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Judy Murphy & Liz Johnson, Co-Chairs
HIT Standards Committee
Implementation Workgroup

Re: Testimony: Panel 5B: Early Adopters of Meaningful Use Seeking Attestation – Hospital Experience, Part 2

Dear Ms. Murphy and Ms. Johnson:

On behalf of Intermountain Healthcare, thank you for the opportunity to comment on our experience as early adopters seeking attestation.

My name is Len Bowes and I am a physician and medical informaticist for Intermountain Healthcare.

Intermountain Healthcare is a not-for-profit, community-based integrated healthcare delivery system headquartered in Salt Lake City, Utah that operates 23 hospitals, more than 150 clinics, and other healthcare services. Intermountain has approximately 31,000 employees and has about six million patients in our longitudinal electronic health record (EHR). SelectHealth, Intermountain's health insurance company, covers more than 500,000 individuals. Intermountain employs approximately 800 physicians and has another 2,500 affiliated physicians who practice at our facilities. Intermountain is recognized for its success in the provision of high quality, efficient clinical care.¹ We are also recognized for our pioneering work in the development and use of clinical information systems which are critical in enabling the provision of this efficient, high quality care.

I have spent the past 16 years leading and collaborating with Intermountain Healthcare teams that develop and roll out our home-grown EHR systems, including CPOE, physician documentation systems, and E-prescribing, among others. I hope to illustrate some of the challenges that meaningful use brings to our enterprise, including the impact of developing new EHR functionality and also the impact upon our clinicians that must change their behavior as new EHR functionality is delivered.

¹ *An Agenda For Change: A Dartmouth Atlas White Paper*, John Wennberg, MD, Elliott Fisher, MD, et al., (The Dartmouth Institute for Health Policy and Clinical Practice, Dec 2008): 5.

Fully 50 to 100% of my time in the last 18 months has been consumed with studying, interpreting, and estimating impact of the rules and regulations for EHR certification and attainment of meaningful use for our enterprise. I advise our chief information officer Marc Probst (a member of the HIT Policy Committee), chief medical information officer Stan Huff (a member of the HIT Standards Committee) as well as our chief medical officer and chief nursing officer on ARRA/HITECH issues.

I was tasked to oversee the gap analysis between the HITECH EHR certification requirements and our self-developed EHR systems as well as the gap analysis between the Meaningful Use workflow requirements and our current EHR ambulatory and hospital workflows. These gap analyses were requested by Intermountain leadership in early 2010, following release of the preliminary rules (NPRM and IFR) and then following release of the final rules in July 2010. Intermountain leadership wanted to know if meeting Stage 1 of Meaningful Use fit with our institution's goals: Could it be implemented successfully and accepted by our clinicians, without adverse impact to patient safety? What would be the impact on other important projects? Would it have a benefit to cost that would be more or less favorable, all things considered?

The short answer is that our hospitals and physician leaders feel that planning to meet stage 1 should be a goal for as many hospitals and physicians as possible. We have set a minimum board goal to certify our EHR, a target goal to obtain meaningful use for all of our hospitals and physicians. This will be a huge challenge and will come with significant cost financially, as well as significant impact to our five-year road map.

Identify your challenges, barriers, and successes as an early adopter of meaningful use seeking attestation. Discuss your outcomes/results. Include any surprises or unexpected outcomes and how you addressed them?

Some of our challenges in this process have been understanding and dealing with the broad scope of ONC and CMS rules, understanding the rule-making process, generating comments, and keeping up with the iterations of rules as they are released. Even with the use of significant internal and external resources, getting our arms around the entire scope of certification and meaningful use was daunting and remains so. To illustrate, our summary gap analysis spreadsheet for EHR certification and Meaningful Use is made up of 2,277 cells.

Identifying gaps in our EHR functionality required assembling and repetitive consulting with 10 teams, numbering over 100 specialists from our EHR development and implementation groups. We have two legacy systems, one for hospitals and one for ambulatory users. 22 analysts reviewed 46 EHR certification criteria to determine gaps that need to be filled. We meet 25 of the 46 EHR requirements, but must enhance 17 modules and build 4 new modules or functions (clinical quality measures, encryption, inpatient problem list, and automated measure calculations).

Identifying Meaningful Use workflow has been a challenge. Our task was to identify in our 23 hospitals and 150 clinics, whether or not we met the prescribed meaningful use workflows. We did not design every EHR module with the ability to track user workflow interaction or automate measure calculation. There are 29 inpatient and ambulatory meaningful use workflows that

require automated measure calculations in Stage 1. Fortunately, we had armed some EHR modules and therefore could objectively measure 14 inpatient and ambulatory workflows such as problem list, medication, allergy, vital signs, etc. The workflows without automated measures required us to use subjective information such as feedback from our implementation teams to estimate how close we are to meeting meaningful use for these workflows. Table 1 shows the number of hospitals that meet measurable meaningful use workflows as of August 2010.

Table 1 Number of Intermountain Hospitals meeting measurable Meaningful Use requirements, Aug 2010

Measurable meaningful use requirement	Number of Intermountain's 23 hospitals that meet measurable meaningful use requirements
Demographics	19
Vital Signs	7
Problem List	0
Medication List	19
Discharge Summaries	0
Quality Measures	0
Med Reconciliation	2

The results of our workflow gap analysis showed that not one hospital or a single physician met all of the Stage 1 meaningful use workflow requirements. Some workflows were met by some of the hospitals and physicians. There are 14 hospital and 15 ambulatory workflows that will need to be enhanced or modified. There are an additional 10 that pose great challenges including hospital and ambulatory problem list, submission of quality measures, discharge instructions, medication reconciliation, and immunization documentation. Details of our meaningful use status for the enterprise are shown in Appendix A.

Our final gap analyses showed that we will need to spend approximately \$8-10 Million over our projected budget to fill our EHR functional gaps, and to roll out our system to our eligible professionals and hospitals. Other costs to Intermountain include likely postponement of other non-HITECH projects, including replacement of other clinical systems, functionality for our Medical Home project, development of our new EHR replacement, upgrading our PC operating system, among others. We are increasing staff in our EHR development teams and our implementation and training teams. However, it takes approximately six months to get analysts and programmers up to speed on our systems, to become proficient, and takes time away from current staff to do the training. It remains unclear whether we can hire and train new staff in time to meet EHR development goals and then train users to meet meaningful use.

Another significant challenge for us is creating the infrastructure for certification of our self-developed EHR. We have had to create a new group within our organization that will be in charge of managing all of the tasks necessary to get our EHR certified. We have struggled with exactly how to certify our home-grown hospital and ambulatory systems. We applaud the decision to support 'site-certification' options for institutions such as ours that do not have 'off the shelf' EHRs. However, the final details for site-certification were only released in the last months of 2010, and we are still waiting for direction on site-certification for ambulatory users.

This highlights one of the most problematic aspects of meaningful use: Not only are the rules of the road unknown in some areas, but in other areas they are shifting. This change and uncertainty makes thoughtful planning extremely difficult, if not impossible in the timelines given.

Outline the implementation approaches and methodologies you used that worked and didn't work. Include any real-world user stories, illustrations, or examples.

Another great challenge to reach meaningful use in our hospitals and clinics is the ability to change clinician workflows.

Transitioning clinicians and especially physicians to our EHR is a time-consuming process. Like most other institutions, we have not had success with 'big-bang' EHR transitions. Our EHR implementation strategy has been relatively gradual. For example, in our ambulatory clinics, we have one implementation FTE per every 100 physicians. This staffing level gives us an average of 5 to 8 clinicians becoming proficient on the EHR each month. This rate of change has been acceptable to our organization. Changing just one workflow can impact a clinician significantly, and if done wrong, impact patient safety. For example, we implemented a clinical summary and reminder module to our ambulatory clinicians, which took 3 years to roll out to our 800 ambulatory physicians and staff. Transitioning our MDs from dictation to electronic charting was also a three year process. EHR development and clinician workflow change is challenging and it is slow. We must get it right the first time to ensure physician efficiency and patient safety.

In many ways, we are embarking on a journey over uncharted waters. This will be the first time that Intermountain will have this number of significant workflow changes needing to be completed in such a short time period. We are in the process of significantly increasing our implementation teams and rate of adoption in order meet this goal.

Realistically, while our goal is to reach meaningful use for all hospitals and physicians, we are not certain that all of our hospitals and physicians will achieve meaningful use for Stage 1 in time to gain the maximum incentives.

Describe your experience using the ONC and CMS communications regarding the meaningful use criteria, standards specifications and measurement.

Our experience using the ONC and CMS communications has been touched upon earlier in this testimony. In general, we have used summaries of the ONC and CMS communications as our working documents. We use the ONC and CMS documents to answer specific, pointed questions, when they arise. We have found the NIST certification test scripts to be very straightforward and helpful.

We have had questions regarding certification of our EHR, and interpretation of meaningful use and have submitted these questions on the individual ONC and CMS websites. However, we have not received timely replies. If there could be anything done to increase the turn-around on questions, this would be very helpful.

Summary

In summary, we have a huge and seemingly insurmountable challenge in front of us as things stand today. How could CMS and ONC help institutions like Intermountain successfully demonstrate meaningful use enterprise wide and with a higher rate of success?

CMS and ONC should harmonize quality measures, and meaningful use measures required by their various programs and other national regulatory programs. There should be agreement on measures for HITECH, joint commission, PQRI, Medical Home/ACO programs, NCQA, and the like. Currently, there are so many current and upcoming measurement requirements for different regulatory and incentive programs that, we are finding the task very difficult to manage.

In addition, we need a finalized, consistent, long-term guidance – a meaningful use strategy roadmap from CMS/ONC through 2017. It would also be helpful if ONC and CMS incorporate as much feedback as possible from the CIO community, from hospitals, and eligible professionals, so that real world implementation experience is appropriately considered and reflected by ONC and CMS.

Thank you for the opportunity to comment on this important topic.

Sincerely yours,

/Watson A. Bowes/

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