FINAL REPORT

Quality Oral Health Care in Medicaid Through Health IT

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PRESENTED BY:
NORC at the
University of Chicago
4350 East West Highway
8th Floor
Bethesda, MD 20814
(301) 634-9300
(301) 634-9301

Final Report

Quality Oral Health Care in Medicaid Through Health IT

Authors:
Cheryl Austein Casnoff, M.P.H.
Lisa Rosenberger, M.P.H.
Nancy Kwon, M.P.H.
Hilary Scherer

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Introduction

NORC at the University of Chicago, with our partner the Children's Dental Health Project (CDHP), is pleased to present this Final Report on whether and how health information technology (health IT) and the Medicaid EHR incentive program can be used as tools to improve access to quality oral health care for children enrolled in Medicaid and the Children's Health Insurance Program (CHIP), to the Agency for Healthcare Research and Quality (AHRQ) in the U.S. Department of Health and Human Services (HHS). The discussion and recommendations presented in this report were developed through an extensive review of the literature and expert consultation. A Background Report (Appendix A) synthesized the current literature and provided a foundational context for this project. A list of the individuals who participated in the Expert Panel for this study is included in Appendix B. Through the literature review and expert consultation, this report aims to address and present recommendations regarding:

1. Whether or not the Medicaid electronic health record (EHR) incentive payments could serve as an incentive for dentists to serve additional Medicaid and CHIP enrollees; and
2. Ways in which the functionalities of health IT can increase access to quality oral health care for Medicaid and CHIP enrollees by making this population more attractive to dentists.

The report also considers ways in which the functionalities of health IT can increase access to oral health care for Medicaid and CHIP enrollees by helping this population find oral health providers and increasing their understanding of the importance of quality oral health care. Although there is limited literature on this topic to date, the goal of this report is to explore various ways in which health IT offers the potential to increase access to oral health care among these vulnerable populations. The report concludes by discussing a number of areas for additional research.

Background

Disparities in access to quality dental care between privately and publicly insured children is a long standing problem. A 1996 study reported that approximately 80 percent of childhood dental disease was found in only 25 percent of children, particularly among minorities and/or those who come from low income families.[1] More specifically, another study that looked at primary and permanent teeth by age in specific populations found that for 2-5 year olds, 75 percent of dental cavities were found in 8.1 percent of the population and for patients 6 years and older, 75 percent of dental caries were found in 33.0 percent of the population.[2] A 2008 Government Accountability Office (GAO) report cited that 33 percent of children enrolled in Medicaid had untreated tooth decay, almost double the rate for privately insured children at 17 percent and comparable to the rate for uninsured children at 35 percent.[3] Additionally, although the proportion of dental visits among children newly enrolled in CHIP increased from 1996-2004, disparities in dental visits continue to be evidenced by age, family income, race/ethnicity, and caregiver education.[4]

It has also been well documented that the lack of essential dental care can lead to a variety of problems, including contiguous ear, sinus, neck, and intracranial infections as well as distant inflammatory complications that impact diabetes management, heart disease, pregnancy, and other serious conditions. Lack of care can also impact children's everyday lives by affecting their speech and growth, and impacting their social development and educational opportunities.[5,6] For dentists, lack of engagement in public insurance programs represents lost opportunities to serve a population that is covered for dental services and can greatly benefit from quality oral health care. Disparities in care have been discussed time and again, without significant progress in closing gaps for low income and publically insured children. Two thirds of children insured by public programs do not receive any dental care in a year's time.[7] The largest barrier to access to care for these children is the lack of acceptance of public insurance by providers.[8] Lack of acceptance of Medicaid and CHIP has been extensively studied in the literature; the most common reasons given by dentists for not accepting Medicaid and CHIP are low payment rates, cumbersome administration, and missed appointments by beneficiaries. [9-13]

New Federal incentives created by the American Recovery and Reinvestment Act of 2009 (ARRA) and its Health Information Technology for Economic and Clinical Health Act (HITECH) provisions are designed to engage dentists and other health care providers in adopting and using health IT for electronic data capture and health information exchange (HIE) in meaningful ways that can improve access to and quality of essential health services. These systems hold promise to expand and improve quality and access to care, enhance reporting and accountability, engage patients in their own wellness, create virtual networks of providers, and expand dentists' roles in linking with primary health care and in the use of treatment guidelines and protocols. Furthermore, ARRA provides an opportunity for dentists to adopt and meaningfully use health IT/HIE with financial support from the Centers for Medicare & Medicaid Services (CMS). Although almost no dental services are covered by Medicare, dental services are covered comprehensively for children enrolled in Medicaid and CHIP and inconsistently across States for adults in Medicaid. Dentists are eligible for the Medicaid EHR incentive payments if they have a 30 percent Medicaid patient encounter volume, or practice primarily in Federally Qualified Health Centers (FQHCs),

serving at least 30 percent "needy individuals,"[i,14] and meet the adopt/implement/upgrade, or meaningful use requirements detailed by CMS.

The inclusion of dentists in the Medicaid EHR incentive payments program may offer an opportunity to engage dentists in the use of health IT, and to encourage them to provide dental care to Medicaid and CHIP children. Additionally, the use of health IT in dentistry may: assist dentists in overcoming some of the other barriers they face when treating Medicaid and CHIP patients, including Medicaid administrative issues and care-coordination; promote adoption of risk-based and evidence-based care; and substantially increase medical-dental collaboration and care coordination.

In order to capitalize on the opportunities presented by HITECH, and to address the longstanding disparities in dental care access for low income children, this report aims to identify the potential impact of health IT and the Medicaid EHR incentive payments on dentists serving Medicaid and CHIP eligible children. The report also explores how adoption of health IT and ensuing payment incentives might be leveraged to expand access to quality oral health care for these children. The discussion and recommendations presented in this report were developed through an extensive review of the literature and expert consultation. A Background Report (Appendix A) synthesized the current literature and provided a foundational context for this project regarding—

- Access to oral health care for Medicaid and CHIP Enrollees.
- Health IT and dentistry, including new opportunities through the Medicaid EHR incentive program.
- Ways in which health IT and the Medicaid EHR incentive payments can encourage dentists to serve children enrolled in Medicaid or CHIP.

Through the review of the literature, we identified issues regarding leveraging health IT and the Medicaid EHR incentive payments to increase access to care for Medicaid and CHIP enrollees. These issues included (1) whether the Medicaid EHR Incentive payments could serve as an incentive for dentists to serve more Medicaid and CHIP children and (2) whether or not the functionalities of health IT could increase access to oral health care for Medicaid and CHIP enrollees by making this population more attractive to dentists.

These topics were posed to a group of experts (Appendix B) with a range of policy, clinical and technology experience in Medicaid/CHIP, oral health, children's health, health IT, and meaningful use, during a full day panel discussion. Through the extensive literature review, and the expert input that was received at the meeting, we have synthesized information about these and other topics. We were also able to identify a number of barriers for dentists regarding health IT adoption and implementation as well as qualifying for the meaningful use payment incentives. In addition, we formulated ideas regarding how the functionalities of health IT can help increase access to oral health care for Medicaid and CHIP enrollees.

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[i] Needy individuals are defined as those on Medicaid or the Children's Health Insurance Program (CHIP); those who receive uncompensated care; or those who receive free or reduced cost care based on a sliding scale. In addition to meeting the 30 percent requirement, providers must also meet the requirement of using certified EHR technology

Opportunities and Barriers for Health IT to Increase Access to Quality Oral Health Care for Medicaid and CHIP Enrollees

The functionalities of health IT hold the potential to increase access to dental care for Medicaid and CHIP enrollees; however there remain a number of barriers that need to be overcome before the application of health IT is fulfilled. The barriers fall into two broad categories for dental providers: barriers to health IT adoption; and barriers to meeting the meaningful use requirements. The following section details those barriers, and outlines opportunities to overcome them. However, it is important to note that many of the barriers described below are not unique to dentistry, and may be encountered by other non-primary care providers. In this report, we focus on describing these barriers as they relate to dentistry. The report then describes the various ways health IT may be able to increase access to quality oral health care for Medicaid and CHIP enrollees.

Health IT Adoption

The adoption rates of health IT by dentists have been much lower than their physician counterparts. A 2005 study reported that 1.8 percent of dentists reported the acquisition and use of EHRs.[15] In comparison, a report by Jha et. al. cited a 23.9 percent adoption rate among ambulatory care physicians in 2005.[16] There is, however, some early evidence of an accelerating trajectory of adoption, as 23 percent of California dentists reported some use of EHRs in 2010.[17] The section below details a number of the identified barriers to health IT adoption by dentists, as well as opportunities to improve adoption rates for these providers.

Barriers to Health IT Adoption by Dentists

One of the barriers to health IT adoption by dentists has been the lack of currently available certified dental EHRs. More dental EHRs may become certified in time; however this currently presents a problem. Certified EHRs must have the capacity to meet specific criteria developed by the Office of the National Coordinator for Health Information Technology (ONC) to ensure that the technology fulfills standards and implementation specifications. Examples of functionality required from certified EHRs include the ability to provide clinical decision support (CDS) and exchange electronic health information with other organizations/providers.

Another major barrier is the shortage of EHRs with diagnostic, therapeutic, or decision support applications appropriate for dentists. This lack of customized clinical support may dissuade many dentists from acquiring and adopting health IT. One way to address this gap is to ensure that dentists are included in discussions with vendors regarding the functionality and clinical applications needed to be incorporated into dental EHRs. In contrast to the lower adoption patterns of dental EHRs, many dentists have embraced the adoption and implementation of dental practice management systems (PMS) because these types of systems provide inherent value added to their practice and for their patients. For instance, in a report assessing the practices of dentists in California in 2010, 93 percent reported the use of practice

management software, but only 23 percent reported the use of an electronic dental health record.[17] One of the main reasons underlying the lower adoption rates of EHRs in comparison to PMS may be the lack of infrastructure to support the delivery of efficient dental care.[18] While PMS used by dentists helps facilitate the administrative demands of a practice, dental EHRs have not yet been shown to streamline or improve the delivery of care to patients. Thus, developing certified EHRs that directly target the needs of dentists may increase the demand for such technology by these providers, thereby encouraging more widespread adoption of health IT.

An additional barrier to health IT adoption that is not unique to dentists is the lack of standardization and interoperability between systems. A number of EHRs have proprietary interfaces that need to be integrated using messaging or interface standards, such as Health Level Seven (HL7). Without this standardization and interoperability, it is difficult for EHRs to interoperate with other health IT systems, including other proprietary EHRs, PMSs or a national HIE platform.

However, before vendors for dental EHRs are able to create standardized systems, there are a number of issues that need to be addressed by the dental community. Primarily, the treatment protocols for dentists are less developed than for the medical community, making it difficult for vendors to understand what types of information need to be captured in dental EHRs. Often, the models for clinical decision making for dentists are gained from experience rather than stringent evidence-based treatments.[19] Therefore, dentists do not always record consistent information in their EHR. For example, electronic prescribing and quality reporting are functions required from a certified EHR, however, few dentists have yet to consistently incorporate these practices in their care delivery process. Additionally, dentists do not typically use diagnostic codes and, although the ADA is working on this, there is currently not a standard set of codes that could be incorporated by dental EHR vendors. So while many of the barriers to adoption redound to the set of barriers common to many specialists, the combination of those and the absence of standards of care that document assessments and diagnostic findings mean EHR vendors will continue to struggle to reconcile their medical products with those used by dentists.

There is also a fundamental lack of integration between dental and medical systems. This lack of interoperability represents a major barrier to the adoption and implementation of health IT, which is particularly important for the care of low income children enrolled in CHIP and Medicaid. Since oral health diagnoses and treatments are often closely associated with underlying medical issues in these populations, the absence of integration and interoperability between dental and medical systems impede dentists' and physicians' ability to appropriately coordinate care for their patients. While the lack of interoperability between most medical and dental systems is not a primary barrier to the acquisition and implementation of health IT by dentists, it is cited as a disincentive for adoption. However, the goal of health IT is to ensure that patients receive the most appropriate care possible. Equipping providers with the most relevant health information can inform and encourage evidence-based decisions regarding treatments and procedures. Subsequently, coordinating medical and dental care could generally improve the overall quality of care to low income children, particularly for medical conditions that are known to have a close association with dental conditions, such as diabetes.[20] Moreover, reports have assessed the correlation between dental caries and body weight, growth, and quality of life in preschool children. Children's weight may be impacted by their oral health status, as well as by dental repair among children who experience dental symptoms.[22] Linking these systems can also help pediatricians assure that children

are receiving age appropriate dental care and help educate parents about the importance of pediatric oral health care during their primary care visits.

Finally, in order to qualify as a meaningful user for purposes of Medicaid EHR incentive payments, dentists would need to collect patient information, such as vital signs, that currently is not routinely collected during most dentist visits. This can potentially impose significant constraints on the workflow and care delivery processes for dentists, thus this burden on the care delivery process is a barrier that needs to be addressed before dentists readily adopt and implement EHRs in a way that would make them eligible for the EHR incentive payments.

Opportunities to Increase Health IT Adoption by Dentists

Despite these barriers, health IT adoption by dentists could be enhanced through several key actions:

- **More certified dental systems need to be developed.** The most important step to increasing health IT adoption by dentists is the increased availability of certified dental EHRs. Until these systems exist, all other barriers are secondary. Dentists need to continue working with vendors to ensure that the design and development of these products meet the needs of dental providers.

- **Standards should be developed to enhance the interoperability of dental EHRs**. The lack of integration between different modules and systems creates additional disincentives to adopting and implementing health IT by dentists. One of the main issues is the lack of standardization among dental practices. There is currently no standardized vocabulary or terminology for documenting dental diagnoses and findings, and no standard information models for dental EHRs. If this standardization was available, vendors could incorporate these items within their products. In order for standards to be created, dentists must adopt practices that allow the exchange of information using controlled vocabularies for clinical findings, diagnoses, and message content,[22] and then communicate these practices to the vendor community. According to a March 2010 response to the Notice of Proposed Rulemaking: Medicare and Medicaid Programs; Electronic Health Record Incentive Program, the American Dental Association (ADA), at the suggestion of CMS, is developing quality measures for dentistry as the convening authority for the Dental Quality Alliance (DQA) and as an actively participating member in other organizations. The goal of these activities is to develop meaningful measures of quality for dental practice.[23]

- **Detailed standards and specifications are needed to guide dental vendors in creating products**. The current modular approach used by many dentists to adopt different functionalities of health IT discourages integration and interoperability, thereby diminishing the usability of such technology across platforms. Thus, detailed standards and specifications are needed to guide dental vendors in creating products that increase ease of implementation and decrease the burden on providers.[18] Moreover, these standards should allow for the coordination of care among the dental and medical community, subsequently leading to a more holistic, higher quality approach to health care delivery.

- **Reimburse for procedures that depend on or would be improved by the use of health IT**. The integration of health IT when caring for patients with medical co-morbidities, oral lesions, orofacial pain, malocclusion, periodontal disease, and other conditions can provide many benefits to providers and patients. Health IT has the potential to standardize the quality of evidence-based

care for a wide range of dental problems and encourage the use of treatment protocols. Moreover, meaningful use of EHRs will hold dentists to a new standard of care due to the requirement to report quality measures. The requirement to report quality measures coupled with an expanding evidence-based approach to dental care delivery can be used as the foundation for new payment models seen in the practice of medicine, such as pay-for-performance and value based insurance.[24]

- **Increasing awareness of available hardware and software.** The lack of knowledge regarding available health IT products can also impede or influence the adoption patterns of dentists. One of the ways to acclimate dentists to the continuously evolving market of dental EHRs and other health IT is by increasing awareness of the different products, software, and technology that are currently available. Proactive measures, such as making Continuing Dental Education (CDE) credits available for health IT-related courses, may be a valuable way to ensure that dentists gain the necessary information for the purchase and effective implementation of dental EHRs and related technologies.

- **Decreasing the financial burden of purchasing a dental EHR**. Increasing the return on investment can influence the adoption and use of health IT by dentists. One method for more efficient purchase of health IT involves creating an avenue for different practices to come together and purchase health IT. A California HealthCare Foundation (CHCF) study found that dentists working in groups or at community clinics were more likely to adopt health IT than dentists that work individually in a solo practice.[17] The need to contract expensive IT-related services discouraged solo-practicing dentists from adopting health IT due to uncertainty regarding financial sustainability. This barrier could be addressed through the development of partnerships among the dental community for the purposes of acquiring, implementing, and operating health IT in their practices. One avenue for dentists to form partnerships is by participating in and soliciting information from their local regional extension centers (RECs). The goal of RECs is to offer technical assistance, support, guidance, and information on best practices to facilitate the meaningful use of certified EHRs. Services from RECs are currently targeted towards individual physicians, small practices, and critical access hospitals. However, including dentists in the scope of services may actually benefit RECs by expanding business practices to other provider groups to help support the REC's sustainability goal. Dentists will also benefit from such affiliations. RECs can lower the initial cost of acquiring health IT, but also allow dentists to receive the needed support to functionally operate EHRs and related technologies. Another option may be to use the health center controlled network (HCCN) model that promotes health IT adoption among groups of federally qualified health centers, including dental providers, and other safety net providers.[25]

- **Support the use of open source products among dentists.** Another way to limit the costs of purchasing dental EHRs is to support the use of open source products among dentists. Open source allows providers the flexibility to develop applications that are specific to the needs of their patient population since the source code for an application is available for anyone to review, critique, modify, and redistribute to others. Thus, particularly for providers that disproportionately serve marginalized populations, open source can be a cheaper alternative than proprietary products since initial acquisition costs are free. However, open source health IT is not

completely devoid of cost; the implementation of the software and the development of additional applications often require technical services that can be expensive or difficult to find.

Meaningful Use

As previously discussed, dentists are eligible to receive the Medicaid EHR incentive payments. In order to receive these payments in the first year of eligibility, eligible providers (EPs), including dentists, must adopt, implement or upgrade to certified EHR technology that meets the certification criteria laid out by ONC in its July 28, 2010, final rule, and meet a 30 percent Medicaid patient encounter threshold, or practice primarily in Federally Qualified Health Centers (FQHCs), serving at least 30 percent "needy individuals".[ii,26] However, to receive payments in subsequent years, in addition to meeting the patient volume threshold, EPs must meet the meaningful use criteria outlined by CMS. Part of meaningful use requires EPs to report on a number of clinical quality measures.[27] More information on the Medicaid EHR incentive payments is included as part of the background paper in Appendix A. The following section details some of the barriers that dentists may face in meeting the requirements for meaningful use, as well as various opportunities to enable them to meet these requirements. As noted above, the barriers described here may not be unique to dentistry; however they are imperative for dentists to overcome before they will be able to achieve meaningful use.

Barriers to Dentists Meeting the Medicaid Meaningful Use Incentive Payments Requirements

Oral health providers have historically low rates of acceptance of both Medicaid and CHIP.[28,29] The American Dental Association reports that 6.7 percent of general dentists' and 18.9 percent of pediatric dentists' patients are publicly insured.[30,31] One of the questions posed to the group of experts in this study was whether or not the Medicaid meaningful use incentive payments could serve as an incentive for dentists to accept additional Medicaid beneficiaries to meet the Medicaid patient volume required to receive incentive payments. Although the panelists acknowledged that the lack of acceptance of public insurance programs is a problem, the consensus was that the Medicaid meaningful use incentive payments will not, in and of themselves, encourage oral health providers to accept additional Medicaid and CHIP patients. Although the incentive payments would offset some of the costs associated with the adoption and implementation of health IT systems, the incentive payments would not offset the lower reimbursement that providers incur from serving Medicaid and CHIP patients; therefore most dentists believe that it does not make economic sense to serve these patients.

Furthermore, very few dentists currently meet the 30 percent Medicaid patient encounter threshold, making them ineligible to qualify for the incentive payments. As a result, most dentists would have to dramatically expand their Medicaid practice in order to qualify for the 30 percent threshold. In addition, while pediatricians can receive a reduced incentive payment with a Medicaid patient encounter volume of only 20 percent, this option is not extended to pediatric dentists. Even dentists serving a predominantly underserved population still might not be able to meet the 30 percent Medicaid patient encounter threshold. For example, dentists practicing in academic institutions (dental schools) often serve as safety net providers in underserved areas. These providers not only provide dental care for Medicaid enrollees,

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but also for CHIP enrollees and the uninsured population. While 30 percent or more of their encounters may be for underserved populations, it may not be for Medicaid.

Another barrier to dentists meeting the meaningful use requirements is that they will have to report on measures that require the use of diagnostic codes, which, as stated above, currently are not used in dentistry. Efforts have been made by some in the dental community to create a standardized set of codes, but as of yet, no system exists.[32] Dentistry uses "procedure codes" for insurance reimbursement without associated diagnostic codes, such as the International Classification of Disease, 9th Revision (ICD-9) codes, as used in medicine. Diagnostic codes in medicine are used to track clinical outcomes, and allow for clinical quality and outcome reporting, which dentistry is currently unable to do.[33,34] In order to meet the requirements of meaningful use, dentists will have to report using existing CMS-specified quality measures. To account for the possibility that these measures are not applicable to EPs, such as dentists, there is an option for dentists to report that certain objective measures do not apply to them because they have no patients or insufficient number of actions that allow for the calculation of specific meaningful use measures.

As previously noted, the lack of diagnostic codes in dentistry presents a large problem for health IT adoption and meeting the meaningful use criteria. While many of the barriers related to adoption and meeting meaningful use are common among medical specialists, these barriers coupled with the absence of dental standards of care that document assessments and diagnostic findings make utilizing health IT even more difficult for dentists. This also creates problems for EHR vendors, as they continue to struggle to reconcile their medical products with those tailored to dentists.

In addition to reporting on quality measures for meaningful use, dentists applying for the Medicaid HER incentive will also be required to capture certain data, such as height and weight that are not routinely collected during dental visits. Although dentists might be able to collect and report these data, this requirement creates additional work that does not always serve a direct purpose in many dental encounters. Additionally, under the current Stage 1meaningful use requirements, dentists would have to use EHRs that are certified for all requirements and demonstrate meaningful use per CMS specifications even though they do not use nor need some of those functionalities in their practices.

Opportunities to Enable Dentists to Meet the Meaningful Use Requirements

Despite these challenges, there are opportunities to make it easier for dentists to meet the meaningful use requirements, and for these requirements to be more relevant to dentistry.

- **Dental providers need to continue to communicate with CMS regarding specific measures that are relevant and correspond to the workflow patterns and care delivery processes in dentistry.** While dental measures were not included in Stage 1 of meaningful use, they could be included in subsequent stages. Although the ADA has made significant in-roads in communicating with Federal agencies, the dental community could benefit from additional communication with CMS regarding the specific challenges and unique aspects of dental care that are not currently captured by the meaningful use measures, including pediatric oral health care. Additionally, dental providers could benefit from communicating how new dental-specific criteria and quality measures can be used to inform future stages of meaningful use. A good

forum for this communication may be CMS' Dental Quality Alliance, which was organized to develop quality measures for dental programs as well as for oral health more broadly.[1]

- **Dentists need to continue to be educated on the meaningful use requirements**. This will not only raise awareness of the incentive program in the dental community, but will also help providers understand what they actually need to do to qualify for the incentive payments. For instance, many providers believe that the 30 percent Medicaid threshold is based on the number of Medicaid patients a clinician sees, however it is actually based on the number of *encounters* with Medicaid patients that the clinician has. Additionally, clinicians can choose the 90-day time-period in which to calculate this percentage from the prior calendar year. The methodology for calculating patient volume uses the number of Medicaid patient encounters the clinician sees over that 90-day period as the numerator, and the number of *all* patient encounters the clinician sees over the same 90-day period, as the denominator. Allowing clinicians to select the 90 period in which they calculate the Medicaid threshold allots some flexibility for clinicians who may find it difficult to otherwise reach the 30 percent Medicaid population.

    o One suggestion for outreach to providers is for the ADA and the American Academy of Pediatric Dentistry (AAPD) to increase awareness of the requirements of meaningful use and the incentive payments. In addition to educating providers on the meaningful use requirements, the ADA could also increase existing communication and collaboration with CMS regarding the unique needs of dentists. RECs may also be able to play a role in educating dentists on the requirements. As mentioned above, although dental practices are not one of the REC's priority settings, the RECs must become self-sustaining after the initial HITECH funding expires, and dentists may represent a group of providers who could benefit from and be willing to support REC services, thereby aiding their sustainability.

- **Affording flexibility for dentists to practice within or contract with a FQHC.** Allowing dentists to partner with a FQHC may help them meet the 30 percent threshold. The meaningful use final rule states that a clinician who practices more than 50 percent of his/her time in a FQHC or Rural Health Clinic (RHC) can use both Medicaid patients, as well as "needy individuals" (sliding fee scale and uncompensated care) to meet the 30 percent threshold. Additionally, the Center for Medicaid, CHIP and Survey & Certification (CMCS) recently released an Information Bulletin on "Recent Developments in CHIP and Medicaid Policy" which includes a clarification on private dentists' ability to contract with FQHCs. According to CMCS,[36] a State cannot prevent a FQHC from entering into a contract with private dental providers in the provision of FQHC services. Dental services furnished by private dental providers who contract with FQHCs will be covered by Medicaid and CHIP as FQHC services when the services provided are the type that would be covered if provided on-site at the FQHC. If these private dentists who contract with FQHCs were also permitted to use the total FQHC's Medicaid patient encounters to meet the threshold, more private dentists might qualify for the incentives.

Access to Care for Medicaid and CHIP

Health IT, by itself, will not expand access to dental care for Medicaid and CHIP beneficiaries. As mentioned in the background section of this report, there are significant barriers to access for these

populations, including reimbursement issues, administrative concerns, and patient behavioral (perceived or real) challenges. However, health IT could be an important component to help overcome many of these barriers. Dental health IT offers administrative, organizational, and population management efficiencies that may make it easier for dental practices to determine eligibility, bill appropriately, discourage patient no-shows, and so on. Though these efficiencies are possible without health IT, they are central to many health IT functionalities.

While there is a lack of literature on the connection between health IT and access to dental care for low income children, the following section identifies several paths through which expanded dental health IT, in concert with other important policies, may increase access to care for children enrolled in Medicaid and CHIP. Many of these pathways are exploratory, so considerable research and piloting of strategies is needed to determine what works well in different contexts.

Strategies to Use the Functionalities of Health IT to Increase Access to Oral Health Care for Medicaid and CHIP Enrollees

- By **reducing cumbersome administrative requirements,** health IT functionalities may encourage dentists who currently do not include Medicaid or CHIP children in their practices to do so. The Virginia Medicaid office, for example, incorporated dental EHRs into an overhaul of their dental Medicaid program. The *Smiles for Children* program included higher reimbursement rates and standardized administration of the program across the State, as well as electronic claims submissions, automated, Web integrated information for providers on eligibility verification, reduced prior authorization for procedures, and online reporting of missed appointments, which then triggers follow-up calls from a case manager. Following the implementation of these actions, the Medicaid office found that dentist enrollment in Medicaid increased by 137 percent.

- By **integrating medical and dental care**, either virtually or actually, it is possible that some vulnerable children may be referred to dental care more frequently, allowing for earlier, less invasive and less costly treatment with substantially better health outcomes. Consideration of a health home, either virtually or actually, that encompasses both medical and dental care is one way in which health IT can improve access to care for low income children. In virtual and co-located systems, physician and dentist decision support could be available to prompt medical and dental providers to share information, particularly for high risk children. Sharing information across medical and dental care may allow providers to triage children at risk for serious oral health problems. Diabetes and other chronic diseases, for

> *Actual Integration.* The Marshfield Clinic with 54 locations currently serving northern, central, and western Wisconsin, and the Upper Peninsula of Michigan, co-locates medical and dental clinics in the same health campuses at some sites, and is making progress in linking medical and dental records. Their proprietary EHR (CattailsMD) includes an oral/dental health module (CattailsDental) which was developed from an open source software (Open Dental). Working with CattailsDental, the dentists can access different applications for documenting and/or viewing information such as, problem list, allergies, medications, vitals, HIPAA consent forms, demographics, and appointments. While Marshfield is still in the process of certifying the oral/dental module as part of the CattailsMD certification process, by linking the medical and dental electronic health records, both types of providers will have more complete information about how patients are doing, which they believe will result in higher quality care, a reduction in duplicated tests, and a greater likelihood that patients will take advantage of both medical and dental health care opportunities. Other types of clinics that have closer ties with medical and dental providers may benefit from integrated electronic dental and medical records in order to maximize the concept of a health home, and ultimately, to truly become accountable care organizations (ACOs).

example, put children at greater risk of serious dental disease and dental disease is, potentially, more serious for these children,[5] so electronic links may provide an avenue to triage these higher risk children into care more frequently. Medicaid and CHIP children are more likely to see a primary care physician than a dentist, so having integrated systems could allow for triggers so that primary care physicians could encourage their patients—and especially their high-risk patients—to see a dentist. These types of information sharing will also help the primary care provider recognize when their patients are not receiving oral health care. There is a rapidly expanding effort to introduce risk-based individualized oral health care for children that meet an individual child's need for a certain level of treatment intensity, particularly for preventive services. This is evident in the work ADA has done in creating their caries risk assessment form[37], the AAPD's guidelines on periodicity of examinations and dental services[38], and work that has come out of an NIH funded clinical trial at the University of California San Francisco (UCSF) entitled caries management by risk assessment (CAMBRA).[39] Additionally, there are a number of provisions included in the Affordable Care Act (ACA) that address this issue, including the Research Based Dental Caries Disease Management and the National Oral Healthcare Surveillance provisions. [40]

Virtual Integration. The Department of Veterans Affairs (VA) has integrated medical and dental EHRs to allow physicians and dentists to share information about patients at the point of care as well as across the VA system. Further, the VA has developed MyHealtheVet, a personal health record (PHR) that allows patients to track their treatment progress for medical and dental health problems, although only dental notes are currently available—laboratory values and x-rays are not available in the VA PHR system. Patients can also make appointments and renew prescriptions through this portal, as well as receive reminders and health education messages. This system also allows medical and dental providers to share information virtually, optimally allowing for better care coordination across disciplines. More importantly, PHRs allow patients the opportunities to be proactive participants in making health care decisions. Therefore, PHRs, like MyHealtheVet, can be used to keep patients accountable for their health, including their oral health.

This approach could be particularly beneficial for Medicaid and CHIP enrollees since many providers hesitate to accept these patients due to missed appointments, and other compliance issues. Furthermore, some medical clinics without direct ties to dental clinics could emulate this model in order to virtually expand the health home for underserved children. The West Virginia Primary Care Network is already utilizing PHRs for their CHIP enrollees. They are using a PHR called HealthMountaineer, which was modeled after MyHealtheVet. This PHR was specifically designed to provide patients and families access to information that facilitates patient decision making and continuity of care. Although dental information is not currently integrated into HealthMountaineer, systems such as these could be modified to include a patient's dental record.

Use of Clinical Decision Support. HealthPartners Dental Group with clinics throughout Minnesota uses CDS to alert dentists of the need for changes in care for patients with complex medical conditions including congestive heart disease, diabetes, lung disease, and dry mouth. The integrated medical and dental records alert dentists through the electronic dental record when a patient with a complex medical condition is present. Clicking the flashing medical icon will link to clinical guidelines on what changes in dental care are needed for that patient in order to reduce complications and improve quality. A study of the system demonstrated a more than three-fold increase in use of guidelines by dentists. More decision support e-tools are under development to support dentists' role in tobacco cessation, ability to recognize and track oral lesions, and prevention and early intervention for orofacial pain conditions.

- By supporting strategies **to encourage increased adoption of clinical decision support** (CDS), dentists may be better positioned to provide quality care to patients. CDS, as defined by ONC, is health IT that provides clinicians, staff, and patients with knowledge and person-specific information, intelligently filtered or

presented at appropriate times, to enhance health and health care. CDS encompasses computerized alerts and reminders to care providers and patients, use of evidenced based clinical guidelines, condition-focused order sets, patient quality and outcomes reports and summaries, documentation templates, diagnostic support, and other tools that enhance decision making in clinical workflow. For example, the use of CDS can both increase dentists' adoption of such modalities for dental care and encourage changes in dental care in response to patients with co-morbid medical conditions which in turn has the potential to improve the safety and quality of care.

Conclusions

While it appears that EHR incentive payments to eligible providers will not significantly incentivize dentists to increase access to care for children enrolled in CHIP and Medicaid, it does appear that health IT can be an important tool to improve access to quality care for these vulnerable children. In order to maximize the impact of health IT in dental health, however, several significant actions must occur. First, the dental community can work actively with CMS, ONC and the vendor community to assure that the unique needs of dentistry are reflected in stages 2 and 3 meaningful use requirements and in the development of health IT products that can efficiently and effectively serve dentistry, including the availability of open source products. In addition, health IT products will need to be designed so that they are interoperable between dental and medical providers to assure effective care management, including risk management for the most vulnerable children. State dental organizations can work with their Medicaid and CHIP agencies to maximize payment opportunities associated with the adoption of health IT and to create options to assure that dentists serving children enrolled in Medicaid and CHIP can become eligible providers. These organizations may also benefit from collaboration with their State HIT coordinator to assure that they benefit from health information exchange as well as their Regional Extension Centers. These steps, taken together, may help increase access to effective dental health IT products, make them more compatible with and useful for dental practices, and ultimately increase access to quality health care for all children, especially those enrolled in Medicaid and CHIP.

Additionally, several topics were identified during the development of this report that would benefit from additional research:

- Exploring effective ways to use health IT in linking primary care and dentistry, particularly for children.

- Identifying ways in which the dental community may differ from other care providers in their approach to using and implementing health IT and meeting unique dental meaningful use requirements.

- Examining how health IT can help dentists implement risk-based care and improve access to quality oral health care.

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Appendix A: Background Report

Quality Oral Health Care in Medicaid Through Health IT

Prepared for:

Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
540 Gaither Road
Rockville, MD 20850
www.ahrq.gov

Prepared by:

NORC at the University of Chicago
Bethesda, MD 20814

Authors:

Cheryl Austein Casnoff, M.P.H.
Lisa Rosenberger, M.P.H.
Nancy Kwon, M.P.H.
Hilary Scherer

Contents

Introduction

New Federal incentives created by the American Recovery and Reinvestment Act of 2009 (ARRA) and its Health Information Technology for Economic and Clinical Health Act (HITECH) provisions are designed to engage dentists and other health care providers in adopting and using health IT/health information exchange (HIE) in meaningful ways that can improve access to and quality of essential health services. These systems hold promise to expand and improve care, enhance reporting and accountability, engage patients in their own wellness, create virtual networks of providers, and expand dentists' roles in linking with primary health care and in the use of guidelines and protocols. Dentistry, however, lags behind medicine in exploring the utilities and benefits of implementing health IT systems. Currently, no dental IT software is certified to meet the meaningful use criteria, with the exception of the Veterans Affairs (VA) VistA System. This means vendors will have to create electronic health records (EHRs) and electronic dental record (EDR) applications for dentists to meet these requirements.

ARRA may provide an unprecedented opportunity for dentists to adopt and meaningfully use health IT/HIE with financial support from the Centers for Medicare & Medicaid Services (CMS). Although almost no dental services are covered in Medicare, dentists are able to qualify for Medicaid incentives if they have 30 percent Medicaid patients in their client base, or practice primarily in Federally Qualified Health Centers (FQHCs) and serve at least 30 percent "needy individuals." Needy individuals are defined as those on Medicaid or the Children's Health Insurance Program (CHIP); those who receive uncompensated care; or those who receive free or reduced cost care based on a sliding scale. In addition to meeting the 30 percent requirement, providers must also meet the requirement of using certified EHR technology.[1]

The purpose of this project is to explore how health IT and these incentive payments can encourage dentists to provide oral health care to children covered under Medicaid and CHIP, many of whom receive proportionately little oral health care compared to higher income populations. Disparities in access to quality dental care between privately and publicly insured beneficiaries is well-documented and a longstanding concern for both children in public programs and dentists who provide their care. It is also well known that even young children who lack essential dental care face serious consequences including functional impairments, lost educational opportunities, head and neck infections, and occasional death from complications of infection or treatment.[2] For dentists, lack of engagement in public insurance programs represents lost opportunities to serve a population that is covered for dental services and can greatly benefit from quality oral health care. Disparities in care have been discussed time and again, without significant progress in closing gaps for low income and publically insured children. The majority of children insured by public programs do not receive any dental care in a year's time.[3] The inclusion of dentists in the Medicaid incentive payments program may offer an opportunity to engage dentists in the use of health IT, and to encourage them to provide dental care to Medicaid and CHIP children in order to qualify for incentive payments. Additionally, the use of health IT in dentistry may assist dentists in

overcoming some of the other barriers they face when treating Medicaid and CHIP patients, including Medicaid administrative issues and care-coordination.

Recognizing the opportunity presented by ARRA and HITECH, the Agency for Healthcare Research and Quality (AHRQ) has contracted with NORC at the University of Chicago, and our partner the Children's Dental Health Project (CDHP), to identify the potential impact of health IT and the Medicaid incentive payments on dentists serving Medicaid and CHIP eligible children and how these payments, and health IT as a whole, might be leveraged to expand access to quality oral health care for these children. This project offers a valuable opportunity to bring together experts in various disciplines to offer actionable recommendations for ways in which health IT, payment incentives, Medicaid and CHIP, and children's oral health care providers can work together to better assure access to oral health care for low income children.

This Background Report will serve as the foundation for the Expert Panel and in so doing will help frame the discussion topics of the Expert Panel Meeting. The background report will provide context on the state of key issues, including—

- **Access to oral health care for Medicaid and CHIP Enrollees**
  - Determining the current rate of dentists who accept Medicaid/CHIP including those who might meet the Medicaid patient threshold to be eligible for the Medicaid EHR incentive program;
  - Identifying possible barriers to the acceptance of Medicaid and or CHIP by oral health providers.

- **Health IT and dentistry, including new meaningful use opportunities**
  - Ascertaining levels of health IT use in the dental community;
  - Identifying possible barriers to the use of health IT by oral health providers; and
  - Utilizing health IT to improve access to oral health care for Medicaid/CHIP enrollees, including meaningful use payment incentives.

- **Strategizing about ways in which health IT and the Medicaid meaningful use payment incentives can encourage dentists to accept children on Medicaid/CHIP.**

In the next section, we provide a description of the methodology used to gather information for this report. The remaining sections provide information organized around three focal themes: (1) access to oral health care for Medicaid and CHIP enrollees; (2) health IT and dentistry, including new Medicaid incentive payment opportunities; and (3) utilizing health IT to improve access to oral health care for Medicaid/CHIP enrollees. The report concludes with a summary section that identifies questions for consideration for the expert panel.

Methodology

This report reflects an extensive literature review and consultation with experts in the fields of public health, health care, health IT and social sciences. Our first step was the development and operationalization of research questions in order to set the framework for the literature review. Exhibit 1 highlights our three key research themes and research questions relating to each, sub research questions and the terms used for the literature search.

Exhibit 1: Key Research Themes and Questions

Research Themes	Research Questions	Key words
Access to oral health care for Medicaid and CHIP Enrollees	**What is the current rate of dentists who accept Medicaid and CHIP?** A. What providers accept Medicaid and CHIP? Does this differ between the two programs? B. Where do Medicaid/CHIP enrollees go for oral health care? How does this differ between the two programs? **What are the possible barriers to the acceptance of Medicaid and CHIP by oral health providers?** A. What challenges do dentists face in serving this population? How does this differ between CHIP and Medicaid? B. What are the barriers to these patients seeking oral health care?	• Oral health care • Public insurance coverage • Children's health • Medicaid • Children's Health Insurance Program
Health IT and dentistry, including new meaningful use opportunities	**What are the adoption rates of health IT in dentistry?** A. What types of dental offices have adopted health IT (e.g., large, small, managed care, etc)? B. What types/components of health IT do these dental offices tend to utilize? C. What health IT functionalities do dentists need? **What are the barriers to dentists adopting health IT?** A. What certified products are available for dentistry? B. Can dentists meet meaningful use criteria with the current available products?	• Dental records • Electronic health records • HIT adoption rates • Electronic Dental Records
Utilizing health IT to improve access to oral health care among Medicaid/CHIP enrollees, including meaningful use payment incentives	**Could health IT be a strategy for increasing access to oral health care for Medicaid and CHIP enrollees?** A. Could health IT be a strategy for increasing coordination in dental offices, making missed appointments and other adherence problems more manageable? B. Could health IT help link dental and primary care providers? C. Could health IT streamline some Medicaid-related paperwork challenges? D. Could EHR payment incentives incentivize acceptance of Medicaid and CHIP by dentists? E. What can be learned from health centers that co-locate dental and primary care and use EHRs?	• Meaningful use Incentives • Dental care economics • Practice management, Dental/ organization and administrative • Pediatric medical homes • FQHCs

Access to Quality Oral Health Care for Medicaid and CHIP Enrollees

Disparities in access to quality dental care between privately and publicly insured children are long standing. An early study reported that approximately 80 percent of childhood dental disease was found in only 25 percent of children, most of who are minorities and/or come from low income families.[4] More recently, a 2008 GAO report cited that 33 percent of children enrolled in Medicaid had untreated tooth decay, almost double the rate for privately insured children at 17 percent and comparable to the rate for uninsured children at 35 percent.[5] It has been well-documented that the lack of essential dental care can lead to a variety of problems, including contiguous ear, sinus, neck, and intracranial infections as well as distant inflammatory complications that impact diabetes management, heart disease, pregnancy, and other serious conditions. Lack of care can also impact children's everyday lives by effecting their speech and growth, and impacting their social development and educational opportunities.[6]

Children enrolled in Medicaid and CHIP are entitled by law to receive dental treatment benefits. For children enrolled in Medicaid, comprehensive dental services are mandated under Early and Periodic Screening, Diagnostic and Treatment services (EPSDT). EPSDT defines dental coverage to include complete preventative care, restorative services, medically necessary orthodontic care and emergency care.[7] States with CHIP Medicaid expansion programs have always been required to provide commensurate dental coverage to CHIP enrollees. Additionally, since the reauthorization of CHIP (CHIPRA) in February 2009, all separate CHIP plans must also provide dental benefits that include services "necessary to prevent disease and promote oral health, restore oral structures to health, and function and treat emergency conditions.[8]

The Patient Protection and Affordable Care Act of 2010 (ACA) also provides a number of provisions on Medicaid and CHIP dental coverage. Namely, the Medicaid and CHIP Payment and Access Commission (MACPAC), a newly developed body to review Medicaid and CHIP access and payment, is required to review and report to Congress specifically on payments to dental professionals. Medicaid coverage, including dental coverage, has been expanded to 133 percent of the Federal poverty line, with an enhanced Federal matching rate, and CHIP has been extended until 2019. Other ACA provisions to expand access to dental care for children include the following: requiring insurance plans under the new health insurance exchanges to include dental coverage for children; permitting stand-alone dental plans to participate in the exchanges; and providing grants to school-based health centers, which include oral health services as qualified services at those centers. In addition to benefits on coverage and access, ACA includes many provisions on oral health prevention and infrastructure, and workforce and training for oral health professionals.[9]

The expanded coverage requirements of both CHIPRA and ACA provide great opportunities to ensure that children have access to oral health care; however, currently many publically insured children do not receive dental care for myriad of reasons. The largest barrier to access to care for these children is the lack of acceptance of public insurance by providers.[10] Fewer than 7 percent of general dentists' patients and 18 percent of pediatric dentists' patients are Medicaid or CHIP enrollees,[11] while 35 percent of U.S. children are enrolled in these programs.[12] Far fewer dentists than family physicians or pediatricians participate in Medicaid and CHIP. Few data are available on the percentage of dentists nationally who accept Medicaid and CHIP, but State-level studies typically show that fewer than 20 percent of dentists are active providers compared to 89.5 percent of pediatricians nationally.[13,14] Additionally, only 4 percent of all dental expenditures in 2008 were covered by the Medicaid and CHIP programs,[15] despite roughly 17 percent of the U.S. population being enrolled in these programs[16] and low-income populations having greater dental treatment needs than higher income populations.

This lack of participation in Medicaid and CHIP by dentists has lead to a small subset of dentists treating the majority of the nation's low income, publically insured children who do receive care. These dentists tend to practice in FQHCs, FQHC look-alike clinics, dental schools, Medicaid-oriented practices (often group practices) and free care programs. Additionally, some publically insured children receive dental care in emergency rooms. While this "safety net" is critical in providing care to Medicaid and CHIP enrollees, there are far too few providers, working in insufficient numbers of facilities, to treat the large number of children needing care.[1] Additionally, providers who do treat publically insured children are often different from their colleagues as they tend to have multilingual capacity, accept reduced fees, and often have a "specific interest in providing or mission to provide dental care to low-income and other underserved populations."[13,18] Safety net providers also tend to be general practitioners rather than pediatric dentists,[19] whose specialty allows them greater capacity to care for the often extreme needs of this population.

Further complicating the issue, a modest disparity in care between children enrolled in Medicaid and those enrolled in CHIP has begun to emerge. Studies have shown that Medicaid children, controlling for demographic characteristics, report less use of services and lower satisfaction of the services used as compared to CHIP enrolled children. Patients and families enrolled in Medicaid also report being treated, or the perception of being treated, differently by providers than those enrolled in CHIP. Many experts feel that Medicaid may carry more of a stigma than CHIP, leading to this disparity.[20,21]

The lack of acceptance of Medicaid and CHIP by the majority of dentists raises the question of why these disparities exist. Most often cited in the extensive literature are: low payment rates, cumbersome administration, and missed appointments by beneficiaries. The reason dentists most frequently cite for not accepting Medicaid and CHIP is poor reimbursement rates.[22] Many dentists believe that they cannot financially sustain their practices if their patient population is comprised substantially or predominately of Medicaid beneficiaries.[23] Medicaid payments are typically lower than commercial insurance payments, with discounts on a weighted market basket of common pediatric dental services ranging as low as 35 percent of usual and customary charges and averaging only 60 percent of charges.[24] A 2009 Government

Accountability Office (GAO) study found representatives from 36 States reported that low reimbursement rates were a major barrier to dentists accepting Medicaid.[10] In low-paying States, a parent may face significant challenges identifying a willing provider. For example, calls to all dental offices in Palm Beach County in 2009, when Florida ranked an estimated 48th lowest State in Medicaid dental payment rates, found that only 16 of 337 actively practicing pediatric dentists, general dentists, and orthodontists in the county were Medicaid or CHIP providers.[25] Dentists may be more amenable to accepting Medicaid patients if rates for services rendered were similar to dentists' usual and customary fees.[23] For instance, in a pilot conducted by Michigan's Medicaid dental program entitled "Healthy Kids Dental," dentists were offered reimbursement levels identical to those paid by dental insurance plans.[26] Subsequently, researchers found that utilization of dental care by Medicaid/CHIP enrollees increased by 31.4 percent and that dentist's participation in the Medicaid program increased substantially. Results from this study indicate that factors, such as reimbursement rates and availability of dentists, influence dentists' decision to provide services to Medicaid patients.

Although low reimbursement rates are often cited, many other reasons have been found that help explain why dentists decline to accept these forms of public insurance. The GAO study cited above also found that 45 States reported that beneficiaries not showing up for appointments are a major barrier to providers serving Medicaid beneficiaries. Thirty States reported that the beneficiary not following the treatment plan as advised by the provider was also a major barrier; 30 States reported a limited capacity to accept new patients as a major barrier; and 28 States reported that administrative requirements of Medicaid are a major barrier. These findings are in line with what many other studies have found. Stigma and negative attitudes toward Medicaid and its beneficiaries have also been shown to be a barrier to care.[27] The American Dental Association (ADA) Medicaid Symposium even reported that "there is a definite fear among some dentists that their private practices will be overrun by Medicaid patients."[28]

Patient noncompliance as a whole is often cited as a major reason that providers do not accept Medicaid and CHIP; however it is important to understand possible reasons for the lack of compliance among these patients. Barriers to care exist on the provider's side, but also exist for patients. These low-income families face many difficulties, including getting time off from work for appointments and finding transportation and child care in order to attend appointments. Lack of knowledge of the importance of early oral health care is another barrier that patients face.[22] A study of care-givers found that in addition to these reasons, searching for a provider who accepts Medicaid and CHIP is another major barrier, as are long waiting times and feelings of disrespect and discriminatory behavior from staff and providers.[29] However, application of behavioral theory suggests that these oft-stated "reasons" may belie more fundamental barriers that limit dentists' engagement in care of low-income children. For example, the Theory of Reasoned Action could explain dentists' reluctance to relate to attitudes about the "subject," i.e., prejudice and bias against low-income families; attitudes about the "action", i.e., dentists' self-assessed comfort providing pediatric dental services particularly to high-needs children; and attitudes derived from "social norms," i.e., perceived expectations of peers, family, staff, and colleagues about being a Medicaid provider. Taken together, these fundamental barriers may significantly limit "intention"

to treat low income children. In this context, issues of payment, paperwork, and compliance are better understood as barriers that may stand between "intention" and "action."[24]

Health IT and Dentistry

The new Medicaid and Medicare EHR incentive payments as stipulated in the HITECH act represent an unprecedented opportunity for dentists to become more involved in health IT. The HITECH Act allocated $44 billion in incentives for eligible providers (EPs) and hospitals demonstrating the meaningful use of electronic health records (EHRs). As mandated by HITECH, these funds will be managed and administered by CMS through the Medicare and Medicaid incentive programs. As spelled out in the Federal Register,[1] physicians (MD/DO), nurse practitioners (NP), certified nurse midwives (CNM), dentists (DDS/DMD), and physician assistants (PAs) who lead an FQHC or RHC can receive meaningful use incentive payments from the Medicaid program. To qualify for incentives under this program, non-hospital-based EPs must have a minimum of 30 percent of all patient encounters attributable to Medicaid over any continuous 90-day period in the year prior to reporting. For pediatricians, this patient volume threshold is lower; to receive incentive payments, 20 percent of the pediatrician's patient volume must be comprised of Medicaid recipients (making them eligible to receive at least a portion of the incentive payments); however pediatric dentists still must meet the 30 percent threshold. Additionally, EPs practicing predominately in an FQHC or RHC, meaning 50 percent of their total patient encounters during a 6-month period have occurred at an FQHC or RHC, must be able to demonstrate that 30 percent of their patient volume is comprised of needy individuals. Needy individuals are defined by the following three criteria: (1) receiving medical assistance from Medicaid or CHIP; (2) furnished uncompensated care by the provider; or (3) furnished services at either no cost or reduced cost based on a sliding scale determined by the individual's ability to pay.[1]

As specified by the HITECH Act, dentists are eligible to receive incentives from either the Medicare or Medicaid program. However, most dental services are not covered under Medicare. Despite their inclusion in the meaningful use program, it is uncertain whether these payments will sufficiently incentivize dentists to adopt and implement EHRs. While dental procedures are covered under the Medicaid program, the 30 percent patient volume requirement may limit dentist's participation in the incentive program.[1]

Unlike the Medicare incentive program, which requires the demonstration of meaningful use, EPs, such as dentists, qualifying under the Medicaid program can receive payments for adopting, implementing, or upgrading certified EHR technology in their first participating year. In addition, Medicaid EPs are permitted to participate on a nonconsecutive annual basis or to skip years without any payment disincentives. According to the HITECH Act, the maximum incentive payment amount a dentist can receive under Medicaid is 85 percent of the calculated cost of an EHR, amounting to $63,750 over a period of 6 years. This figure incorporates the costs for the initial purchase or upgrade of a certified EHR and the operation and maintenance of the software for subsequent years. Dentists can begin to receive

payments in 2011 and must participate in the program by 2016 in order to receive the maximum payment amount. **Error! Bookmark not defined.** Exhibit 2 displays the Medicaid incentive payments for dentists.

Exhibit 2.   Medicaid Incentive Payments for Dentists

	Medicaid Dentists
Maximum Incentive Payments	**$63,750 over a period of 6 years**
Incentive Payment Calculations	<u>First Year Payment Cap:</u> 85 percent of $25,000 <u>Years 2-6 Payment Cap:</u> 85 percent of $10,000
Patient Volume Thresholds	• 30 percent Medicaid patients for all dentists, regardless of their specialization (e.g., Pediatric dentists) • 30 percent needy patients for dentists practicing in an FQHC or RHC
Last Year to Begin Participation	2016

Meaningful Use of EHRs

There are three broad categories of criteria that will be used by CMS to assess meaningful use of EHRs: (1) providers must use the certified EHR in a meaningful manner, such as clinical documentation and e-prescribing; (2) technology must be used to electronically exchange health information with the goal to improve the quality of health care; and (3) clinical quality measures must be submitted to HHS electronically. In order to meet these criteria, CMS elected to employ a phased approach to meaningful use; while the final rule published in July 2010 describes stage 1 of meaningful use, CMS intends to update stage 2 and 3 criteria with future rulemaking in 2011 and 2013 respectively. According to the final rule, Stage 1 meaningful use criteria targets the electronic capture of "health information in a structured format and using this information to track key clinical conditions." In addition, stage 1 establishes the necessary functionalities to engage in continuous quality improvement and information exchange, key components of stage 2 and 3 meaningful use criteria.

In addition, CMS developed a core set of objectives and a menu set of objectives, each with associated measures specific to EPs and eligible hospitals to assess their fulfillment of meaningful use criteria. Therefore, in order to qualify as a meaningful EHR user, dentists must successfully meet 15 core and 5 menu requirements, in which 3 core and 3 menu measures are clinical quality measures. Currently, there are no endorsed quality measures specific to oral health. However, CMS will look to include quality measures specific to oral health by stage 2 of meaningful use. Additionally, States can elect to add or modify existing objectives to best address the specific regional needs of eligible providers, including dentists. Thus, States that have a robust Medicaid program for dentists can create a set of measures that may better reflect their oral health priorities. However, any revisions or additions made to meaningful use criteria must promote the three categories identified by the Federal Government and must receive approval from CMS prior to implementation.[1]

Certification of EHRs

Incentive payments will only be made to providers who utilize technology certified by an Office of the National Coordinator of Health IT (ONC)-Authorized Testing and Certification Body (ATCB). A certified EHR is defined as a qualified EHR that meets criteria developed by ONC to ascertain that the technology meets standards and implementation specifications. Subsequently, a qualified EHR is defined as an electronic record of health-related information on an individual that includes patient demographic and clinical health information, such as medical history and problem lists; and has the capacity to do the following: (1) provide clinical decision support; (2) support physician order entry; (3) capture and query information relevant to health care quality; and (4) exchange electronic health information with, and integrate such information from, other sources. Certified EHRs are required to meet adopted standards that are applicable to the type of record involved, as determined by the Secretary of HHS, such as an ambulatory EHR for office-based physicians or an inpatient hospital EHR for hospitals. Currently, there are no certified dental EHR products available.[30]

Current Usage of Health IT and Dentistry

Although dentistry has historically lagged behind medicine in the use of health IT, many oral health providers do currently utilize some health IT products. The use of practice management systems in dentistry has substantially increased in the past few years. In 1986, approximately one-third of all dentists in a two-State survey indicated their use of technology for administrative purposes. By 2000, however, 85.1 percent of all dentists in the United States reported using administrative applications such as patient registration, accounting, and billing in their dental offices.[31,32] Additionally, a survey conducted by the California Health Care Foundation (CHCF) in 2010 found that 93 percent of dentists reported the use of practice management software, with CHCF identifying the seven practice management systems most utilized by dentists practicing in California.[33] Moreover, many dentists have reported increased use of the internet to supplement the administrative needs of their practices because of gained efficiencies, like electronic billing, online patient scheduling, and appointment reminders.[31] Currently, the majority of dentists have integrated practice management software into their dental practices with the functionality to schedule patients, track treatment status, track insurance claims, report financial status, generate letters, and submit electronic claims.[34]

As contrasted with practice management systems, relatively few dentists have implemented an EHR. One study in 2005 showed that only 1.8 percent of dentists reported the use of computer-based patient records (CPRs), which are equivalent to EHRs, in 2005.[35] In the survey conducted by CHCF, only 23 percent of sampled dentists in California reported adopting an electronic dental health record (EDHR). The lack of CCHIT certification for oral EHRs may be one of the primary reasons for the low adoption rates of EHR technology by dentists. Furthermore, dentists working at community clinics were more likely to identify EDHR as important tools of practice than solo or group-practicing dentists.[33]

Researchers have found that while dentists use health IT for administrative and billing functionality, such as practice management systems, they continue to document medical history and progress notes on paper, often causing inconsistencies in clinical documentation.[36] As dental IT applications evolve, more dentists are looking for technologies that incorporate clinical functionalities to better support their patient care.[37] The capacity to record dental and medical history, treatment planning, progress notes, and oral health status are all applications from EHRs valued by dentists.[31]

There is also currently a lack of clinical decision support (CDS) applications in oral EHRs, which provide health professionals automated alerts to assist in making real-time decisions.[38] Automated alerts generated by oral EHRs have the potential to remind dentists about medical complications that potentially impact the patient's oral health and subsequent course of treatments. For example, patients who smoke are at greater risk for complicated oral health issues, such as gum disease or oral cancer.[39]

In addition, dental EHRs must have the ability to capture results from digital imaging devices, diagnostic applications, such as oral cancer screenings, therapeutic applications like orthodontic treatment planning, and decision support applications. Currently, there are few dental EHRs that encompass such a wide range of functionality. While some EHRs offer dental modules, such as the VistA software which is developed and released by the VA, no stand-alone dental EHR nor EHR dental modules have yet to be certified. Furthermore, the standards necessary to achieve information exchange among dental organizations are currently under development.[40] The lack of a national infrastructure for dentists coupled with the low penetration of EHRs have limited HIE activity among dentists.

EHRs being implemented by dentists are often extensions of practice management software. For instance, Dentrix is an example of a dental practice management system that has added clinical functionality to software originally designed as a front-office management tool for billing and scheduling.[41] Similarly, other practice management software vendors have developed new modules that target improvements in communication and workflow in the dental practice. Another example is Carestream's new module that links practice management software to a smart phone to give dentists immediate access to their practice, such as patient's clinical profile and appointment records. The integration of such modules is transforming practice management software from an administrative application to a more clinically based dental EHR system.[41]

As the functionality of practice management software increases, dentists have started to prioritize the clinical applications that would be the most beneficial to their practice. In 2003, Schleyer et al. classified clinical functions as "must-have," "nice-to-have," and "optional" as recommendations to dentists when adopting EHR technology.[31] Functions that were identified as "must-have" and "nice to have" clinical applications included the following:

- Collection of basic information on patient's dental and medical health status.
- Medical alerts.
- Recording of procedures planned and completed.

- Tracking patients care progress through documentation of medical/dental history, signs and symptoms, diagnoses, procedures and their steps, and outcomes.
- Graphic documentation of oral health status, including missing teeth, existing restorations, carious lesions and periodontal conditions.
- Capture, storage, display, and analysis of digital images from a variety of imaging devices.

Dentistry and Meaningful Use

While these health IT functions enable dentists to adopt a more comprehensive approach to dental care for their patients, additional development of dental EHRs are needed to satisfy meaningful use provisions. For instance, electronic prescribing and quality reporting are functions that dentists have yet to incorporate regularly in their practices. While possessing the authority to prescribe medications, dentists write few prescriptions. Therefore, the benefits of electronic prescribing may not be as pronounced for dentists, making it difficult for these providers to comply with this measure.[42] Also, there are no nationally accepted quality measures for dentists. The National Quality Forum and other organizations have yet to provide any guidance to dentists regarding quality measures. Additionally, no timetable currently exists for the adoption and validation of dental quality measures.[42]

It is also important to note that the extensive independence of dental practitioners creates a profound "nonsystem" which offers few leverage points or hooks to institutionalize systems change like health IT adoption, interdependence, reporting, and other meaningful use requirements. Additionally, it is important to understand the question of whether dental care is "primary care," which the profession regards itself to be, or whether it is a specialty medical service. If it is a specialty, it does not have the essential characteristics of other medical specialties that lend themselves to adoption of health IT's meaningful use standards.

Furthermore, the cost-estimates utilized to calculate incentive payments may not be an accurate representation of the acquisition and implementation costs of dental EHRs.[42] The lack of commercially available certified dental EHRs or EHRs with dental modules make it difficult to assess the potential cost impact to dentists.[43] Additionally, there are concerns that dentists will not be able to satisfy Medicaid patient volume requirements as stipulated by meaningful use. As noted above, in order to receive meaningful use payment incentives from the Medicaid program, dentists must demonstrate a 30 percent Medicaid patient volume threshold. To establish this patient volume threshold, dentists must be able to account that 30 percent of their total patient encounters consists of Medicaid patients over any consecutive 90-day period in the year prior to reporting. There are two exceptions to this statutory patient volume mandate. Pediatricians are eligible to demonstrate a patient volume threshold of 20 percent while providers in FQHCs and RHCs must show that 30 percent of their patient population is composed of "needy individuals." Unfortunately, the lower 20 percent patient volume standard is not applicable to pediatric dentists; all dentists, regardless of specialty, must report a 30 percent Medicaid patient volume in order to receive incentive payments. These requirements make it difficult for dentists to determine whether their patient volume adequately satisfies payment incentive requirements. In a study that assessed pediatric dental participation in the California Medicaid program, only 25 percent of dentists reported that

their patient population consisted of at least 10 percent Medicaid beneficiaries.[44] Given these figures, only a defined subset of dentists who are committed to providing substantial levels of care to Medicaid populations will have sufficient qualifying patient volume to receive incentive payments. As this small subset of providers delivers very substantial levels of care, they, like safety net providers, are key targets for these incentives and for advancing the capabilities of health IT in dental practice.

Finally, providers that work in States with combined Medicaid and CHIP programs, such as Medi-Cal in California, may find it difficult to calculate patient volume since it will be difficult to determine if patients are receiving benefits from Title XIX, Title XXI, or State funds. CMS will approach these issues on a State-by-State basis. As States develop their State Medicaid health IT Plan, CMS will need to work directly with health IT coordinators to support a solution that honors Congress' patient volume requirements without jeopardizing the goals and missions of State programs. Due to these different factors, the ADA believes that many dentists will not be able to participate in the Medicare or Medicaid meaningful use incentive programs in 2011. In order to facilitate health IT adoption among dentists, CMS and ONC must continue to work with associations, such as ADA, to create oral health-specific guidelines to help dentists reach meaningful use of EHR technology.[43]

Barriers to the Adoption of Health IT by Dentists

There are several additional barriers which prohibit dentists from adopting and implementing health IT. First, cost is a major concern for dentists considering purchasing health IT products. According to the CHCF study, 73 percent of dentists cited the initial purchase and continual maintenance of EHR as the main barrier to the acquisition of health IT. Additionally, since 89 percent of all U.S. dentists are solo or independent nonsolo practice,[11] the return on investment of purchasing an EHR is often minimal.[34,41] For instance, CHCF reports that dentists working in groups or at community clinics are more likely to adopt health IT than dentists that work individually in a solo practice because of higher patient volumes.[33] Furthermore, the prospect of needing an IT department or contracting IT-related services is often daunting for solo or independent nonsolo practitioners.[41] These expenses often outweigh the benefits of adopting health IT in smaller dental practices. Second, usability of health IT is a concern for dentists. Difficulties with implementing health IT results in a loss of time and productivity.[35] The potential for such consequences often dissuades dentists because they rely on maintaining a volume of patients to ensure financial sustainability. Finally, despite the inclusion of dentists in the HITECH Act, the lack of Medicare reimbursement for dental care and the high Medicaid patient volume requirement may not sufficiently incentivize dentists to adopt EHR technology. Only 12 percent of dentists surveyed by CHCF indicated their likely participation in the meaningful use incentive program.[33]

Utilizing Health IT to Improve Access to Quality Oral Health Care for Medicaid and CHIP Enrollees

Despite the lack of available dental EHRs, health IT has the ability to improve access to and quality of care provided by dentists. Advances in scheduling and billing technologies have efficiently streamlined workflow for many dental practices.[34] Such technologies are often used to track patients so that procedures are delivered on a timely basis.[45] Moreover, health IT can increase communication between dentists and patients regarding treatments and procedures. For instance, advances in digital radiography allow dentists and patients to jointly examine dental conditions and to proactively discuss treatment options.[2] Dentists surveyed by CHCF indicated that care coordination and increased communication with other health professionals and patients were the biggest potential benefits of health IT.[33]

The ability of dentists to view and assess their patients' medical data also facilitates the delivery of high quality care. Research has shown that more than 12 systemic diseases are impacted by oral health or evident in the oral cavity.[39] Oral conditions, like xerostomia (dry mouth), and inflammatory periodontal disease impacts essential physiological functions, such as digestion, respiration, and immunity. Compiling patient dental information with their medical information can facilitate care coordination and comprehensiveness of care between medical and dental providers as well as documentation of specific risk factors impacting both oral and systemic health. Moreover, access to medical records allows dentists to keep track of medication and allergy information to prevent avoidable adverse events.[46]

Given that health IT has already proven a valuable tool in many dental practices, it is important to investigate how its use can help increase access to care for Medicaid and CHIP enrollees. Below, we describe several potential ways that health IT systems might address access to dental care for low income children and how it might entice providers to serve these children.

As noted above, acceptance of Medicaid or CHIP by dentists is low, leading to unmet demand by Medicaid and CHIP children in need of all types of dental services. While many of the issues central to decisionmaking about Medicaid and CHIP acceptance are beyond the scope of this report, we plan to address the possibility of the meaningful use payment incentives increasing acceptance of Medicaid as a main topic for discussion in the subsequent expert panel. There may, however, be important ways that certain health IT systems can improve processes of care to address known barriers to acceptance of Medicaid and CHIP children by dental providers.

Missed Appointments. Health IT could help reduce rates of missed appointments. As noted above, a common reason that dentists offer for not accepting Medicaid and CHIP patients is that they do not keep scheduled appointments, which results in lost revenue and efficiency for dentists.[10] Some dental health IT systems have case management and patient reminder functionality which could streamline the reminder

process, and reduce absenteeism. State programs to improve care coordination through case managers who remind Medicaid and CHIP patients about their appointments have shown reduced rates of absenteeism, although, to our knowledge, there have been no empirical studies showing similar results for electronic case management in this population.[47]

Administrative Requirements. Streamlining workflows and reducing paperwork and bureaucratic challenges associated with Medicaid and CHIP might increase the efficiency and revenues of the office.[48] As noted above, administrative requirements of Medicaid has been reported as a major barrier to dentists accepting Medicaid. Activities like abstracting data from paper files and tabulating them manually can be time-consuming and unreliable.

Care Coordination. Many health clinics are embracing the concept of the patient-centered medical home for low income children. It is possible that health IT systems may improve care coordination for referrals within dentistry and between medical and dental care. Within dentistry, there are a number of ways this type of coordination might occur. First, integrated electronic dental health records would streamline communication between a general dentist and a specialist, like an endodontist, periodontist, or oral surgeon. Streamlined communication might create efficiencies by reducing duplicate radiographs and clinical tests and by clarifying what care has been provided and what procedures have been carried out. Technology might also give dentists access to specialist consultations through telemedicine. It is possible that a general dentist might be able to consult with a specialist about a case and determine an appropriate care plan rather than requiring the patient to move around through multiple appointments.

Additionally, there is a growing movement of mid-level dental providers, such as dental therapists and hygienists, providing care to low income individuals. Health IT can play a significant role in helping to coordinate these mid level providers with dentists to ensure that patients are receiving adequate care.

Health IT also offers tools for breaking down some of the silos that have emerged between dental and medical care. The exchange of health information between physicians and dentists can be facilitated through EHRs and HIEs if medical and dental health IT/HIE systems are developed for interoperability.[49] There is general consensus that there are common risk factors for many dental and medical problems, suggesting that a more holistic approach to care might be more effective.[1] General practitioners and pediatricians who see children regularly for well baby and school checkups are in an ideal position to identify children at risk for oral health problems and to refer them to care.[50] Furthermore, oral disease in children can cause infection in other areas of the body including the brain, and pain associated with tooth decay can change nutritional habits, making conditions such as diabetes more difficult to manage.[1] For the various infections and diseases that start in the mouth, as well as for conditions such as diabetes where oral disease can cause complications, coordination is necessary between pediatricians and dentists. Stronger links between some medical and dental practices using health IT systems may be one efficient way to improve the quality of care to low income children by integrating systems and coordinating care. These two strands fit well within the patient-centered medical home model, mentioned above, as they put the patient and their needs at the center of the health care encounter.[1]

Conclusions

This background report is meant to form the foundation for discussion at an expert panel meeting on ways that health IT can be developed for dentistry and can be used to improve access to quality oral health care for Medicaid and CHIP enrollees. In this report, we have begun to address our main research issues:

- **Access to oral health care for Medicaid and CHIP Enrollees**
  - Determining the current rate of dentists who accept Medicaid/CHIP including those who might meet the Medicaid patient threshold to be eligible for the Medicaid EHR incentive program;
  - Identifying possible barriers to the acceptance of Medicaid and or CHIP by oral health providers.

- **Health IT and dentistry, including new meaningful use opportunities**
  - Ascertaining levels of health IT use in the dental community;
  - Identifying possible barriers to the use of health IT by oral health providers; and
  - Utilizing health IT to improve access to oral health care for Medicaid/CHIP enrollees, including meaningful use payment incentives.

- **Strategizing about ways in which health IT and the Medicaid meaningful use payment incentives can encourage dentists to accept children on Medicaid/CHIP**

Our literature reviews and discussions with various stakeholders in preparation of this report have allowed us to determine the following gaps and issues that need to be addressed by the expert panel.

Could the Meaningful Use Incentive payments serve as an incentive for providers to serve Medicaid and CHIP children? We will explore if the new payments for EHR implementation could serve as an incentive for dentists to take more low income children into their practices. To begin to answer this question we will have to discuss the need for more certified dental EHRs, and the various other barriers that dentists face when adopting health IT. We will also have to take into consideration the issue of low reimbursement rates by Medicaid and possibly CHIP for dentists, and the various other reasons that many dentists do not accept Medicaid or CHIP. It will also be important to analyze all of the critical factors that go into a dentist's decision on why or why not to accept Medicaid and CHIP and to analyze what can be learned from the differences in participation between Medicaid and CHIP.

Can the functionalities of health IT increase access to oral health care for Medicaid and CHIP enrollees by making this population more attractive to dentists? We will look at the ways that health IT can help address the problems of missed appointments, noncompliance and Medicaid administrative requirements.

Can the functionalities of health IT increase access to oral health care for Medicaid and CHIP enrollees by helping this population find oral health providers and understand the importance of quality oral health care? We will look at the ways that health IT can help increase care-coordination, and at how some patient facing technologies may help to educate patients about oral health care.

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Appendix B: Expert Panel Meeting List

Panelists

Amit Acharya
acharya.amit@mcrf.mfldclin.edu
Marshfield Clinic Research Foundation

Margo Adesanya
margo.adesanya@nih.hhs.gov
National Institute of Dental and Craniofacial Research
National Institutes of Health

Girma Alemu
Girma.Alemu@hrsa.hhs.gov
Health Resources and Services Administration

Laurie Baker
LBarker@cdc.gov
Centers for Disease Control and Prevention

Robert Birdwell
ROBERT.BIRDWELL@AZAHCCCS.GOV
Medicaid CHIP Dental Association

Scott Cashion
scashion@me.com
American Academy of Pediatric Dentistry

Barbara Dailey
Barbara.Dailey@cms.hhs.gov
Centers for Medicare & Medicaid Services

Franklin Din
franklin.din@hp.com
Hewlett Packard (Medical Informatics)

Joseph Errante
jerrante@healthdrive.com
HealthDrive Corporation

Allen Finkelstein
Allen_Finkelstein@horizonblue.com
Bedford HealthCare Solutions

Patrick Finnerty
pwfinnerty@aol.com
PWF Consulting (Former Virginia Medicaid Director)

Carrie Feher
Carrie.Feher@cms.hhs.gov
Centers for Medicare & Medicaid Services

James Fricton
frict001@umn.edu
University of Minnesota

James Garvie
James.Garvie@ihs.gov
Indian Health Service

David Hunt
DavidR.Hunt@hhs.gov
Office of the National Coordinator

Timothy Iafolla
Timothy.Iafolla@nih.gov
National Institute of Dental and Craniofacial Research
National Institutes of Health

Jessica Kahn
Jessica.Kahn@CMS.hhs.gov
Centers for Medicare & Medicaid Services

Colleen Lampron
colleen@NNOHA.org
National Network for Oral Health Access

Richard Manski
Richard.Manski@ahrq.hhs.gov
Agency for Health Research and Quality

Wendy Mouradian
WendyE.Mouradian@hrsa.hhs.gov
Health Resources and Services Administration

Jean Narcisi
narcisij@ada.org
American Dental Association

David Parrella
dparrella@aliciasmithassociates.com
Alicia Smith Associates

Pam Reece
pam.reece@henryschein.com
Henry Schein Practice Solutions

Gregory Zeller
gzeller@umaryland.edu
Veterans Affairs Maryland Health Care System

John Zimmerman
jlz4@columbia.edu
Columbia University

Observers

Diego Capurro
diego.capurro@nih.gov
National Institutes of Health

Nancy Goetschius
nancy.goetschius@cms.hhs.gov
Centers for Medicare & Medicaid Services

Heather Johnson
heather.johnson@ahrq.hhs.gov
Agency for Healthcare Research and Quality

Khushdeep Malhotra
khushdeep.malhotra@nih.gov
National Institutes of Health

Colin Pekruhn
cpekruhn@cdhp.org
Children's Dental Health Project

Caroline Taplin
caroline.taplin@hhs.gov
Office of the Assistant Secretary for Planning and Evaluation

Project Team

Erin Grace
Erin.Grace@AHRQ.hhs.gov
Agency for Healthcare Research and Quality

Cheryl Austein Casnoff
Casnoff-cheryl@norc.org
NORC at the University of Chicago

Burton Edelstein
ble22@columbia.edu
Children's Dental Health Project

Emily Shortridge
Shortridge-emily@norc.org
NORC at the University of Chicago

Lisa Rosenberger
Rosenberger-lisa@norc.org
NORC at the University of Chicago

Nancy Kwon
Kwon-nancy@norc.org
NORC at the University of Chicago

Hilary Scherer
Scherer-hilary@norc.org
NORC at the University of Chicago