the adults who accessed a dental practice but not a general health care provider in 2008 were quite

TABLE 1—Characteristics of Children and Adults in the United States Who Accessed a Dental Practice but Not a General Health Provider on an Outpatient Basis in 2008

	Age < 18 Years (n = 867), %	Age ≥ 18 Years (n = 1181), %
Census region		
Northeast	9.8	17.9
Midwest	22.4	22.2
South	41.2	36.0
West	26.6	23.8
Age range, y		
0–4	7.1	...
5–17	92.9	...
18–44	...	64.5
45–64	...	31.7
≥ 65	...	3.8
Male	49.5	62.2
Race		
White	70.8	80.6
Black	17.8	9.7
American Indian/Alaska Native	1.8	0.4
Asian	5.4	7.9
Pacific Islander/Hawaiian	0.2	0.2
Multiple races	4.0	1.2
Hispanic ethnicity	20.8	12.7
Education ^a		
< high school	64.5	2.9
High school	11.5	39.0
College	...	46.9
Postcollege	...	10.7
Unknown or not applicable	24.0	0.5
Family income (% poverty line) ^b		
Poor	17.2	7.7
Near poor	4.6	2.7
Low income	16.9	10.7
Medium income	35.0	32.8
High income	26.4	46.1
Marital status		
Never married	...	33.9
Married	...	55.5
Widowed, divorced, or separated	...	10.7
Not currently employed	...	19.2
No health insurance	7.2	14.6

^aHighest level, among those aged 5 years or older.

^bAs computed by Medical Expenditure Panel Survey.⁶

diverse. Almost two thirds (62.2%) were male, 64.5% were aged between 18 and 44 years, and 31.7% were aged between 45 and 64 years. About one third (36.0%) were in the South, with the remaining adults divided fairly evenly among the Northeast (17.9%), the

Midwest (22.2%), and the West (23.8%). Most (80.6%) were White, 9.7% were Black, and 12.7% were Hispanic. In all, 39.0% completed their education in high school, with 46.9% attending college, and 10.7% attending school postcollege. With regard to their marital status,

55.5% were married; 10.7% were widowed, divorced, or separated; and 33.9% were never married. Concerning available resources, one fourth (26.4%) of the adults were from families with high income, but more than 2 in 10 (21.1%) were from low-income, near-poor, or poor families. Almost 1 in 5 was unemployed (19.2%), but most (85.4%) had at least some form of health insurance.

DISCUSSION

Study findings indicated that, of the 26.0% of children and 24.1% of adults who did not have contact with a general health care provider in 2008, a sizeable proportion (34.7% of these children and 23.1% of these adults) did visit a dental practice that year. Taken together, these individuals are estimated to represent 19.5 million people who only visited a dental practice in 2008. Including substantial numbers of children and adults, males and females of various races/ethnicities, education levels, and family income in all 4 US census regions, our analyses demonstrated considerable diversity in these 19.5 million individuals. The majority of these adults and children did have some form of health insurance. This suggests that many of those who did not interact with a general health care provider may have had access to general health care but opted not to seek this care. For these and other individuals, dental professionals are in a key position to assess and detect oral signs and symptoms of systemic health disorders that may otherwise go unnoticed.

Identification of signs and symptoms in the oral cavity that may be manifestations of systemic disease can play an important role in the treatment or etiology of both oral and systemic disease. In addition, diseases such as hypertension and diabetes that can be detected in dental practices through clinical observation, radiographic findings, and screening procedures can potentially reduce costs to the health care system. It is therefore in the mutual interests of the patient, the dental and general health care professionals, and the health care system as a whole, to assess and detect any conditions as soon as possible. Early disease detection enables prompt patient referral for definitive diagnosis and treatment to improve health and reduce long-term health care costs.

We acknowledge several study limitations as a result of our approach in preliminarily examining the proportion of persons who might especially benefit from disease identification at dental practices, as well as variation in their sociodemographic and other characteristics. In particular, in reporting results concerning patients who did not access general health care providers, we aggregated these providers rather than considering them separately according to their disciplines and training. In addition, we did not consider patients' self-reported health, nor did we consider the comprehensiveness of their health insurance coverage. Further research is needed to explore in greater depth the potential for detecting patients' diseases and disorders in dental practices.

Capitalizing on the opportunity for assessment and detection of systemic diseases in dental practices will likely require changes in the dental school curriculum,^{2,3} as well as policies related to scope of practice and reimbursement. Although we acknowledged the considerable controversy regarding the dental profession's role in systemic disease identification,⁷ our analyses suggest that dental practices are important sites of opportunity for such identification, especially for the large number of individuals who do not access primary health care on a regular basis. ■

About the Authors

At the time of this study, Shiela M. Strauss and Terry Fulmer were with the New York University College of Nursing, New York, NY. Michael C. Alfano and Donna Shelley were with the New York University College of Dentistry.

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Contributors

S.M. Strauss originated the study, performed the analyses, and led the writing. M.C. Alfano, D. Shelley, and T. Fulmer contributed to the writing and editing of the article, collaborated on the interpretation of study results, and addressed the study's implications.

Human Participant Protection

Because the Medical Expenditure Panel Survey is among the list of approved sources of public use data by the University Committee on Activities Involving Human Subjects of New York University, no protocol approval was needed for this study.

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