

MU Implementation Workgroup

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Written Testimony - Lyle Berkowitz, MD

Summary

Dr. Lyle Berkowitz is a practicing internal medicine physician and the Medical Director of Clinical Information for the largest primary care group in Chicago. His group has been using an EMR since 2003 and they feel good about the fact that they have been improving the quality, efficiency and value of the care we deliver. They now have multiple resources working with their hospital on achieving the federal government's definition of meaningful use, but they are not sure how successful they will be. Successes include organizational preparedness and energy about moving forward. Challenges include time and resource limitations, confusion about certain definitions, uncertainty about vendor functionality and usability, and concern about introducing too many new functions and workflows into a highly complex system. Some specific questions include how to ensure ongoing efficiency, how to incorporate care coordination functionality, and how MU regulations might affect healthcare innovation.

Speaker Background

Lyle Berkowitz, MD, FHIMSS, is a practicing internal medicine physician, the Medical Director of Clinical Information Systems for the largest primary care group in the city of Chicago (Northwestern Memorial Physicians Group), and Director of the Szollosi Healthcare Innovation Program. Dr. Berkowitz speaks nationally about EMRs, healthcare IT and innovation topics, and he blogs regularly at The Change Doctor Blog (<http://drlyle.blogspot.com>). He authored the chapter on "Physician Adoption Strategies" for the American College of Physicians' book "Electronic Medical Records" and he is currently writing a book about the intersection of Healthcare IT and Innovation. He serves on the Editorial Board of Healthcare Informatics magazine, the Advisory Board of the Association of Medical Directors of Information Systems (AMDIS) and the Board of Directors for the American Health Information Management Association (AHIMA) Foundation. Dr. Berkowitz graduated with a Biomedical Engineering degree from the University of Pennsylvania and is an Associate Professor of Clinical Medicine at the Feinberg School of Medicine at Northwestern University.

Organizational Background

Northwestern Memorial Physicians Group (NMPG) is a primary care medical group practice with 97 physicians and allied healthcare providers covering the specialties of internal medicine, obstetrics and gynecology, pediatrics, dermatology, occupational medicine, integrative medicine, wellness and disease prevention, executive health and perioperative care. Patient care and service are provided in 15 medical offices located across Chicagoland. There were 337,021 patient visits provided during fiscal year 2008. NMPG is a non-profit subsidiary of the Northwestern Memorial Corporation, which also owns Northwestern Memorial Hospital.

Northwestern Memorial Hospital (NMH) is one of the country's premier academic medical center hospitals and a major referral center for the Midwest and beyond. Northwestern Memorial provides a total of 854 licensed beds in the Feinberg Pavilion, Prentice Women's Hospital and

the Stone Institute of Psychiatry. It is the primary teaching hospital for Northwestern University's Feinberg School of Medicine and virtually every medical specialty is represented by the medical staff of 1,603 affiliated physicians who also carry appointments with the Feinberg School. Northwestern Memorial staffs 7,144 employees.

In fiscal year 2010, 12 of Northwestern Memorial's medical specialties were ranked in the U.S. News & World Report's "America's Best Hospital issue. Also in fiscal year 2010, the hospital earned a place on Hospitals & Health Networks magazine's list of America's "100 Most Wired" hospitals and health systems for state-of-the-art technology supporting patient care. Northwestern Memorial has earned Magnet recognition, the gold standard for nursing excellence, and was included in 2009 on The Leapfrog Group's "Top Hospitals" list for quality and safety of care practices.

EMR Background

NMPG has been using an ambulatory electronic medical record from Cerner Corporation since 2003 as part of Northwestern Memorial Hospital's enterprise Cerner system. All NMPG providers (except Dermatology and OB) have been able to fully replace our paper charts by using the EMR system to access test results, send and receive messages, document all office notes and phone messages, and write prescriptions (which get printed in the office). NMPG currently uses Medical Manager for all practice management activities (registration, scheduling and billing), but we are migrating to Cerner's PM system in 2011. We additionally plan for a Spring upgrade to our EMR, which will then allow for formal ePrescribing as well as fulfill various other MU measures.

NMPG uses the RelayHealth patient portal system to allow for secure messaging and eRenewals with their patient population, and it is integrated with their EMR. We have over 50,000 patient signed up and average over 12,000 unique messages a month. This functionality makes our patients very happy.

Finally, the Northwestern system has developed a Campus-wide Enterprise Data Warehouse (EDW) which holds data from multiple clinical groups on campus, including NMH and NMPG. The EDW is currently used to create retrospective reports, and will be used to create the "Quality Measure" reports for MU (we will use the Cerner system to create all "Functional Measures" reports).

Northwestern Approach to Early Adoption of MU

Our hospital has established 5 workgroups, with designated technical and operating leaders, with specific milestones by workgroup targeted to achieve year 1 objectives and the July 1 reporting period goal for this year. For clinical measures and external reporting, we are evaluating an approach to certify and use our EDW rather than rely on vendor provided solutions - and we recognize that will need separate certification.

Appendix A shows our MU Matrix for EPs, using a Green/Yellow/Red legend to quickly understand what we are successfully doing already, what will need a mild amount of technical or workflow changes (e.g. evolve functionality we already have in place), and what will need a

significant amount of technical or workflow changes (e.g. install and customize new functionality). As can be seen, only four of the twelve core objectives are in the Green category, 6 are in Yellow, and 5 are in Red. For our 5 chosen Menu Objectives, 1 is in Green, 1 is in Yellow and three are in Red. We have a lot of work to do.

Appendix B shows our timeline to remediate the Yellow and Red into Green.

Successes to Date

- **Preparation:** NMPG is fortunate to be part of a larger organization (NMH) which has set up the organizational structure to run this project. It is unlikely we would have had the staff, knowledge and time to do this ourselves.
- **Stimulation:** NMPG wants to be the best primary care group in the nation, and thus wants to ensure we are using our EMR in a meaningful way. MU has provided some level of energy and activity ("stimulation") which helps ensure that we are able to upgrade to some new and better functionality.

Challenges to Date

- **Time and Resource Limitations:** It's a Zero-Sum Game.
 - We are a modestly sized primary care group, and only have a limited amount of people who can focus attention on MU. So while it is important work, it means we have less resources to focus on other projects.
 - I think it will be even harder for smaller groups - at a minimum they will need to be well aligned with a larger organization that will do the majority of the work.
- **Change Management**
 - We are introducing multiple new functionalities and workflows into a very complex and still evolving system in a short period of time. History has shown that this is a very risky thing to do, especially when much of what we have are implementing will be vendor provided solutions which may be less than optimal for our organization.
 - More specifically, we are worried because our vendor had to create various new functionalities to meet MU requirements, and we won't roll those out until at least the Spring of 2011 when we do a big upgrade. We are frustrated by not knowing exactly how some of those functionalities will look or act, and how much work it will take for us to customize them to our group (i.e. via either technical adaptations and/or workflow changes).
- **Functionality is not the same as Usability**
 - The focus for MU has been on functionality, not usability. "Can your system do this?" is the question on which everyone is focusing. However, there is often a large gap between whether something can be done, and whether it can be done in a usable manner.
 - An easy analogy to consider is a car's functionality, which includes "use a key to turn the car on and off". But the usability for this function can range from a system which requires they key to be twisted around forty times ("poor usability") to a system

- which requires just a half-turn ("good usability") to a system that knows your key is in your pocket and just asks you to press a button ("great usability").
- With EMRs, a vendor can get MU Certification for their functionality whether their usability is poor, good or great - and it is rarely great or even good. And while it would be nice to say that the market will choose the systems with the best usability, the pragmatic reality is that (1) The market is still immature and no vendors have proven themselves as being particularly good at usability to date and (2) Most users aren't sophisticated enough to tell the difference, especially when there are so many different functionalities to look at.
 - I believe the government is starting to look into Usability requirements for the certification process- and I'd stress the immense importance of doing so. For more on this topic, I'd refer you to the HIMSS White Paper on Defining and Testing Usability: http://www.himss.org/content/files/himss_definingandtestingemrusability.pdf
- **Working with ONC and CMS**
 - Problem: While the published FAQs are a good start, they only represent a small amount of questions we have. When we have reached out to ONC/CMS for clarification, we have received an auto-reply to not expect an immediate answer and have not yet heard from them.
 - Solution: Consider a formal content management system which contains hundreds or thousands of questions and answers. So when we input a new question, the system immediately compares to previously answered questions. If there is a match, it provides you with the answer. But if there is not a match - then your question is submitted to CMS and answered within a week and added to the database. While this might involve some extra work initially, there would likely be a tipping point where most of the questions are answered and less and less will need to be submitted.

Specific Questions

- **Do we have to use the Vendor's defined functionality?** Once a vendor's product is "Certified", does the EP have to use their specific functionality to prove MU? As an example, let's look at the topic of Smoking status. Our Cerner system will have a function for documenting smoking status (e.g. the "Smoking Status Form"). This form will send data into the Cerner database, and a report can then be generated from the database. But what if the form is not easy to use due to workflow or other usability issues? Can we do any of the following instead:
 - Create a new form or other functionality which sends data to the previously defined Form, which then sends its data into the database for access by the reporting tools.
 - Create a new form or other functionality which sends data to the same spot in the database, so the reporting tools will still work.
 - Create a new form or other functionality which sends data to a different spot in the database, but we can still report on that form using Cerner reporting tools.
 - Create a new form or other functionality which sends data to a different spot in the database, and we report on the results using our Enterprise Data Warehouse tools.
- **Use of Scribes and other Intermediaries:** Physicians are our most limited resource. The more we can help make it easy for them to do the right thing, the more successful we will be.

There are multiple areas where the MU descriptions say ONLY the physician can enter something into the EMR - we need clarity if telling your scribe or having an intermediary to do it on our behalf is the same as typing on the keys yourself. For example:

- Clinical Care: To maintain efficiency, many practices across the nation have begun to use scribes to act as the "immediate transcriptionists" to help with data input. Imagine a scenario where a doctor can walk into a room and view the EMR, but have all their data entered by a dedicated scribe, including both visit documentation (e.g. Allergies, Meds, Problems, History, Physical Exam, Plan) as well as orders (e.g. ePrescribing, labs, X-rays, Consults). Any clinical decision support will still be viewed by the physician, and the doctor could sign off with his own password to finalize any orders and notes.
- Quality Measures: It is not clear if ALL data needs to be captured in a codified format during the process of care or if an "intermediary clinician" such as a quality nurse can review free-text notes and manually enter the codified criteria into the certified technology (in our case, the EDW or potentially another third party). We expect that one of our biggest challenges will be whether we can capture ALL data in a codified fashion in Cerner.
- **When and How will Care Coordination Functionality be included in MU?**
 - Care coordination is becoming increasingly recognized as an extremely important part of improving the healthcare system. We are starting to use our EMR to support Care Coordination, but very little in the current MU requirements address this issue. The result is that vendors are not implementing functionalities to support Care Coordination, and providers may not be thinking as much about how they can use their EMRs in that fashion.
 - At Northwestern, we have implemented a variety of Care Coordination workflows (called "Pathways") using just the very simple messaging system built into our EMR. For example, if I decide a patient needs a workup for hematuria, I send a "Hematuria Template" message to my care coordination team. They use our "Hematuria Checklist" for the patient, which includes setting up an imaging study within two weeks, then setting up a Urology visit after the imaging, and finally doing a chart review at 4-6 weeks to ensure the patient completed all the steps (if not, they notify the PCP). The result has been the time to complete the hematuria workup has been cut from 70 days to 35 days, the number of total visits to the Urologists has gone down (we cut out the pre-imaging visit which provide no real value), while the chance the patient will get their full workup has gone up. In other words, this simple system has made it "easy to do the right thing" - it makes it quicker for PCPs to order the right tests and consults, while also improving quality, cutting costs, and increasing access to the Urology specialists (so then they can see more patients in any given month). In the future, much of this work may be done by EMRs (e.g. setting up appointments on a specific schedule, doing chart reviews), but right now, most EMR systems do not have the capacity to do this, so we are learning a lot by doing it manually. We currently have about 10 of these Pathways running, and we are planning to add about 10-15 more this year. If you ask our docs, it is their favorite thing about using our EMR. And yet, there is nothing in the current MU requirements that promotes this type of behavior.

How will MU Regulations Affect Care Process Innovation?

As the founder and director of a healthcare innovation program, I am particularly interesting in exploring whether these regulations will help or hinder innovative thinking and solutions.

How can MU help innovation? I believe the emphasis on getting providers to collect and report on specific outcomes is an important way to facilitate innovative thinking, along the lines of "You can't improve something if you can't measure it". In fact, in a recent NEJM article (Jan 3, 2011), Michael Porter explains that the main purpose of measuring actual outcomes is to enable "innovations in care". He describes how measuring, reporting and comparing these actual outcomes are what allows us to think and act in innovative ways. For example, at NMPG we ran a report on diabetes and we found that 15% of our diabetics (330 out of 2500) had a HbA1C over 9% (poor control). We then brainstormed with the endocrinology department and came up with an innovation we called "The Diabetic Tune-up". It included notification of a PCP about their poorly controlled patients, a prepared script they could use to help convince them to come into the Tune-up Clinic, and an endocrinology team prepared for this type of very tough patient. We saw over 25% of these patients enroll in this clinic, with excellent results in controlling their diabetes. We are now looking at doing something similar for Asthma, Hypertension, and high Cholesterol. But we never would have started down this road if we didn't have the data in the first place.

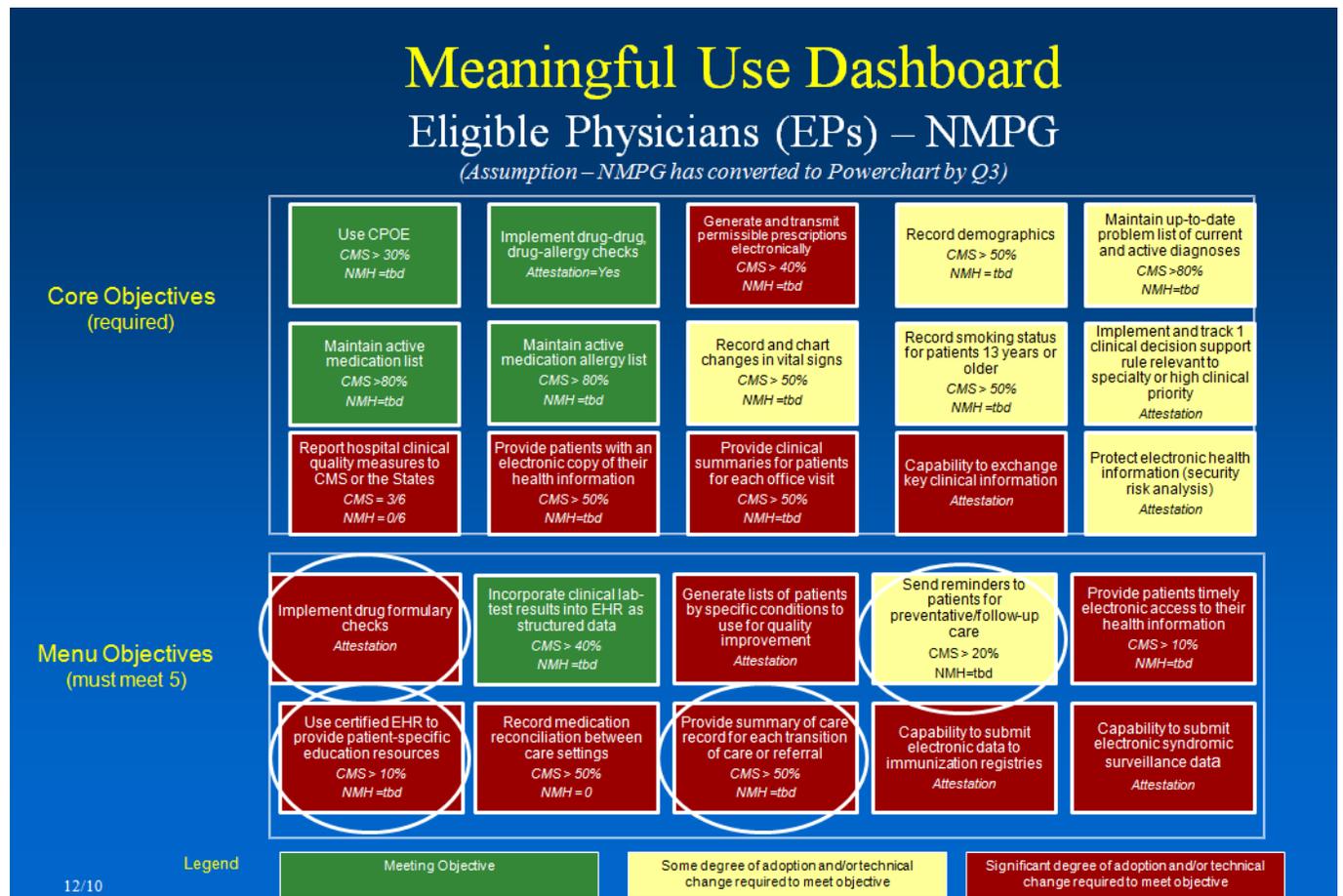
Of interest, Dr. Thomas Lee followed up on Porter's essay with his own complementary one in the same NEJM edition. He says "When measurement is oriented toward what happened to patients instead of what services were performed, interesting challenges and opportunities arise." For example, he notes that in his institution (Partners Healthcare), the typical PCP reports included data on number of office visits and RVUs, but what he thinks would be more useful would be the number of ER visits and hospital re-admissions, or the cycle times for how quickly discharged patients are seen in follow up clinic. Dr. Lee additionally notes that "just the collection of such data requires organizational change and the weakening of walls between our silos." In other words, both the act of collecting the data and then actually having the data can promote innovations!

Does MU hurt Innovation? Initially, one could argue that by overly defining functional requirements, innovation can suffer. But interestingly, innovation can often thrive under various constraints. In fact many of our best clinical innovations use very simple functionality. One could also argue that MU hurts innovation because it is distracting attention away from other projects and it is creating incentives around implementing certain functions rather than on improving outcomes. But the real problem there is our overall healthcare reimbursement system, where MU is just a drop in the bucket. Rather, I think the real way that MU hurts innovation is because of what it is NOT doing rather than what it is doing. What it is NOT doing is promoting open systems and technical innovation to help solve the problem that there is no perfect EMR system by a longshot. For example, the government is potentially spending \$44 billion on MU incentives, but just \$15 million on the creation of the "SMARt (Substitutable Medical Apps, reusable technologies) Platform" (<http://www.smartplatforms.org/>). This type of platform would allow programmers from around the world to create "apps" which can then interface with multiple EMRs to help solve the variety of problems faced by physicians in many different situations. The analogy to consider is whether you would want an iPhone or Droid with just its

basic functions, or whether you want to have access to thousands of apps that can provide you with the exact functionality and usability you need to be as efficient and successful as possible.

So perhaps we should think about MU as establishing the basic functionality and then start thinking about how we can create the regulatory, economic, technical and cultural environment to help stimulate innovative ideas and solutions that we can't even imagine today!

APPENDIX A: Meaningful Use Dashboard for EPs



APPENDIX B: Meaningful Use Stage 1 Timeline

