

HIT Policy Committee Meaningful Use Workgroup Hearing

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Written Testimony

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I would like to thank Dr. Tang and the other distinguished members of the HIT Policy Committee Meaningful Use Workgroup for providing me with the opportunity to share our experiences with Meaningful Use and to discuss the measurement concepts and pending criteria for Stage 2 and 3.

As brief background, e-MDs is a provider of ambulatory electronic health record and practice management software based in Austin, Texas. The company was founded in 1996 by a family physician and the initial development of the e-MDs EHR occurred on-site within a moderate sized medical practice facility. e-MDs is currently used by approximately 8,500 providers in 49 states who care for over 10 million patients. e-MDs EHR, named Solution Series Chart™, has been consistently ranked highly by objective physician survey and we felt we had a number of “effective users” of EHRs as clients prior to the advent of Meaningful Use. Fortunately the transition to Meaningful Use was not seen as a significant obstacle by many of our providers and an e-MDs client, the Gastorf Family Clinic in Durant, Oklahoma, was the first practice in the United States to receive an incentive check for meeting the Medicaid requirements (<http://www.ama-assn.org/amednews/2011/01/24/bisc0124.htm>). e-MDs clients have been the first to receive Medicare incentive payments for achieving Stage 1 Meaningful Use in at least 11 states.

I am the president and CEO of e-MDs, Inc. I am board certified in neurology and was involved in full time patient care for approximately 15 years. Following this I worked on informatics projects at the National Library of Medicine (UMLS and MeSH) and the National Cancer Institute and then served as the international director of SNOMED CT during its formation. Over the past 10 years I have worked for two EHR companies, Greenway Medical Technologies and now e-MDs. In order to better support and educate providers I became a certified professional coder (CPC) in 2006. In 2009 I helped found the Texas e-Health Alliance (www.TXeHA.org) a nonprofit policy and advocacy organization made up of Texas HIT stakeholders. I have provided testimony on three previous occasions to ONC workgroups on patient safety, patient privacy and the PCAST report.

I would like to thank you once again for your efforts on behalf of U.S. healthcare. I would also like to thank you for being allowed to share the humble experiences of a physician who has journeyed through clinical and academic medicine, a variety of informatics initiatives, and the trenches of EHR implementation.

Responses to Questions Posed to Members of Panel 3 (Developing Systems to Meet MU3)

Question 1: What is the experience of vendors in implementing meaningful use in their systems, and how can that inform Meaningful Use Stage 3?

We are hopeful that the proposed delay in implementing the Stage 2 requirements will allow the certification bodies to be better prepared and accommodate the large number of vendor products that have been certified for Stage 1 MU. There were a number of questions for which it was difficult to find answers. It would be helpful if CMS and ONC would accelerate the process of providing clarifications through the FAQ process and making sure guidance provided via this mechanism is provided to all appropriate parties and reflected in updated documentation from both ONC and CMS. A period of feedback focused on allowing the stakeholders to seek clarifications on the specific criteria and definitions would be beneficial. This would require a dedicated response team from ONC/CMS to address question and

publish official responses as quickly as possible.

Once interpretations of the criteria are operationalized, it is very difficult and expensive for the vendors, providers and others affected to make modifications based on subsequent clarifications. During the Stage 1 MU certification process my team reported they had to make “best guesses” as to how to interpret some elements of the criteria. They also noted that the vendors, users, HITRECs and other bodies have had difficulty getting clear guidance from CMS when questions are posed, and in some instances more than one answer was provided for the same question. Another concern that was raised was differing guidance from ONC and CMS. The earlier the criteria can be delivered, reviewed and harmonized the better. We also would like help with a number of terms that still lack definitions, but which occur with some degree of frequency in the criteria descriptions. Examples include “patient-generated data”, “care team,” “primary referral network,” and others.

For these reasons we respectfully request that the ONC and CMS undertake as detailed a review as possible of the objectives to identify potential ambiguities in the criteria and supporting documentation; and address these prior to their release. The vendor community would be more than willing to contribute to the process of identifying areas that need clarification.

There is also a significant amount of communication regarding issues that have been shared in good faith through “unofficial” channels such as discussions and presentations, and this has made it difficult for the MU community when this information provides valuable guidance that is not “official.” It would be helpful if any information provided through this mechanism be referenced to the most appropriate official documentation. The formation of a central database that would serve as an official resource for answers to questions related to certification and Meaningful Use would be very beneficial.

It is our understanding that we will not have clarification on the Stage 2 MU criteria until sometime next year. Anything that can be done to accelerate the release of the Stage 2 criteria and finalize the feature set is of significant importance. This will allow vendors greater time to address usability aspects of the objectives and then to develop more advanced training modules. We need to partner with the ONC and CMS to convince our providers of the value of implementing these criteria, especially since Medicare providers who receive MU incentive payments under Stage 1 criteria in 2011, 2012, and 2013 will have received the bulk of their incentive payments (\$38,000 of the \$44,000 they would be eligible for over 5 years in most cases). Even those who first attest in 2012 will have received \$30,000 of the \$44,000 prior to being required to move to a Stage 2 certified EHR. The remaining incentive funds may not be enough to convince providers to continue meeting the MU objectives if Stage 2 requirements impact their workflow or require investment in additional staff or other resources. The impact of the Medicare penalties for not being a Meaningful User starting in 2015 has yet to be determined, but if the transition from Stage 1 to Stage 2 is in any way burdensome it could lead to a reduction in the number of meaningful users.

The lack of clarification regarding what was required for users to attest to Menu Set Item 9 (Immunization Interface) and Menu Set Item 10 (Syndromic Surveillance) was perhaps the most challenging Stage 1 criteria to address.

Regarding the immunization interface, when states were not ready to receive immunization files using the MU certification requirements, it was very unclear to us as to whether the provider would be required to purchase this module (which basically would not be able to interact with the state’s registry) or if the state, not having the interface ready would then allow the provider to attest successfully on this item without actually using it to generate a test file, or even having this specific component in their possession. Many of our users complained that they were being compelled to purchase and implement an immunization module that had no value other than the MU attestation process. We made efforts to obtain guidance from the ONC and CMS and a variety of opinions were shared. We also learned that different RECs in the same situation were taking widely different approaches on this matter when advising their members. My staff stated that at times the ONC would defer to CMS on this matter, and in return CMS would defer back to the ONC.

Moving forward some of the states that are able to accept the CDC format have imposed additional criteria that we need to address on a state-by-state basis. This also creates uncertainty for providers who have the immunization tools but who cannot submit until the additional state requirement is met. We are hopeful that the Office of the Inspector General will take these and other issues into consideration when they perform audits of providers who have attested for MU.

My team also reported that clarifications provided in the FAQs were not reflected via updates in other official documents. While we understand this would be a challenging bookkeeping exercise, given the importance of some of these issues it would be greatly appreciated if an effort was made to update the documents as frequently as possible, or at a minimum provide a link and/or reference to the FAQ relevant to that item. We have on several occasions had to fall back on the Final Rule on Certification, however, it also contains areas that have been clarified via FAQs or other supporting documentation.

Since our initial and most labor intensive product certification occurred relatively early in the process (November of 2010), it is possible that the certification mechanism and the responsiveness of the certifying bodies improved subsequently. We anticipate that ONC and CMS are working to refine and improve this process and we look forward to seeing clearer guidance with the Stage 2 and Stage 3 certification process.

Question 2: Which core and menu objectives have posed the greatest challenges in attempting to implement them (and why)?

The greatest challenges, as noted above, were related to the lack of readiness by many of the states to interface with certified products in the areas of immunization registries and syndromic surveillance. Our provider community and other stakeholders remain uncertain as to what to do in states that are not able to receive files from these two applications. Some guidance provided included requiring the users to purchase, install, and actually generate an immunization file when there was not state entity capable of receiving the data. Others have taken a less strict path, suggesting that the users do not have to invest in this module if the state in which they reside is unable to receive the file. We feel that consistent and definitive guidance from the ONC and CMS would make this process less stressful for us and our users.

Given that the measure concepts and proposed objectives for Stages 2 and 3 MU will have greater dependency on third parties than Stage 1, it will be of even greater importance to provide clarification on provider eligibility for MU incentive payments if the third party is not capable of meeting the objective, and it is outside of the control of the provider. An example of this would be objectives tied to access to codified data that could only be attained through functioning health information exchanges. Clarification will also be needed as to the impact on the provider if the objective depends upon the actions of a third party, such as patient responsiveness to use of a personal health record.

Question 3: What have been the challenges in implementing the clinical quality measures?

The technical upgrade to a certified EHR, the use of new clinical content and reports, minor workflow changes, and the need to educate providers and their staff represented significant but manageable challenges. Once this was accomplished, however, the clinical quality measures themselves were relatively straightforward to implement and use. However, early on there were some discrepancies in guidance regarding whether NQF and/or PQRI measure would suffice. It eventually was made clear that NQF was required, but there is still some uncertainty, as per my team, as how the requirements tie into the process of needing to be certified to electronically submit PQRS.

Overall, the majority of our user base was already capturing similar or in some cases identical information, so the transition was not onerous. e-MDs Chart (Version 7.0) was one of the first EHRs to certify on all 44 clinical quality measures (November of 2010) as our tools were already oriented towards this type of clinical practice.

Question 4: Looking at the “measure concepts” proposed for Stage 2 and 3, please comment on the ease/difficulty of implementing them in your platform. Please comment on how policymakers and vendors can maximize flexibility and adaptability to allow for the introduction of new and more complex measures in the future.

Some of the clinical quality measure concepts may be difficult to implement, more from a logistical rather than technological standpoint.

For example, the first measure concept titled “Measures of patient activation, including skills, knowledge and self-efficacy” is further defined as: “This measure concept relates to a patient’s ability to effectively self-manage and engage in his/her care. It is geared toward measuring whether a patient is continuing to manage his/her care, measuring health outcomes, and measuring whether the patient has been led in the “right direction” by his/her healthcare provider regarding his/her plan of care.”

This could be managed through automated patient surveys, however it is an extremely complex process that must take into consideration the cognitive and emotional status of the patient, patient ability and willingness to report or be interviewed, and the mechanism through which this information would be obtained. From the technical side, gathering information relating to the patient’s ability to self manage their care could be conducted through a patient portal, patient kiosk, or personal health record. Since the measure includes an evaluation of the provider’s performance, the information should ideally not be obtained by the provider, which creates potential challenges as to what body would serve as the data collection entity. Whether or not the patient has been “led in the right direction” would in many cases be a subjective determination. If this information is used to evaluate physician performance and potentially impact their revenue, or even their continued employment, it may result in concerns over data ownership and analysis. This is an emerging area that will be central to the success of ACOs and it will require a significant amount of evaluation and testing prior to implementation, with fair and due consideration to how it impacts all parties.

The second measure concept “Measures of patient self management” would appear to face some of the same logistical challenges, but at its face value could be managed by existing methodologies.

The third measure concept titled “Measures of shared decision making or decision quality that address a combination of patient knowledge and incorporation of patient” was further defined as: “This measure concept is focused on measuring whether or not shared decision-making occurred, the level of clinician awareness of patient preferences, and the level to patient engagement in the shared decision making process.”

As this requires an assessment of provider and patient knowledge and then a comparison between the two, it introduces a more significant level of data collection and processing and it would be more challenging from both a technological and workflow standpoint. A variety of approaches could be considered and the value of this measure is well recognized. However, given the potential complexities, specific scenarios supported by use cases would help to define the goals and challenges of this measure in more detail.

The fourth measure, titled “Measures of patient preferences/experiences of care” is further defined as: “This measure concept focuses on measuring the extent to which the delivered care aligned with the patient’s preferences and measuring the patient’s preferred method of communicating these preferences (paper, portal, universal serial bus [USB], emails, PHR, etc).”

Again, specific examples would be helpful, but a patient’s preference of care, say the use of pain medication in settings where it may result in negative consequences, may not always align with the best practice of medicine. This would create challenges with the definition of “patient’s preferences” unless it was limited to very specific and limited items, such as their decision to opt-in or opt-out regarding sharing of their PHI. A great deal of additional information

would be needed before an assessment could be made of the technical or implementation challenges associated with this measure concept.

The fifth item, titled “Measures of patient health outcomes, including health risk status, functional health status, and global measures of patient health” was further defined as: “This measure concept focuses on measuring avoidable risk of death, disease/disability status, and patient level of ability in physical, mental and social domains.”

This item would be greatly potentiated by the ability to exchange granular, codified information between health care stakeholders, including the patient. It would benefit from the advancement of standards that facilitate semantic interoperability, as would many of the measurement concepts. However, like many of these measures a great deal of additional definition would be needed before we would be able to advise you as to the technical feasibility of supporting this measure, and appropriate timelines in light of other converging initiatives (such as the conversion to ICD-10-CM and supporting ACOs).

The sixth item is titled “Measures of patient access to community resources for improved/sustainable care coordination” and is defined as: “Connecting patients to community resources for health promotion, complex chronic disease management and care, and social/other non-medical needs/support, including online patient/caregiver communities is important. Improving health outcomes, including functional status, often requires other non-health institution resources (e.g., support groups, transportation, etc.). This measure concept seeks to capture patient access to these non-health institution resources.”

This item is outside of provider activities and would appear to be outside of the scope of an ambulatory EHR vendor. However, as these efforts surround the Meaningful Use of HIT by providers, who may stand to benefit or be penalized financially based on their ability to meet fairly concrete metrics, it does not seem fair or reasonable to include a measure that is outside of the control of the physician as part of this process. A recommendation might be to reward the provider for encouraging the patients to utilize or otherwise engage in these activities.

A number of additional measure concepts are highlighted below, as we felt they represented potentially difficult constructs to implement from a technical, workflow or other perspective:

For example, the measure concept titled “Measures assessing ambulatory care-sensitive preventable admissions” is defined as “This measure concept relates to admissions caused by unaddressed ambulatory conditions at the onset of symptoms due to multiple reasons such as inappropriate clinical management or inefficient systems issues.”

It would appear that this measure would make an attempt to capture symptom onset for conditions that lead to a hospital admission. This is extremely important and useful data to gather, and it would require the ability for EHRs to capture accurate data related to a specific symptom supported by a modifier (e.g., mild dyspnea) and store metadata surrounding this concept phrase that would include a date of onset time stamp and a date of capture time stamp. This data would most likely be captured in the history of present illness of an encounter note, and would require fairly significant investments in development and testing. At this time many EHRs capture information in the HPI that supports the determination of the Evaluation and Management Services code. The eight HPI elements used for E&M coding are location, duration, severity, quality, timing, associated signs and symptoms, timing and context. Since these are already in place, it may help vendors achieve this level of codification and metadata capture of information in the HPI, however, systems are likely to focus on simply recognizing these 8 HPI coding concepts as being present or absent.

Capturing the level of information needed to support this measurement concept would require a very significant level of additional effort. Vetted standards that address how to store and transport this type of metadata, including modifiers tied to the severity, certainty and natural language components that are frequently of major importance in clinical medicine would need to be published. The transport mechanism and field constraints would influence the EHR feature and database design, as well as interfaces to health information exchanges. Since this information

would be used in this context to determine whether or not “inappropriate clinical management” had taken place preservation of its accuracy and context are of paramount importance. This process would require extensive design and testing and has significant medicolegal, patient safety and privacy implications. However, we are highly supportive of this approach as a strategic objective, as this type of data capture and analysis is central to informatics constructs that would have the greatest impact on the quality and efficiency of healthcare and clinical research.

The measure titled “Measures assessing the appropriate use of diagnostic imaging procedures, with measures for redundancy, cumulative exposure, and appropriateness” looks to identify diagnostic imaging procedures that are ordered inappropriately. From a clinical perspective, the decision to order an imaging study may be driven by subtle clinical details (e.g., ordering a cranial CT scan based on a nuance in the patient’s history that suggests the potential for increased intracranial pressure). In order to accurately and fairly address physician behavior in this context an extremely detailed amount of information would need to be gathered. Medicolegal factors (i.e., “defensive medicine”) play an extremely strong role in the decision to order tests of this nature and this influence must also be taken into consideration. From a technical standpoint, the ability to codify clinical findings at a detailed level in the HPI, physical examination and assessment would be needed to allow for adequate data collection.

The two measure concepts listed under “Appropriate/Efficient Treatment of Chronic Disease across Multiple Sites of Care” will require the implementation of health information exchanges that have the ability to share semantically interoperable data and orders, and the ability to track the status of orders across a continuum of care. One preferred model might be that the primary care provider serves as the overall care manager as per the PCMH concept. However, this will require mechanisms and workflow that are not intrusive to the provider’s time and that the information is accurate. Given the potential for data overload approaches to how the information is prioritized and presented to other providers will need to be studied and developed. Patients will of course hear different recommendations from different providers, and their understanding of the various plans being offered, and the ability to resolve any conflicts, will be facilitated by broader access to information for providers and patients. How exactly this information would be delivered and whether or not potential disagreements over care approaches should be shared with patients needs to be evaluated. Situations where an individual provider may or may not meet a clinical quality measure due to the actions of another provider need to be taken into consideration. The disposition of this type of situation would be aided by greater access to information and are relevant to the success of ACOs.

In order to objectively evaluate a clinical outcome related to the appropriate and efficient care of chronic conditions a great deal of metadata would be needed to gain an understanding of the context surrounding clinical actions or inactions that could impact care. The technology that would be needed to support this may require extensive remodeling of the data models of many, if not most, EHR systems. This is an achievable goal, but clear and firm direction as to exactly what steps are needed, including standards and pilot testing of these standards, is in order. Even then it may take several years for these systems to be operational, and the cost of migrating current silos of information to this new platform may be significant.

The items listed under “Appropriate/Efficient Use of Medications” would benefit from the standards and access to granular and reliable data mapped to its source context. These items are more applicable to outcomes based programs and would be relatively less complex to implement from a technology and workflow standpoint. However, the systems will need to address fairly complex issues that will arise when patients are managed by multiple professionals as noted above. There are valid clinical reasons for using medications in a manner that may not comply with guidelines which are usually discernable from the treatment record. If this data is to be gathered via an automated process, systems will need to support the granular capture of codified clinical data that supports subtleties of clinical expression. While this is the “Holy Grail” of medical informatics, it will require extensive development and testing along with the acceleration of standards.

The next section, titled “Effective Care Planning” includes three items (1. Measures assessing adherence to a comprehensive care plan in the EHR with an up to date problem list and care plan that reflects goals of care, 2. Measures of an Advance Care Plan as product of sharing decision making, and 3. Measures of the success of a self

management plan for patients with conditions where a self management plan might reasonably be considered to benefit them). The first two are primarily physician centric and are a good fit for EHRs. Depending on the specific requirements these could be implemented, at least in part, for Stage 2 and Stage 3. The third item will need workflow, provider acceptance, and patient acceptance testing, as it involves a greater level of effort for all parties. Patients and providers generally do not respond well to data entry intensive activities, and EHR developers will need to engage providers and patients in workflow and usability testing.

The Care Transitions measurement concepts, in particular medication reconciliation, are at a high level worthwhile and attainable goals. In addition, I would encourage the ONC to consider making the seamless transfer of orders from the acute to ambulatory care setting a priority, including CDS components that make the PCP the “owner” of an order generated at discharge.

The next section titled “Appropriate and Timely Follow-Up” ties into this and has been referred to as “orders tracking” or “order management” by some system designers. Failure to act on lab results, radiology results, and other sources of information in a timely manner is a leading contributor to medical errors that lead to malpractice claims. This is an aspect of medical care that is, in my opinion, one of the greatest benefits of HIT in clinical medicine. Any provider who has had a near miss related to not receiving and/or acting upon critical clinical information would likely attest to the benefits of have automated tracking of orders. Many systems have order tracking mechanisms in place, but they may or may be used effectively. I would encourage the ONC to evaluate current systems and provider acceptance and build upon this when recommended specific criteria, as the systems may vary widely in their approaches.

The next section, titled Medication Safety is within the scope, as described, of EHR capabilities, although best practices regarding provider and patient interactions with reporting tools may benefit from further evaluations. It has been reported that only 1 in 20 adverse medication events are reported to the FDA at this time, and a primary barrier may be the associated level of effort. A potential approach might be to facilitate physician reporting by bundling the basic information surrounding the event into a format that includes specified information relevant to the event that the provider can then modify before sending to the FDA or other responsible agency.

The next section, titled “Hospital Associated Events” would be facilitated by the seamless transfer of orders generated by the ambulatory EHR into the acute care EHR. This should include order sets that can be adopted to match evolving guidelines.

The items listed under “Health Lifestyle Behaviors” appear to map to current EHR capabilities.

Effective Preventative Services, the next section, would benefit from integration with home monitoring devices and telemedicine applications, an approach consistent with getting patients more involved with their own care. Another approach that has proven benefit is case management or at risk patients by a trained professional. The HIT focus to date has been on the providers and more recently patients, but the HIT needs of case managers should also be addressed, as their role in preventing hospitalizations has been clearly demonstrated.

Health Equity measurements would appear to be well within the reporting capabilities of EHRs.

Several items were included in a category titled “Other” and are mentioned below.

- Measures that assess preventable ED visits would benefit from the same approaches that focus on preventing admissions to hospitals such as transitions of care, home monitoring, case management, and a focused approach towards at-risk populations. As noted a specific focus on areas that particularly influence ED utilization is needed. The general benefits yielded from interoperable HIT, facilitated by agreed upon standards, as described above, are key components of a strategy to reduce preventable ED utilization.

- Measures that assess adherence to clinical practice standards (appropriate cardiac/cancer treatments) are similar to other measurement concepts discussed above. Technology will need to support the entire workflow associated with changes to existing guidelines or the introduction of new guidelines into EHRs. Currently this may require changes in software, changes in reports, and changes in clinical content and the need to education all parties. A standardization of the guideline update process for EHRs would encourage greater utilization of guidelines in EHRs. Ideally a body that publishes clinical guidelines would generate a file that was designed to be uploaded into EHRs in a manner that automates the update process. Prior efforts have made efforts in this direction but to my knowledge these have not gained widespread acceptance. Third party tools that support guidelines may increase cost or require EHRs to develop interfaces and integration features within their products. This tends to reduce the uptake of automated guideline services. However, once guidelines are instantiated within a system, they are fairly easy to use and clinical quality reports can be readily generated.
- Measures that assess combined quality and cost measures at each level and site of care reflecting potential defects in care reflect a complex process that will require a level of clinical and administrative interoperability that is in general not available, but attainable within a reasonable timeframe. Additional information would be needed, but measuring specific parameters in each care setting represents less of a challenge than comparing sites of care and providers.
- Measures of medication error near misses is an important objective and given that no harm has, hopefully, occurred providers may be more likely to report an event. Mechanisms that would meet this objective are readily available at this time and could be mapped to an objective fairly easily. As noted above, a process whereby the events surrounding the near miss event are captured automatically would reduce the level of effort at the reporting level and to some degree harmonize information received by the oversight body.
- Measures of patient identification errors and near misses. This is another area that would benefit from an automated collection process that captured the events surrounding the identification identity event. This is another area that should be readily straightforward to capture using existing technologies.
- Measures of common EHR-related errors. The PSO model is being implemented but the utilization by providers has been limited by report. One of the barriers may be the level of effort required to complete the patient safety event form. Automation of this process would potentially have the same benefits as it would for reporting other types of actual or potential misadventures that may occur.

In summary, the measurement concepts set high level goals that would be much more readily achievable with strict definitions, an acceleration of standards including requiring the use of clinical rather than administrative terminologies, a marked increase in the adoption of health information exchange capabilities, and research that focuses on how HIT can empower patients to take a more active role in the own care. We will look forward to seeing many of these concepts evolve into outcomes based criteria.

Question 5: How long will it take to develop and implement the proposed Stage 2 objectives?

As the stage 2 objectives have not been completely defined it is difficult to comment. However the proposed changes to the core and menu items would not create an excessive burden if they are consistent with available technologies, published and required standards, and conform to acceptable timelines. We have concerns over requirements that may require semantic interoperability between disparate applications. The objective that allows patients to organize their own information within an EHR may be one of the objectives that would be more challenging than the others, but given the extended timeframe prior to Stage 2 certification we anticipate this is readily within the scope of our capabilities.

Question 6: How are customers implementing their systems: ASP, local install, etc?

There has been a significant trend towards remote hosting over the last few years, which we fully support. There are some customers, however, who may still prefer local installations, due to poor Internet connectivity, concerns over breaches, or concerns over data ownership. Some large installations find it more cost effective to host the application locally and utilize their own IT staff or a contractor. We believe that mobile device enabled versions of our EHR will also contribute to the demand for remote hosting.

Question 7: What are the biggest challenges customers are facing in deploying their systems?

One of the more interesting outcomes of the meaningful use initiative from our perspective has been the far greater level of intensity of usage of our application. For example, many of our long-term users have now gained a renewed interest in learning how to use their application at a deeper level. This has placed a demand on training and support resources that we have had to respond to by hiring additional staff. On several occasions we have had help from some of the Regional Extension Centers with deploying our application at a more sophisticated level. However, the effective use of electronic health record requires that many staff members who do not have sophisticated computer skills participate in the overall process. This has placed somewhat of a burden on the normal process of implementation, however we see this as being beneficial in the long term.

Uncertainty over exactly what products the providers have in their possession, such as the challenges around the immunization interface module, detailed elsewhere, presented and continues to present a challenge.

A basic lack of computer skills of some staff members in practices that are going live on EHR remains a significant challenge for our implementation teams. On occasion we encounter providers who do not value the role of training in the preparation and go live process. We regard this as a potential patient safety issues and require providers to invest in adequate amounts of training. The RECs have helped extend this message as well.

Question 8: Comment specifically on support of health information exchange

Several communities around the nation and implemented health information exchange to some degree. We have a long-standing successful track record with receiving codified laboratory data using the LOINC standard, however, we are only seeing pockets of health information exchange connectivity around the nation. This would appear to be rapidly evolving as initiatives are underway involving several states.

In order to move forward however, agreed upon standards need to be implemented as soon as possible that will facilitate a data exchange in a way that protect the integrity of information. The implementation of ICD-10-CM in 2013 will have a dramatic impact on health care systems. The modifications made to ICD-10-CM are primarily weighted towards administrative enhancements. In my opinion ICD-10-CM is not capable of supporting CDS and other intrinsic clinical applications or semantic interoperability. For this reason the nation needs to move quickly to a vocabulary standard that is concept based and has a structure that supports accurate machine processing of information. The criteria proposed by many for a clinical reference terminology should be used as a requirement moving forward in the terminology domain.

The vendor community has expressed a willingness to adhere to published standards that should be included as a requirement for future certification. In other words, electronic health records and health information exchanges should be designed to support reference terminology concepts and secondarily mapped to ICD-10-CM codes that should be used for administrative (i.e., billing) purposes only. It is somewhat unfortunate that the rest of the world will be moving to ICD-11 as early as 2015 and the WHO is actively considering modifications that will make ICD-11 consistent with terminology constructs employed by SNOMED CT.

Question 9: Comment specifically on capturing data from and sharing data with patients; What have been the issues related to sharing data with patients?

Patients vary widely in their level of interest and aptitude regarding interacting with healthcare applications that share information. Like providers they shy away from data entry efforts unless they are given clear incentives, like relating their own history prior to a medical visit. The data entry burden can be greatly reduced through interoperability between patient focused applications and HIT in general.

The ability to inform patients through a patient portal of lab test results that are normal has been well received by numerous patients. Integration of health care information applications with various forms of social media may result in wider adoption of health information technology applications by patients. A campaign to educate patients regarding the value of health information technology and its ability to educate and inform patients regarding healthcare conditions would be warranted. It will also encourage patients to become greater involved with the management of their healthcare.

Question 10: What image capture, storage, and review capabilities does your system have?

Our electronic health record (e-MDs Solution Series Chart) provides image capture, storage and review capabilities. Given the size of image files, providers benefit from having this information shared at another location and then accessing it remotely.

Question 11: What will be needed in MU Stage 3 to help your customers achieve the broad goals of accountable care?

We greatly appreciate the effort the ONC is making to map Stage 2 and Stage 3 MU requirements to the ACO requirements.

The comments regarding the measurement concepts are most pertinent to the success of ACOs and will not be repeated in this section. At a high level, an emphasis on data integrity in health information exchanges is one of the more pressing needs, and will require a great deal of careful testing and refinement. Providers and other stakeholders will need to develop an increased awareness of how information is captured, shared, updated, adjudicated, and potentially corrupted to prevent potential errors from occurring. Stage 3 will also hopefully include a requirement for interoperability standards that significantly exceeds our current state.

Question 12: What specific major initiatives have you had to postpone due to work on Meaningful Use?

Despite the increased demand the MU requirements have imposed, we have made progress in specialty specific areas that are not directly MU related. We have not had to put any major initiatives on hold, and the majority of our users have embraced the value of the HIT harmonization efforts that are tied to the Meaningful Use of their electronic health record.

Respectfully submitted,

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