

Health Information Technology: *Opportunities to Improve Children's Oral Health*

Public policymakers at every level of government have demonstrated growing interest in using information technology to improve the quality of healthcare while lowering costs. The American Recovery and Reinvestment Act signed into law by President Obama on February 17, 2009 is a strong indication of that support, with the law's \$19 billion investment in health information technology (HIT).ⁱ However, little attention has been paid to unique opportunities to improve children's health by incorporating children's *oral* health into HIT initiatives. This brief starts a dialogue within the public health, policymaking, pediatric, and dental communities about the opportunities and potential for HIT to improve children's health – including children's oral health.

Information Technology and Oral Health

Today, computer science can create hardware and software for application to most any identified need. Needed now is technology's application to pediatric health and healthcare. Regardless of the particular application of HIT (see sidebar), there is little use of this technology in dentistry beyond limited adoption of dental office management software and more limited adoption of electronic dental records. According to a 2007 American Dental Association survey, over 80 percent of dentists have computer systems but only 60 percent submit dental claims electronically and 44 percent "work with electronic patient records" to varying degreesⁱⁱⁱ The greatest benefit to expanding the use of technology in dentistry is the immediate access to information on an appropriately confidential "need to know" basis.

Initial Opportunities for Oral Health and HIT

1. Refine electronic dental records and establish a standard for inter-user transfers of information.
2. Link dental offices into virtual networks for patient care, quality effectiveness research, and improved administration.
3. Link dental services to primary care medical services in virtual networks
4. Improve access to information, raise awareness and inform consumers about appropriate care
5. Improve the quality of dental care through informatics-based comparative effectiveness research and sharing information on treatment norms.

Refine electronic dental records

Electronic dental records have evolved slowly as dentists have gained interest in functions ranging from billing to appointment management and more recently to recording clinical care. Additional refinements will make these records facile, inter-operative, and sufficiently efficient to replace paper records.

What is HIT?

There are numerous terms that are used to describe the interaction between technology and health care. The term "Health Information Technology" (HIT) that is most commonly used, describes the intersection of computer technology and healthcare.

A more encompassing term, "Health Information Systems" captures the concept of using those technologies systematically across multiple levels of intervention, allowing for linking information on the child to the family, healthcare provider, payer (including Medicaid), community resources (including Head Start, WIC, Early Intervention), and program managers (including MCH officials).

In addition, systems that link information from one user to another are referred to as "Health Information Exchange."

Link dental services to primary care medical services for children

Tooth decay is the single most prevalent chronic disease of childhood (affecting nearly half of 5 year olds) yet remains the only pediatric infectious disease not managed by physicians, nurse practitioners and other primary care medical care givers. Since the separation of medicine and dentistry as distinct professions in the 19th century, communication between primary care physicians and dentists has been absent or limited. Today, medical providers are increasingly involved in oral health promotion, “medical homes” refer very young children to “dental homes,” and science is offering new options for the prevention and control of tooth decay. These trends demand development of effective information technology to limit duplication of services and to promote coordinated care.

Improve access to information, raise awareness and inform consumers about appropriate care

Low-income children with no health insurance or in public programs (Medicaid/CHIP) have higher rates of tooth decay and lower access to dental care than children with private dental coverage. The prevalence of dental caries is increasing and the disease burden has already overwhelmed the capacity of payers and providers. Only through systematic primary prevention and disease management can better oral health at lower cost be accomplished. With the aid of information technology, a child’s oral health can be protected from before birth by informing parents about prevention strategies; by empowering WIC, Head Start, Early Intervention programs, and daycare systems to promote oral health and identify children at risk for tooth decay; by providing diagnostic and anticipatory guidance support to physicians; by facilitating effective referrals to pediatric dentistry; by engaging families individualized dental care action plans; and by linking information on the child’s oral health needs to others involved with the child where the child lives, learns, and plays.

Improve the quality of pediatric dental care

The dental care system is comprised of large numbers of independent dental offices that are not linked to one another, present inefficiencies of scale, do not incorporate formal performance tracking or quality improvement methodologies, and are not linked to others who care for children. Information technology holds promise to create virtual networks that can lead to performance tracking and quality interventions.

Policy recommendations

The current infusion of funding for health information technology to develop a new infrastructure is an ideal time to work with all pediatric health providers to integrate oral health into the systems currently being designed. Support for building a strong and effective health information technology infrastructure also invites dental providers to improve their technology capacity and abilities to coordinate with non-dental providers. Given this unique time of opportunity, CDHP supports the following policy recommendations to improve the health of children through the use of information technology.

1. Extend current health information technology and healthcare quality improvement programs to pediatric oral health.
2. Include information technology in new programs that promote children’s general and oral health.
3. Establish a pediatric-specific demonstration program that encourages states to experiment with dental disease management using health information technology.
4. Charge programs serving at-risk children, such as Head Start and WIC, to develop information technology linkages with pediatric medical and dental providers.

For more information about contact Meg Booth at (202) 833-8288 x206 or mbooth@cdhp.org

March 2009 Burton Edelstein, DDS, MPH and Meg Booth, MPH

ⁱ American Recovery and Reinvestment Act, P.L. 111-5

ⁱⁱⁱ American Dental Association. 2007 *Survey of Current Issues in Dentistry*, Selected Results. October 2008.