Dental Case Management: Increasing Access to Oral Health Care for Families and Children With Low Incomes
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Relative to more affluent segments of the population, the burden of oral disease is worse for people who have restricted access to prevention and treatment services as a result of their inability to pay for services, their lack of dental insurance coverage and the limited availability of dental care providers who are willing to accept third-party reimbursements from public assistance programs. The purpose of the Medicaid program and the State Children’s Health Insurance Program (SCHIP) is to make dental care more readily available to families and children with low incomes. In New York state (NYS), the Medicaid program provides an array of dental services for children, adults and people with disabilities who have low incomes. Dental care is provided on a fee-for-service basis or as part of the benefit package of managed care programs. Under Medicaid’s Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) service, all people younger than 21 years of age who are enrolled in Medicaid are required to have dental screenings and diagnostic, preventive and treatment services. NYS’ SCHIP complements the Medicaid program by providing health insurance coverage to children whose family income is higher than Medicaid’s eligibility standards (up to 200 percent of federal poverty level). Even with the availability of

**Abstract**

**Background.** Medicaid beneficiaries have lower rates of dental visits and higher rates of dental disease compared with the rest of the population. Beneficiaries ascribe their low use of services to difficulties finding dentists who treat patients with Medicaid. Dentists cite low reimbursement rates, excessive paperwork, and patients’ not keeping appointments and poor oral health literacy as reasons for not accepting patients with Medicaid. The authors pilot-tested the effectiveness of a dental case management program (DCMP) in increasing dentists’ participation in Medicaid and Medicaid beneficiaries’ use of services.

**Methods.** A dental case manager recruits dentists to participate in the Medicaid program, arranges training in billing procedures, resolves billing and payment problems, educates clients about the use of dental services and keeping appointments, links clients to dental offices, identifies potential barriers to care and helps clients obtain transportation to appointments. The authors evaluated the levels of participation of dentists in the DCMP in Medicaid and Medicaid beneficiaries’ use of services.

**Results.** Dentists accepting new Medicaid patients increased from two to 28, with 145 dental visits a month provided to Medicaid beneficiaries. The percentage of Medicaid beneficiaries receiving dental services increased from 9 to 41 percent after the DCMP was implemented.

**Conclusions.** The authors found that the DCMP was effective in increasing Medicaid beneficiaries’ use of services, increasing dentists’ participation in Medicaid, minimizing administrative burdens related to Medicaid participation, and increasing oral health literacy and treatment compliance among clients with low incomes.

**Key Words.** Access to care; social support; Medicaid; dental care utilization; office visits; public health and community dentistry; vulnerable populations; patient education.

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dental coverage, Medicaid and SCHIP beneficiaries nationally and in NYS have lower rates of dental visits and higher rates of dental disease than the rest of the population. In 2004, approximately 14 percent of all people who were eligible to receive Medicaid in NYS used dental services. The use of dental services by children in NYS was substantially higher in 2004; 25 percent of children covered by Medicaid’s EPSDT service, 44 percent of children enrolled in Medicaid managed care programs and 53 percent of children enrolled in SCHIP had an annual dental visit.7,8

According to a 2000 50-state survey of Medicaid and SCHIP programs by the U.S. General Accounting Office (GAO) (now the Government Accountability Office), the major reason that beneficiaries with dental care coverage have a low rate of use of dental services is because they find it difficult to find dentists who will treat them.9 Dentists cite low reimbursement rates, excessive paperwork, billing and administrative complexities and requirements, patients’ not keeping scheduled appointments, and patients’ poor oral health literacy and awareness of the importance of oral health as reasons for their reluctance to participate in the Medicaid program.10 Even with many states implementing strategies to improve access to dental care among people enrolled in Medicaid programs, including raising payment rates, streamlining administrative processes and conducting outreach programs for both dentists and beneficiaries, low rates of use continue to be reported by these states.10

On the basis of its review of state and community model programs used to improve access to care, the American Dental Association (ADA) concluded that effective provider and patient outreach and education and care coordination programs are important in increasing dentists’ participation in public programs and improving beneficiaries’ use of services.9 Such programs would include educating dentists about how to work with Medicaid and other public benefits programs; educating Medicaid beneficiaries about the importance of oral health and its relationship to general health and well-being; improving oral health literacy among beneficiaries; reaching out to underserved populations and helping people in trying to find providers; ensuring that patients are eligible continuously for public assistance programs; and providing transportation and other assistance to beneficiaries to help reduce the number of missed appointments.

Tompkins County is a predominantly rural county located at the southern end of Cayuga Lake in the Finger Lakes region of central NYS. In July 2004, the U.S. Census Bureau estimated that the population of Tompkins County was 100,135, and that approximately 18 percent of the county’s residents lived below the federal poverty level and 10 percent of the population was eligible for Medicaid benefits.11 Insufficient access to dental care has long been identified by a variety of health and human service agencies, school nurses and administrators, and community health nurses, among others, as a priority health issue for residents of Tompkins County. In the 2005-2010 Tompkins County Community Health Assessment, the Commission for a Healthy Central New York identified access to dental care as the top priority for the county, especially among people with low incomes and the Medicaid-eligible population.11 Lack of transportation and dental insurance coverage were cited as the first and second greatest barriers to accessing dental care.

In November 2001, the Tompkins County Department of Social Services convened the Tompkins County Dental Care Task Force that included community members, dental health care providers, health and human service agencies, and school representatives to address the problems of access to dental care. The Tompkins County Dental Care Task Force presented its findings and recommendations to the Tompkins County legislature, whose members approved the submission of a grant application to the NYS Department of Health to develop and implement a dental case management program (DCMP).11 The Tompkins County Department of Health subsequently received a grant of $32,109 a year to do

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so. Before the initiation of the DCMP in July 2003, only two dentists in the county accepted new Medicaid-eligible patients.

In this article, we describe how we used a DCMP to address the needs of difficult-to-reach populations, to increase the number of Medicaid recipients accessing dental care, to expand area dentists’ participation in public assistance programs and to reduce the rate of patients’ missing appointments.

METHODS

The DCMP is intended to enhance Medicaid recipients’ access to dental care by linking them to dental offices. Per the recommendations of the Tompkins County Dental Care Task Force, the Tompkins County Department of Social Services, under a subcontract with the Tompkins County Health Department hired a dental case manager (H.S.) to recruit dentists to participate in the Medicaid program and to facilitate training for and support of dental office staff members regarding how to use Medicaid’s electronic and paper billing systems. The case manager worked at the Tompkins County Department of Social Services in Ithaca, N.Y., and was responsible for the following activities:

- maintaining a database of providers, provider capacity and people who are receiving treatment;
- verifying patients’ Medicaid eligibility;
- screening and educating Medicaid clients on the appropriate use of dental services;
- matching Medicaid clients and participating dentists geographically or based on clients’ needs;
- reviewing patients’ Medicaid claims histories to ensure eligibility for services;
- providing participating providers with a roster of Medicaid clients in their practices;
- coordinating transportation;
- instituting an appointment reminder process using telephone and mailed reminders;
- creating a feedback mechanism for providers and patients to address program issues.

Under a letter of agreement between Tompkins County Department of Health and Department of Social Services, the case manager was to conduct at least 15 intake appointments per month, serving between 20 and 30 clients; maintain a sufficient number of dentists (at least 20) who could provide 300 to 360 dental visits per quarter to Medicaid recipients; minimize the rate of missed dental appointments to less than 3 percent; and work with providers to resolve Medicaid billing issues.

Recruitment of dentists. The case manager maintained ongoing contact with the 63 licensed dentists in the county through presentations at local dental society meetings, letters, telephone calls, office visits and distribution of the program’s brochure. The case manager also helped dental office staff members with billing concerns; arranged training by a representative from Computer Science Corporation (Albany, N.Y.)—NYS’ Medicaid fiscal intermediary—for office staff members to learn how to submit Medicaid claims; served as a liaison between participating providers and Computer Science Corporation regarding billing problems; and tracked all billing problems until they were resolved. The case manager also informed dentists whenever clients lost or regained their Medicaid eligibility, tracked down patients if a dental office could not reach them for recall appointments and followed up with clients who were reported by dental offices as “no-shows” to reinforce the need to keep appointments.

Outreach to and recruitment of clients.

The case manager regularly visited schools, Head Start centers, food pantries, medical offices, advocacy centers, Special Supplemental Food Program for Women, Infants, and Children (commonly referred to as WIC) clinics and human services agencies to distribute outreach materials and promote the DCMP. Clients could either self-refer or be referred to the DCMP. Before they were referred to the DCMP and met with the case manager, the Tompkins County Department of Social Services confirmed that the client was eligible for Medicaid, and staff members encouraged all family members to enroll in the DCMP. During the initial enrollment interview, the case manager educated clients about good oral health practices, the appropriate use of dental services and the importance of keeping all dental appointments; identified any potential barriers to receiving care; and helped clients by ensuring that reliable transportation would be available for them to go to and from their dental appointments. Clients signed an enrollment agreement stating that they would work with their dentists by keeping appointments, following treatment suggestions and informing their dentists of any changes in their health. Clients were told that they were required to call the dental office at least 24 hours in advance if they would be unable to keep an appointment and to contact the Medicaid transportation unit if they needed transportation.
Referral for dental care. During the initial enrollment interview, the case manager helped DMCP enrollees select a participating dentist located either near their homes or work, whichever was most convenient, and make an appointment. In many cases, dental care providers were located within walking distance of DCMP clients. At the conclusion of the enrollment appointment, the case manager faxed a referral form to the selected dentist. The form included critical patient identification information and a brief medical history, as well as alerted the provider that the patient would be calling to make an appointment. Participating dentists scheduled appointments for patients referred through the DCMP and referred eligible people who contacted them directly to the case manager to enroll in the DCMP.

Data collection and analysis. The case manager collected quarterly data on the numbers of clients enrolled in the DCMP, participating dentists, dental visits, enrollees receiving services and the number of individual children receiving dental services and reported the data to the NYS Department of Health every three months. We (B.J.S.G. and J.V.K.) used Social Service District Medicaid eligibility reports to extract information on the number of Medicaid-eligible people in Tompkins County from 2000 through 2004.12 The NYS Department of Health Office of Medicaid Management Data Unit produced a special report on the annual number of Tompkins County Medicaid enrollees who had at least one claim for dental services from 2000 through 2004 (Tompkins County Medicaid Dental Statistics, New York State Department of Health, Office of Medicaid Management Audit, Fiscal and Program Planning Datamart, unpublished data, 2006). We used this report to calculate the percentage of Medicaid enrollees receiving dental services annually. The Office of Medicaid Management Audit obtained data on the use of dental services by Medicaid enrollees in NYS, New York City (NYC) and rest of state (ROS) during 2004.

Our program evaluation focused on several outcome measures, such as dentists’ level of participation in the Medicaid program, the number of dental visits and the number of claims submitted. In addition to comparing statistics before and after program implementation, we compared data from Tompkins County with data from NYS, NYC and ROS.

RESULTS

The table shows trends in the number of dentists and new clients who enrolled in the DCMP, dental visits, the number of clients who received services and an unduplicated count of children served. The number of dentists participating in the program increased from 15 to 28 between July 1, 2003, and June 30, 2006. As of June 30, 2006, all 28 dentists participating in the DCMP accepted new patients enrolled in Medicaid.

Between July 1, 2005, and June 30, 2006, 832 Tompkins County Medicaid recipients, 350 of whom were children, received needed oral health care at 1,744 dental visits. The average number of visits per dentist declined from 96 (1,440/15) in the first year to 62 (1,744/28) in the third year.

The percentage of Medicaid-eligible clients in Tompkins County who received dental services grew steadily after the DCMP was initiated in July 2003 (Figure 1). During calendar years 2000 and 2001, 8.7 percent and 9.1 percent of Medicaid enrollees, respectively, had at least one claim for dental services paid. The percentage of Medicaid enrollees receiving dental care increased more than fourfold from calendar year 2000 through calendar year 2004.

Figure 2 shows the percentage of Medicaid-eligible people in Tompkins County who had at
least one claim for dental services during calendar year 2004 compared with Medicaid-eligible people in NYS, NYC and ROS. In the first calendar year (2004) after the DCMP was initiated, 41.2 percent of Medicaid-eligible people in Tompkins County received dental services compared with 14.3 percent of Medicaid enrollees in NYS, 14.6 percent in NYC and 13.8 percent in ROS.

Even though the percentage of Tompkins County Medicaid beneficiaries who received dental services increased, there were fewer Medicaid clients per dentist and fewer claims per dentist in Tompkins County in 2004 than there were in NYS, NYC and ROS in 2004 (Figure 3).

**DISCUSSION**

We pilot-tested the DCMP in Tompkins County, N.Y., to determine if it could be a viable model for increasing Medicaid-eligible people's access to dental care, addressing the needs of difficult-to-reach populations, addressing barriers to care, expanding dentists' participation in public assistance programs and reducing the rate of missed appointments. Tompkins County is predominantly rural, and the population has a history of having limited access to dental care and low numbers of dentists who are willing to accept new patients enrolled in Medicaid.

On the basis of our analysis of program outcomes and our comparisons of utilization data for Medicaid beneficiaries in NYS, NYC, ROS and Tompkins County, the DCMP appears to have contributed to the increased participation of dental professionals in the Medicaid program and the improved use of dental services by Medicaid beneficiaries in Tompkins County.

**Utilization trends.** Compared with trends in the use of dental services by Medicaid beneficiaries in other regions of NYS, the increase in the number of Medicaid beneficiaries in Tompkins County who received dental services demonstrates that dental case management is an effective strategy for increasing access to and use of dental services by people with low incomes. While there was an increase in dental service utilization after the start of the program in 2003, we also noted an increase in use in 2002. Several factors may be associated with this trend. In November 2001, dentists in Tompkins County came together...
as part of the Tompkins County Dental Care Task Force to address issues related to access to dental care for Medicaid beneficiaries and other people with low incomes. When the case manager was hired in July 2003 and began visiting dental offices to recruit dentists into the DCMP, she found that a number of dental offices had not submitted their 2002 dental claims forms to Medicaid. She helped staff members at these dental offices submit and receive reimbursement for their 2002 claims.

As a result of a February 1999 class action lawsuit filed by Medicaid beneficiaries, individual dentists and the New York State Dental Association, Medicaid increased reimbursement rates for dental services statewide over a three-year period beginning in state fiscal year 2000-2001. The lawsuit alleged that NYS failed to make dental services available to Medicaid recipients in accordance with federal Medicaid law and cited low reimbursement rates as one of the fundamental obstacles to patient access to dental services. The parties reached a settlement in May 2000 that required state dental expenditures to increase substantially over the following four years. This translated into increases in dental fee-for-service reimbursement.

We expected that since the new dental fee schedule was implemented statewide, changes in Medicaid participation by dental care professionals and use of dental services by Medicaid recipients that were attributable to the new dental reimbursement amounts would be similar across the state. Based on 2004 utilization data, the percentage of Medicaid recipients with at least one paid claim for dental services was similar for NYC, ROS and NYS, but it was almost threefold higher for Tompkins County Medicaid beneficiaries.

Dentists participating in Medicaid. The percentage of registered dentists in NYS who participate in the Medicaid program grew little between 1991 and 2004, despite the increase in reimbursement fees for dental services in 2000. In 1991, 23.5 percent of registered dentists in NYS submitted at least one Medicaid claim; in 2004, 25.7 percent submitted at least one Medicaid claim. Similar to statewide findings, 27.1 percent of registered dentists in Tompkins County submitted at least one Medicaid claim in 2000; however, in 2004 after the DCMP’s implementation, 42.6 percent of all registered dentists in the county submitted at least one Medicaid claim.

The dental case management model. Dentists frequently cite lack of public awareness about the importance of oral health and lack of care coordination within Medicaid programs as principal issues affecting access to dental health services. Problems related to these issues include a high rate of patients who miss their dental appointments, decreased rates of compliance with oral health instructions and failure to follow up for needed treatment. According to the ADA, assuming that market-based reimbursement rates are provided and administrative barriers within Medicaid are addressed, states that successfully improve patient outreach efforts and care coordination will increase the number of participating dentists, serve more eligible patients and, ultimately, reduce the incidence of dental diseases and their attending costs among Medicaid beneficiaries. Recognizing that some Medicaid-eligible people may require more intense assistance in accessing dental care, several states and local programs have implemented...
strategies to provide care coordination or case management and support services.

Programs in Hawaii; North Dakota; Alabama; St. Mary's County, Maryland; and Seattle have used case management services to help Medicaid beneficiaries find dentists, to educate them about the importance of keeping dental appointments, to send appointment reminders, and to arrange for translation and transportation services.\textsuperscript{10,13-16} Some of these models also included interventions aimed at reducing the administrative burdens associated with claim submissions, and all but one included enhanced reimbursement rates for dental services. All of the programs reported modest to significant increases in the use of dental services by Medicaid recipients, resulting from the use of their intervention models. In each model, however, case management was only one of many intervention strategies implemented simultaneously; therefore, the effectiveness of case management in increasing access to and use of dental services cannot be determined from these models. In Tompkins County, however, the DCMP was the sole intervention used.

The DCMP addresses three of the four reasons most frequently cited by dentists for their reluctance to participate in Medicaid: excessive paperwork and other billing and administrative complexities and requirements, patients' poor oral health literacy and awareness about the importance of oral health and patients' failure to keep scheduled appointments.

\textit{Administrative burden}. Some of the case manager's responsibilities were to minimize some of the burdens of Medicaid participation for dentists by verifying the current Medicaid eligibility status of DCMP patients before services were provided, to follow up on and track any billing and reimbursement issues to resolution and payment, and to make hands-on training on Medicaid billing procedures available for dental office staff members. Dentists participating in the DCMP also experienced an overall decrease in the administrative burdens associated with providing services to Medicaid beneficiaries. With more dentists accepting Medicaid, the average number of clients and claims per dentist was reduced.

\textit{Oral health literacy}. All clients enrolled in DCMP met with the case manager in person and learned about the importance of oral health, appropriate oral health practices and the need to follow all treatment recommendations made by the dentist. According to a report by the GAO, children from families with low incomes whose parents received basic education on oral health habits for their children, as well as training on proper dental office protocol and the importance of keeping scheduled appointments, had a threefold increase in the use of dental services compared with children whose parents did not participate in an education program.\textsuperscript{3} The use of dental services by DCMP clients increased similarly, with DCMP clients averaging three dental visits a year. The DCMP also appeared to have had a positive effect on the use of dental services by Medicaid-eligible people in Tompkins County as a whole, with the number of county residents receiving dental care and the number of claims submitted to Medicaid by dental care providers increasing by 240 percent and 387 percent, respectively, from 2002 through 2004.

\textit{Missed appointment rates.} Based on a 50-state survey conducted by GAO and data provided to GAO by the ADA, dentists reported that Medicaid beneficiaries had significantly higher rates of missed appointments than did their other patients, with Medicaid patients not keeping one-third of their appointments.\textsuperscript{3} According to the GAO report, dentists reported that no-shows cost their practices an average of 45 minutes of lost time per appointment. While dentists can send bills to private patients who missed appointments to minimize lost revenue and to cover operating costs, Medicaid prohibits dentists from charging for missed appointments. To address the problem of missed appointments, the case manager educated Medicaid clients enrolled in the DCMP regarding the importance of keeping all scheduled dental appointments and regarding the appropriate use of dental services. All DCMP clients signed an enrollment agreement to work with their dentists by keeping appointments, calling the dental office no less than 24 hours in advance if they would be unable to keep an appointment and contacting the Medicaid transportation unit if they needed transportation. Additionally, all participating dental offices reported the names of clients who missed appointments to the case manager so that she could follow up with the clients. These efforts,
along with the ability of DCMP clients to schedule their first dental visit within one week of enrolling in the program and to select a participating dentist within walking distance of their home or work, may have contributed to reducing the rates of missed appointments. According to DCMP quarterly reports, the missed appointment rate was less than 3 percent.

CONCLUSIONS

The use of a dental case management model can contribute to increasing the use of dental services by Medicaid beneficiaries, promoting greater participation in the Medicaid program by local dentists, significantly reducing the rate of missed appointments, minimizing administrative burdens of Medicaid participation for dental offices, and increasing oral health literacy and treatment compliance among clients with low incomes. The minimal cost associated with the implementation of DCMP makes it an option for rural areas and communities. In more urban and heavily populated areas and counties, the feasibility and costs of such a labor-intensive model need to be assessed.

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