HIT Policy Committee - October 27 & 28, 2009

Underserved and Medicaid Providers Panel – Dentists

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Note: This testimony was provided to the Health Information Technology Policy Committee for the committee meeting on 10/27 and 28, 2009 regarding meaningful use measures for users of certified electronic health record technology. The testimony discusses the applicability of currently proposed meaningful use measures to dentistry and obstacles to the broad implementation of EHR technology in dental care.

1. How will the proposed 2011 and 2013 meaningful-use objectives and measures help your specific area (pediatrics, psychiatrist, nurse practitioner dentists, etc.] demonstrate that they are improving care?

The health outcomes policy priorities that underpin the proposed meaningful-use objectives, such as improving quality, reducing health disparities, engaging patients and families, and improving care coordination, are relevant and appropriate to provision of dental care. As such, their spirit and expression is compatible with and highly supportive of the goals and objectives of the dental profession for oral health outcomes.

However, as currently drafted, the objectives/measures for the 2011-2015 time period are only partially applicable to and feasible in dentistry. For instance, regarding the 2011 objectives, dentists typically generate problem lists for oral health conditions; can contribute to maintaining active medication and medication allergy lists; record primary language, insurance type, gender and other patient-specific variables; obtain vital signs such as blood pressure; and provide access to patient-specific educational resources. However, dentists do **not** typically enter orders, perform medication reconciliation, submit information to immunization registries and provide electronic submissions of reportable lab results to public health agencies.

As currently drafted, the meaningful-use objectives contribute only in a very limited fashion to answering the question whether our dental care system actually improves the oral health of patients, populations and the nation.

2. What are the special considerations when applying meaningful use measures to your specific area or to underserved populations?

Two main considerations should guide the development of meaningful-use measures for dentistry in general: (1) an understanding and appreciation of dental care workflow, and how it is supported by information technology (IT), and (2) the definition of practical, specific objectives and measures focused primarily, but not exclusively, on oral health.

The dental care workflow differs, to a large degree, from the hospital-based, inpatient-oriented workflow which is the obvious focus of the currently proposed objectives and measures. The overwhelming majority of dental care is delivered in small to medium-sized practices (one to five operatories or dental chairs) on an outpatient basis. (Approximately 67% of all dentists in the United States are in solo practice.) General dentists, which make up approximately 65% of the nation’s dental practitioners, perform the dominant role in delivering and coordinating a patient's dental care. The high degree of specialization and compartmentalization of workflow common to hospitals and large medical clinics is largely absent in dentistry. Dentists, supported by dental hygienists and assistants, conduct clinical exams, perform diagnostic tests, read radiographs, and plan and execute treatment. Complex diagnostics and procedures are referred to specialists, such as periodontists, endodontists and oral surgeons, who make up 35% of all practitioners.

Approximately 70% of all Americans have at least one dental visit per year. Most of them are seen by their dentist at periodic intervals, typically six months to a year. Most dental patients see their care provider when they don't feel sick, as opposed to medical patients who typically visit their physician in the context of a particular health concern or care episode. This dynamic presents unique chances for monitoring, detecting and assessing various health conditions within the context of the dental visit.

Dentists who are computerized typically use a single computer program, called a practice management system or electronic dental record, to manage part of or all patient data. Occasionally, they employ a separate system to manage clinical images[1]. The division of the IT infrastructure common in hospitals into multiple software applications, such as RADT, CPOE, lab, pathology and imaging systems essentially does not exist in dentistry.

One recommendation resulting from this review would be to focus on clinical information coverage in dentistry, rather than the utilization of separate systems, such as CPOE or lab systems. Figure 1 shows the electronic/paper information coverage of information by general dentists as determined by a recent study[1]. A way of promoting meaningful use of EHRs in dentistry would be to stipulate targets for the storage of clinical information in EHRs.

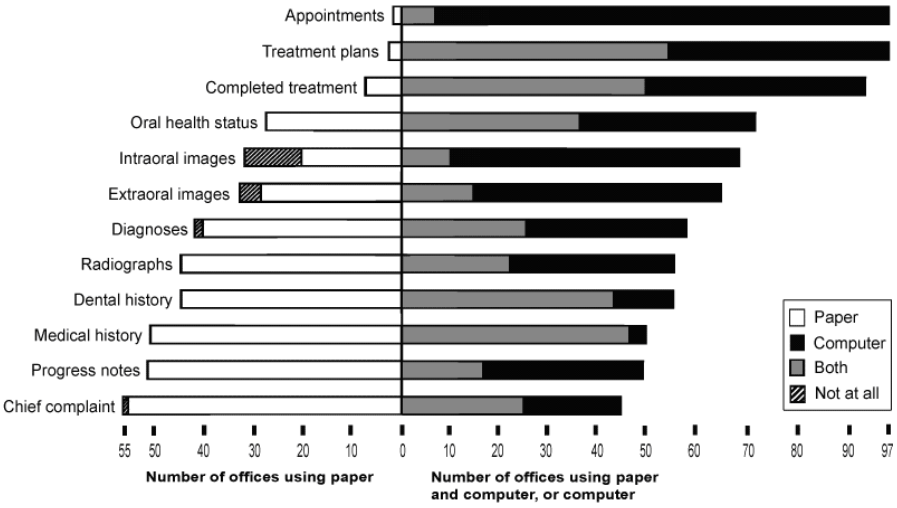

Figure 1: Storage of major clinical information categories on paper/computer, sorted by utilization of computer-based storage in descending order

Process- and infrastructure-oriented aspects of oral health care should be complemented by defining practical, specific objectives and measures focused primarily, but not exclusively, on oral health. As stated above, several of the currently articulated objectives and measures can be applied with little to no modification to dentistry. However, those need to be supplemented by goals that relate specifically to important oral health

[1] Schleyer TK, Thyvalikakath TP, Spallek H, Torres-Urquidy MH, Hernandez P, Yuhaniak J. Clinical computing in general dentistry. J Am Med Inform Assoc 2006;13(3):344-52.

outcomes, such as missing teeth, caries lesions, periodontal disease, oral cancer and others (further described below).

In addition, some health outcomes MUST be assessed and measured ACROSS healthcare disciplines. For instance, monitoring of blood pressure and tobacco use status/interventions are not the domain of a single healthcare discipline, but a concern for all healthcare providers. Thus, measuring how well those objectives are achieved must take a systems perspective, rather than the traditional discipline-specific perspective. We need to know whether patients have been counseled regarding tobacco use/cessation by their primary care physician, cardiologist, dentist and visiting nurse as a group, not as individual practitioners.

3. What other measures would you propose be considered to assess the meaningful use of EHRs by your specialty, and how would they align with the care goals and objectives the Policy Committee has recommended?

A sample of potential measures that could be considered for assessing meaningful use (in no particular order) in dentistry includes:

- % of pediatric patients who receive caries-preventive interventions, such as fluoride varnish or sealants
- % of patients who are seen at patient-specific recall intervals
- % of high-risk patients screened for oral pre-malignant lesions or oral cancer
- % of patients with improving/stable/deteriorating periodontal disease
- trends for decayed/missing/filled teeth by individuals and population cohorts
- % of medications prescribed that are checked against authoritative medication/allergy list for interactions/contraindications
- % of patient referrals made as a consequence of potential oral-systemic health interactions, such as periodontal disease -> low pre-term birth weight or periodontal disease -> cardiovascular disease
- % of systemic conditions, such as diabetes, cardiovascular disease and hematologic disorders, discovered in the course of dental diagnosis/treatment

This list is by no means inclusive and should be defined by a panel representative of the dental profession. It should be grounded in best available scientific evidence as well as practical feasibility.

4. What are other EHR adoption barriers unrelated to the definition of meaningful use, that affect providers like you? What solutions would you recommend to address those issues? What would your role as a provider be in this solution?

Multiple barriers unrelated to the definition of meaningful use for HIT adoption in dentistry exist. Several of those have been articulated in a letter from Dr. Richard

Valacovic, Executive Director of the American Dental Education Association, to Dr. David Blumenthal dated 6/26/2009 (attached). The adoption barriers identified in that communication include:

- lack of support for HIT implementation in the HITECH Act for dental schools and their clinics
- non-applicability of Medicare-based EHR initiatives for dentists, since Medicare covers virtually no oral health care services
- difficulty of achieving the 30% Medicaid population requirement for Medicaid EHR initiatives by dental schools and their clinics
- absence of certification standards for dental EHRs

Additional barriers that impede EHR adoption within the dental care system include:

1. Non-applicability of the HITECH Act to the vast majority of dental practitioners in the United States: Dental schools and Federally Qualified Health Centers (FHQCs) are often the providers of last resort for the underserved covered by Medicaid. Most dental practitioners do not provide care for Medicaid patients. Thus, the provisions of the HITECH Act are structured in a way to make most dental practitioners, who provide most of the dental care in the US, ineligible for EHR incentives.
2. Dearth of standards for patient information: At present, the only standard for patient information widely used in dentistry is the Current Dental Terminology, a controlled vocabulary for dental treatment procedures maintained by the American Dental Association. No other generally accepted dental vocabulary, for instance for diagnoses, findings and test results, exists.
3. Varying information coverage by electronic dental records: As a recent study found[2], electronic dental records vary considerable with respect to the patient information they accommodate. Such variation makes the application of general process and outcomes measures difficult.

Given the fact that the provisions of the HITECH Act are fixed, the potential for recommendations to address the larger issue of EHR adoption in dental care and the subsequent improvement of oral health in the nation are limited. Within the framework of the HITECH Act and the given timeframe, three recommendations appear to make sense:

1. Develop meaningful-use measures compatible with and complementary to the current framework to support the assessment and monitoring of important oral health outcomes;
2. Pursue the development of a certification process and certification of one or more dental EHR products;
3. Work with relevant stakeholders to determine how dental schools and FHQCs can meet eligibility criteria for EHR incentives within the HITECH Act.

[2] Schleyer T, Spallek H, Hernandez P. A qualitative investigation of the content of dental paper-based and computer-based patient record formats. J Am Med Inform Assoc 2007;14(4):515-26.

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