emids
experience partnership.

White Paper

Navigating the Upcoming Challenges Of Meaningful Use Phase 3

A roadmap to meeting requirements concerning security, e-Prescriptions, clinical decision support and data sharing

Author: emids Technologies

Table of Contents

Overview: Preparing for MU3

The transformation of healthcare to a data-driven model for decision-making and management from a model where the implicit knowledge and personal experiences of healthcare professionals dictate treatment is revolutionary. It will take years to complete, yet a significant first step has been underway for a few years now in healthcare IT departments everywhere. Providers and payers are moving rapidly to digitize all of the processes and information that drive healthcare delivery and reimbursement. Meaningful Use requirements, established by the Centers for Medicare and Medicaid Services (CMS) and the Office of the National Coordinator (ONC) are playing a dominant role in this transformation.

Even though many organizations are still working on Stage 2 requirements for Meaningful Use, the CMS and the ONC released final rules for the third stage in October 2015. Stage 3 requires another round of adaptations by EHR vendors and internal IT departments alike to improve electronic processes, and increase electronic data sharing and data-driven decision-making. The end goal is to deliver more efficient and effective patient care. The final deadline has been extended until January 2018 for compliance by healthcare providers seeking to avoid Medicare penalties.

The third stage covers eight objectives across four major capabilities: security, electronic prescriptions, clinical decision support, and data sharing with other providers and patients. Integrating systems and data is the underpinning here: More than 60 percent of the proposed measures require interoperability, up from 33 percent in Stage 2[1]. While vendors will enable many of these integration points, CIOs must take an active hand in understanding the integrations required as well as working with the various healthcare IT vendors to ensure implementation plans are aligned. Patient engagement is another looming requirement of the third stage.

More than 60 percent of the proposed measures require interoperability, up from 33 percent in Stage 2.

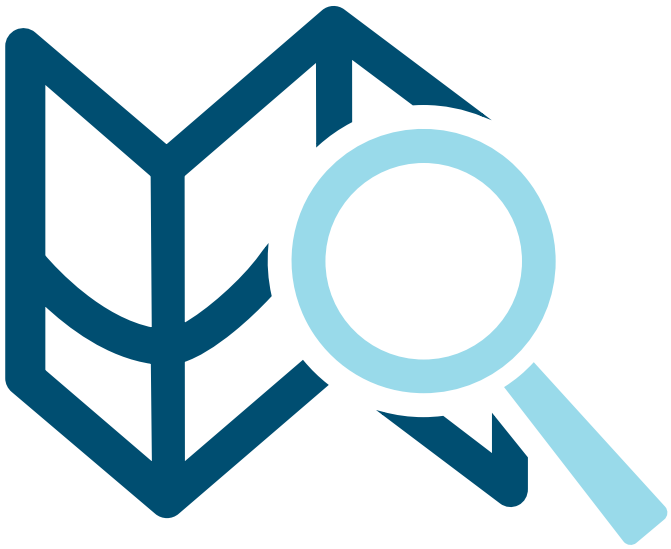
Functionality and Interoperability Requirements

Some specific examples[2] of the increased level of functionality and interoperability mandated in Meaningful Use Phase 3 include:

- **e-Prescribing:** The thresholds have increased to 80 percent for EPs (eligible professionals) and 25 percent for EHs (eligible hospitals).
- **Clinical decision support (CDS):** This includes five CDS interventions tied to four quality measures and enabling drug-drug and drug-allergy interaction alerts for the entire EHR reporting period.
- **Computerized physician order entry (CPOE):** Providers must use physician order entry on at least 80 percent of medication orders, 60 percent of lab orders and 60 percent of diagnostic imaging orders.
- **Patient access to information:** Eighty percent of patients must be able to access their records through one of two specific methods and providers must give 35 percent of patients access to patient-specific educational resources.
- **Active patient engagement:** This includes a requirement that providers must incorporate information from “non-clinical” settings, such as a wearable or personal health record, for 15 percent of patients.
- **Public health and clinical data registry reporting:** Data sources include immunizations, public health registries, non-public health registries and electronic lab reporting among others. EPs must choose three measures while EHs choose four.

Understanding the Key Challenges in MU3

Healthcare providers preparing for Stage 2 encountered considerable difficulty, according to various reports, which has resulted in some easing back by the CMS and ONC on the requirements for the third stage.



A survey[3] of 2,000 physicians conducted by *Medical Practice Insider* found that more than half of providers said they wouldn't attest to Stage 2 in 2015. The reasons included a lack of finances and resources for implementation, along with struggles getting elderly patients and others not comfortable with technology to use online engagement tools. An estimated 20 percent of providers[4] dropped out of the MU incentive program in 2015.

Despite these numbers, other reports show progress. In 2014, data from the ONC[5] showed that more than half of hospitals were enabled to offer patients the ability to securely message with providers, and roughly two-thirds of hospitals allowed patients to submit patient-generated data, such as blood glucose or weight.

Stage 3 is still two years away, yet preparing now can help avoid last-minute scrambling and also helps CIOs with budget and resource planning. Here are the major considerations:

Infrastructure planning: Healthcare CIOs need to consider infrastructure issues, such as how to handle growing storage and computing needs for a significantly larger volume of patient data that will be collected and integrated into the EHR and other systems. Security and governance needs will naturally grow, with more sensitive data being exchanged between systems and providers and accessed by caregivers at the point of care.

Big data requirements: Real-time processing needs, such as supporting the CDS and drug-alerting requirements, will demand powerhouse databases that can handle the load of high-volume data streams. Data management systems designed for storing both structured and unstructured data, such as Hadoop or Cloudera, may also be useful to cost-efficiently merge patient data from email, social media and wearables with transactional data from internal systems. All data that is stored in EHR systems will need to be amenable to search and analysis. For example, screenshots of a lab test are no longer acceptable. The intent of integration is to tie data points together for quality management and reporting purposes, such as linking a lab order with a test result, and then connecting back to the clinical decision support application.

User experience and patient engagement: A decades-old barrier to clinical systems adoption is the fact that caregivers often don't like them. In some cases, EHRs create more work through data entry or navigation. With Stage 3, workflow changes again, with additional requirements for patient education, CPOE, and for incorporating new information into decisions, such as drug interaction alerts. Common struggles in Stage 2, for example, related to facilitating electronic transition of care to facilities outside of the healthcare system and motivating patients to use care portals. Finding out ahead of time what will be the potential barriers for users can help the CIO and team plan appropriately for training and change management.

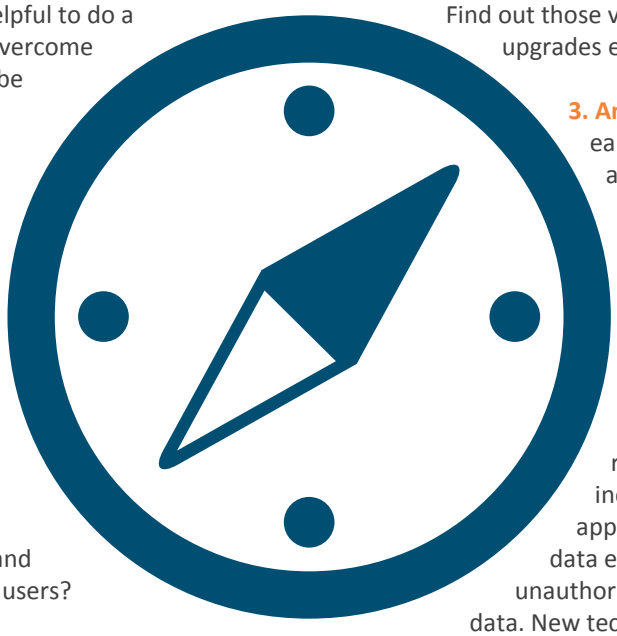
A Roadmap for MU3 Planning

There are several factors to consider when planning for Stage 3 of Meaningful Use[6]. The following will help ensure you're ready for the transition.

1. Assess organizational readiness: IT organizations looking ahead to the next phase of Meaningful Use are wise to begin by creating a high-level assessment of the implication of change upon the organization from a technology implementation standpoint, a change management standpoint and a business strategy perspective. It may also be helpful to do a Stage 2 review of the top challenges overcome so far and any best practices that can be applied to the next stage.

A few questions to answer include:

- What will IT budget needs entail as relates to software upgrades, infrastructure upgrades and consulting services?
- What additional IT staff or skills will be needed to help with the transition?
- How will new training, support and awareness needs be funded and delivered to both IT staff and end users?
- How will meeting the next set of requirements affect or coincide with important business goals or changes, such as mergers, expansion and/or the launch of new product/service lines?
- What will be the top barriers to success (physician adoption, competing IT priorities), and how will they be addressed?



2. Assess vendors: It may sound obvious, but too many healthcare organizations were caught short in years past by not communicating thoroughly with their core health IT vendors on implementation plans and requirements. These EHR upgrades are substantial, and often need to run on the latest operating system; your organization will need to plan for that upgrade as well as the requisite hardware upgrades. In addition, if you are running multiple interconnected systems, you will need to evaluate the suitability of upgrades on the interfaces and interoperability tools as well. System requirements may also necessitate larger bandwidth needs as well as the most robust managing and monitoring systems. Vendors with cloud-based solutions can offer a more appealing alternative, but for customers of on-premise systems, there's no way to avoid the infrastructure upgrades that will likely come with MU3. Don't forget that vendor planning also includes any third-party systems, such as lab or pharmacy, which integrate with the EHR. Find out those vendors' plans and requirements for upgrades early to mitigate late-stage chaos.

3. Analyze security risk: As mentioned earlier, increased digitization and integration brings up new security risks. These risks may be compounded by the fact that some sets of data will be coming from outside of the organization's walls, from other facilities and from the patients themselves. At a minimum, review existing security risk reports and update the assessment if the report is more than two years old. The increased use of patient portals, mobile apps and Web-based processes for data exchange will open up more gaps for unauthorized and malicious access to personal data. New technologies will need to conform to the organization's existing security infrastructure or standards, and policies will need revision to deliver the adequate protection.

4. Design integration architecture: Stage 3 finalizes the use of application program interfaces (APIs) that enable easier integration from the EHR to third-party applications and data sources.

The focus on interoperability in this stage of Meaningful Use requirements may require an updated integration platform. New data types that will now be imported into the EHR include lab reports, radiology/MRI images, drug database information, pharmacy systems, public health data, consumer health data from mobile apps and portals, and sensor data from patient monitoring devices, to name a few. Many organizations will use a HIE network if one is available for clinical data exchange, which should be flexible enough to work with an array of systems and data sources. Otherwise, organizations will need to consider building their own platforms for data exchange. Integrating internal systems will require potential new capabilities for MU3[7].

5. Consider new collaboration tools: Along with integration is the expanding need for collaboration among the various parties that deliver and manage care. While there are many viable systems for helping caregivers coordinate on patient care and outcomes, selecting the best one for your organization's growing needs is not easy. EHRs are not typically designed to support the coordination of care among multiple providers including the hand-off of patients from one level of care to the next. Care coordination applications help manage at-risk patients through the development and tracking of care plans, engaging patients in self-management, and facilitating communication with patients and their families. The market for care coordination software is expected to expand at a 26.1 percent compound annual growth rate between 2015 and 2020, according to a new analysis from Frost & Sullivan[8]. Providers should conduct due diligence relative to service-line capabilities and needs when evaluating care coordination applications.

6. Investigate consumer health apps: Getting patients more involved in and accountable for their own health is foundational to healthcare reform and, as a result, has become a significant aspect of Meaningful Use. CIOs will need to determine the best way to help patients share information with the healthcare organization securely and easily. Can patients use their own smartphones to submit information through an app developed by the organization? What about patients without smartphones or tablets or even high-speed networks within easy use? Devices such as kiosks or tablets in the physician's office or hospital may play an important role in collecting information from patients when they are a captive audience. Web portals have had varying success with patients as a way to safely communicate with providers. To drive participation, CIOs will need feedback on what patients consider the optimal user experience, such as tools for easy online scheduling, automated appointment reminders, bill pay and post-visit instructions. Naturally, integrating data from those applications into the EHR and analytics/reporting systems is core to the strategy of consumer-driven healthcare.

7. Assess skills and training needs for system upgrades: CIOs should meet with their EHR vendors several months before the upgrade goes live to map out training and support requirements for users and IT staff once the upgrade is installed. Any training and education that can be delivered early, by getting access to betas and pilots, can jumpstart the process. Key points of discussion include:

- An understanding of the key system changes and new features for users
- Training programs such as e-learning, offered by the vendor
- New workflow requirements necessitating process change
- New internal IT skills needed to manage and deploy the system
- What level of in-system support will be included to help users learn as they go.

8. Prepare for the analytics challenge[9]: The success of Meaningful Use depends upon generating value from the growing volume of electronic health information being collected by healthcare organizations. While MU3 doesn't require analytical systems per se, aside from what's needed to deliver public reports, there's a lost opportunity in ignoring the increased data sets that revamped EHRs will collect and store. Advanced analytics solutions that can provide personalized diagnostic information to a physician or alert a nurse to a troubling indicator streamed from a cardiac patient's FitBit are concepts within reach today. Healthcare data scientists will be needed to work with the data and uncover new insights that can lead to better care paths for certain patient populations or to identify areas of waste.

Summary

Meaningful Use requirements are soon to enter the third and, as far as we know, final stage of deployment for health IT vendors. This quest to digitize all processes and collect an increasing amount of data from patients promises to transform care delivery as well as reimbursement. Meaningful Use Stage 3 will continue the work that has been done so far, with additional requirements for security, electronic prescriptions, clinical decision support, and data integration and data sharing. Vendors and providers have until January 2018 to comply and avoid financial penalties from CMS, yet there is much to do. Even if MU2 requirements have not yet been fulfilled, CIOs and their executive stakeholders should begin planning now.

Primary challenges for MU3 preparedness revolve around infrastructure updates and patient engagement. Higher levels of integration and more data streaming and systems could wreak havoc on an aging infrastructure. CIOs will need to look at existing capabilities in the areas of computing, storage and networking. Big data capabilities will be necessary for clinical decision support and real-time alerts. Workflow considerations will again be at the forefront, as clinicians and other caregivers will need to increase daily interaction with systems at the point of care and afterward, to satisfy patient education requirements.

To prepare, healthcare CIOs should stay in close touch with vendors to understand MU3 upgrade plans and their associated IT requirements, such as hardware upgrades. Designing the appropriate security and application integration architecture is another top consideration. These areas are interwoven, risk-prone and vendor-dependent; CIOs may need outside help to get over these technical hurdles. Finally, IT organizations should prepare for new types of capabilities: collaboration applications to help facilitate care coordination and patient handoffs; consumer health applications to enable education and data collection; and real-time analytics capabilities to deliver additional ROI from the health IT infrastructure.

References

1. "CMS drops final EHR meaningful use rule," *Healthcare IT News*—http://www.healthcareitnews.com/news/cms-onc-release-final-ehr-meaningful-use-rules?mkt_tok=3RkMMJWWfF9wsRousq7NZKXonjHpfsX56eUsWaSwlMI%2F0ER3fOvrPUfGjI4ITMphI%2BSLDwEYGJlv6SgFQ7LHMbpszbgPUhM%3D

2. "The good, the bad and the ugly of Stage 3 MU," *Healthcare IT News*—http://www.healthcareitnews.com/news/good-bad-ugly-stage-3-mu

3. "Will Stage 3 finally fix hospitals' meaningful use issues?" *Healthcare Business & Technology*—http://www.healthcarebusinesstech.com/stage-3-meaningful-use-2/

4. "Spotlight on Physicians: Meaningful Use 2015," *Healthcare Informatics*—http://www.healthcare-informatics.com/article/spotlight-physicians-meaningful-use-2015

5. "Health IT Quick Stats," HealthIT.gov—http://dashboard.healthit.gov/quickstats/quickstats.php

6. "The crippling effect of meaningful use stage 3 uncertainty," *TechTarget*—http://searchhealthit.techtarget.com/opinion/The-crippling-effect-of-meaningful-use-stage-3-uncertainty

7. "Making the Case for Healthcare Enterprise Integration Strategy," *Sierra-Cedar*—http://www.sierra-cedar.com/2014/04/04/making-the-case-for-healthcare-enterprise-integration-strategy/

8. "Care coordination software market poised for strong growth," *Fierce Health IT*—http://www.fiercehealthit.com/story/care-coordination-software-market-poised-strong-growth/2015-05-13

9. "Tech firms refocus to address Stage 3 meaningful-use rules," *Modern Healthcare*—http://www.modernhealthcare.com/article/20151010/MAGAZINE/310109961

About emids

emids is the premier provider of healthcare IT services and industry-leading solutions. Because we are grounded in deep technology expertise and an exclusive healthcare focus, our clients experience true partnership with us as together we navigate the challenges of a rapidly changing healthcare industry.

emids
experience partnership.