

HIT Policy Committee Meaningful Use Workgroup Hearing

May 13, 2011

Pediatrix Medical Group, Inc. Answers to Panelist Questions

Pediatrix Medical Group, Inc. (“Pediatrix”) is pleased to be able to present at the Meaningful Use Workgroup Hearing on May 13, 2011. We believe that health IT is essential in moving our healthcare system into the future, and we are pleased to be working toward the same goals outlined by the Office of the National Coordinator for HIT in the work that we do at Pediatrix.

Pediatrix is a national group practice of more than 1,350 physicians that include more than 940 neonatologists, 100 pediatric cardiologists, 120 pediatric intensivists and pediatric hospitalists, and 170 maternal-fetal medicine specialists and obstetric hospitalists who provide primary care services for patients with high-risk pregnancies and premature births. Our physicians and nurses care for more than 22 percent of the patients in neonatal intensive care units in the United States. Pediatrix has for years successfully used health information technology, including electronic health records, advanced electronic health record databases and systems processes to improve patient outcomes, identify meaningful differences and reduce disparities in outcomes. Since 1996, physicians practicing across Pediatrix’s national group practice have contributed to the world’s largest neonatal outcomes database. Pediatrix’s BabySteps® EHR is an internally developed system that today enables the consistent documentation of care provided by physicians practicing across the country.

Panel 3: Population Data, including Registries:

Q1: How can EHRs facilitate specialty management of populations, including measuring and feeding back performance?

A1: The capture of data in an EHR forms the foundation for healthcare providers to aggregate data in order to measure performance and provide feedback on that performance. The capture of data by itself is not sufficient to ensure that accurate measures are created and that those measures apply across a broad spectrum of clinicians. It is equally important to ensure that strict standards in content are maintained, that data extraction is accurate and validated, and

that the measures are well defined and documented. To get the greatest value from measurement and performance it is important that the measures are readily available to the clinicians and are timely, i.e., clinical measurement that is more than a year old does not reflect current practice and, as a result, may not accurately reflect current care practices and outcomes. Currency of data extraction, provided with immediacy to the physician, must therefore be a critical component of the EHR.

Q1a: How do you currently assess your performance in caring for your patients and compare your performance to others?

A1a: Neonatal Intensive Care Units most commonly use a “care team” method for providing care to their patients. Each neonatal intensive care unit in Pediatrix Medical Group employs the BabySteps® EHR module to document all aspects of the care provided. This information is then continuously replicated to a centralized location via secure connections. Each week, the information is scrubbed, aggregated, and de-identified for reporting purposes. Outcome reports are then made available to our clinicians on the Internet, which compares their specific outcomes, medication use, process measures, and others against the virtual “Pediatrix Unit” which represents the middle 33% to 66% percentiles of all of our NICUs. By seeing their outcome data plotted against this virtual Pediatrix unit, clinicians can immediately see how they compare to other practices. The size of an NICU in our organization may range from an average daily census of less than 10 to as many as 100 or more. The virtual Pediatrix Unit therefore consists of an average daily census of more than 4,600 patients and has geographic reach across 32 states. The information can be further evaluated through comparisons to units of similar size, by the gestational age and birth weight of the population, and through regional and local assessments as well.

Q1b: What are the principal benefits (“value proposition”) of registry participation for physicians in your specialty?

- **Generating quality measures for third parties**
- **Benchmarking and comparative feedback on physician/team/hospital performance**
- **Monitoring device safety and performance**
- **Population health management**

- **Creating a longitudinal care record for each patient**

A1b: The principal benefit of participation using BabySteps and our Clinical Data Warehouse is improved outcomes for our patients. This result occurs in several ways. First, the extracted information is used to make novel research observations that have resulted in many peer-reviewed publications in clinical journals. These papers provide evidence-based feedback that has universally improved care for premature newborns. Second, by incorporating the measures into Clinical Quality Improvement (CQI) initiatives, we provide ongoing and continuous feedback to our clinicians in a timely manner with specific outcome projects that directly improve the care for patients in our NICUs. An example of this effort is our 100,000 Babies Campaign modeled after the Institute for Healthcare Improvement's (IHI) 100,000 Lives Campaign. Our goal is to improve the outcomes for more than 100,000 babies in our NICUs over a three-year period of time, and initial results from this project have been highly encouraging.

BabySteps and the documentation generated is the beginning for longitudinal care for our newborns. Currently, we have implemented interoperable elements for the product which shares physician notes with the hospital and also captures Admission, Discharge, and Transfer (ADT) and Laboratory information from the hospital to ensure that consistent information is shared among the care team. As sustainable Health Information Exchanges (HIEs) emerge, this information will then be available through the hospital to subsequent care physicians. Until that time, immediately upon discharge we provide a summary of NICU care for the patient and their family and to the pediatrician who will take over the care of the patient.

Another aspect of the use of this information for CQI is it allows our physicians to fulfill part 4 of their Maintenance of Certification (MOC) requirements, as defined by the American Board of Pediatrics (ABP). It is necessary for all physicians to participate in CQI efforts to maintain their specialty certification. Our EHR module, provides a certified methodology to aggregate, measure, and feed back the information for quality initiatives. This approach is directly

incorporated into the daily routine of care. It allows our physicians to meet the significant requirements for part IV of MOC as a result of the direct documentation from the care that they provide, rather than through an onerous and error-prone chart abstraction method. The automatic extraction of validated data from the EHR into a large-scale data warehouse with many outcome measures appears to be unique. The quality of this process, however, has been recognized by the ABP and granted its unique portfolio sponsorship designation for Part IV of MOC, the first product of its type to be acknowledged in this way.

Finally, this information is also made available to our outside customers, such as our hospital partners, and our payers to be used to assess our performance in their units.

Q1c: What are best practices for individual and aggregated data feedback to physicians and their teams?

A1c: There are many aspects for data collection and aggregation to be considered to make the resulting information meaningful across a large geographically dispersed group of clinicians. Data standards must be implemented to properly collect and report validated information. Consistent terminology must be achieved to ensure that what is being reported is both accurate and consistent across clinicians and hospitals. To achieve this Pediatrix has spent a great deal of effort to ensure consistency across our units in the standards set for recording clinical information. Only discrete, definable fields are used to collect data. While our EHR module allows for clinical judgment and assessment to be recorded as free text, we do not try to use unstructured data to capture consistent information. Second, consistent, published, and peer-reviewed or evidence-based definitions for clinical terminology and outcomes are used wherever possible. For example, there is a great deal of disagreement in the use of the Chronic Lung Disease (CLD) diagnosis in the premature newborn. Rather than reporting on the documented diagnosis for CLD we have defined it as a result of one of two more precise measures: the use of supplemental oxygen at 28 days of life or the use of supplemental oxygen at 36 weeks of gestation. This approach provides for flexibility in reports that rely upon two evidence-based methods for defining CLD, while ensuring consistency across units

for comparison. While definitions are important, they should not impede the ability to provide flexibility in reporting while ensuring consistency. By providing more than one measure for a similar outcome, we allow physicians to compare their units based upon those measures with which they are most comfortable and familiar. Furthermore, to ensure proper communication of the definition of outcomes, they must be readily available to the clinicians using the reporting system. Each report definition, how it is reached, and an explanation is available directly on the web site for each report being generated, which is critical to understanding how each measure is created.

Privacy and security are of paramount concern when collecting, aggregating, and reporting on outcomes data. All connections between our centralized data repository and our more than 250 NICU units nationwide use encrypted Virtual Private Networks (VPN's) across the Internet to replicate information. The data scrubbing and de-identification process is reviewed annually by the Western Institutional Review Board (IRB) to insure that appropriate de-identification processes remove all possible patient identifying information from our Clinical Data Warehouse. All information available through the reporting systems is also protected under the auspices of a Patient Safety Organization (PSO), approved by AHRQ. The reports available on the Internet are provided only as an aggregation of the data, with no ability to drill down directly to the patient. However, if there is a need to obtain the patient information, we have the means to do so through the use of strict security measures provided to a limited number of personnel.

Q1d: Where do you get the data needed for feedback?

- **HIEs**
- **Payers (commercial and public)**
- **Patients**
- **PBMs, pharmacies**

A1d: All the information we provide for feedback comes from the clinical information gathered as a result of documentation created by the care our clinicians provide to our patients. As a part of their daily workflow Pediatric clinicians and Neonatal Nurse Practitioners (NNP's) create their documentation in the BabySteps EHR module.

All structured information is then securely replicated to a centralized data center to be used for billing, collections, and healthcare operations. We then scrub the data, de-identify it, and load it into our CDW for outcomes reporting. All clinicians are then able to access the CDW securely across the Internet. The information provided to them shows outcomes specific to their unit benchmarked against the virtual “Pediatrix Unit”.

Q1e: What are barriers to monitoring populations, and how do you overcome them?

- **HIPAA**
- **Authentication, patient and provider identification, interoperability**
- **Proprietary registries, ownership, costs**
- **Evidence base for use of registries to generate quality measures for specialists**
- **Cost of implementation**
- **Lack of data standards and technical interfaces to IT systems**
- **Business issues with hospitals and other participants**

A1e: The barriers to collection, aggregation, and reporting of clinical information are many and varied. They begin with lack of clinician acceptance to data entry and maintenance, continue with hospital and organizational inertia, and are often compounded by vendor competition. All of these barriers exist in an industry that is highly regulated.

Best practices for the collection, aggregation and reporting of data on a large diverse population requires standardization of the information gathered. This necessitates codified and structured data entry. Data entry of this type puts controls and requirements on all clinicians as they migrate from a paper-based documentation method with little or no controls to an electronic documentation method with significant controls and requirements. In addition, incorporating electronic documentation into the clinical setting has significant impact on day-to-day workflow, which may be both positive and negative. The positive impact of an EHR may not immediately be obvious to a clinician until he is able to take the time to examine the results of the care in a Clinical Data Warehouse, as we have described. Furthermore, the ability to report outcomes requires

significant collection of data. Order sets and proper set up of Computer Based Physician Order Entry Systems are complex and take a significant amount of effort until it is seamlessly implemented into clinical workflow. As a result, initial acceptance of EHRs by clinical personnel is limited.

Resource constraints have significant impact on any organization. In any given hospital, there are usually more than one EHR or EHR module, each suited to a specific use, such as Lab, Radiology, Surgery, Anesthesia, or an EHR that attempts to cover all aspects of clinical documentation for a hospital. It has been our experience over several decades that most “complete EHRs” do not meet the needs of all the departments and specialties in the hospital, so that many departments or specialties require EHR modules more specific to their area of care for critical information requirements. The BabySteps system is a good example of how the specialized information needs for the highly unique NICU population are not met through the use of general, non-specialized systems. In addition, as mentioned before, precise standards must be implemented in order to ensure appropriate collection, aggregation, and reporting on the information in an EHR. Customized systems are often contrary to the need for standardization, yet they are essential for outcome measures in individual specialties that are truly “meaningful.”

These issues lead to the next challenge: vendor competition in the marketplace. Secure interoperability between systems is an important aspect of meaningful use. A vendor may need to alter or remove its competitive advantage by expanding its presence. It is much easier to implement the necessary standards within one system as described earlier. Achieving this result across systems is far more complex and difficult. This complexity is compounded by each vendor’s systems being customized to a specific hospital’s requirements. As a result, vendors present a barrier to entry in their market by either disallowing the ability to interoperate with their system, or by asking for exorbitant costs for the implementation of interoperability. By requiring the interoperability expectations in HIT systems, ONC has taken a significant step towards removing the first obstacle. But the second is still a large hurdle to actual implementation of interoperable systems within and across hospitals and other providers. Until the HIT industry reconciles these issues --

as the financial industry has with credit information collection and reporting -- it will be difficult to fully implement the type of interoperability envisioned by the ONC.

The regulatory environment only adds to the difficulty to appropriately aggregate, report on, and share this information. Privacy and security of healthcare information is paramount to ensure the success of the implementation and interoperability of these systems. There is a great deal of discussion regarding the importance of information matching between systems – without identifying information. Rather than using an identifier to match patient information it is being suggested that we should match only information native to the records, e.g., name, date of birth, address, etc., to minimize the use of identifying information. This type of matching algorithm is subject to significant potential for error. As a result, one person's information may be mixed with another's, resulting not only in disclosure but also potential significant negative impact on patient care. When the goal is to aggregate all aspects of a patient's care into a single repository, privacy and security must focus on keeping information safe from disclosure rather than on making the technical aspects of information matching more difficult.. All we have to do is look at the financial industry, which has a single identifier for credit reports, to see the errors that occur with an identifier to understand the additional errors that would occur without an identifier. Once information can be matched, however, the focus must be on keeping it safe. The use of encryption, limited access to the data, and the technical means to ensure that both of these are done consistently and reliably across the spectrum of information is essential. Information that does not need identifiable information such as that for research or for quality initiatives should be de-identified as Pediatrix has done in its Clinical Data Warehouse.