

Health Information Technology

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Welcome to *Quality Matters*, a bimonthly roundup of news and opinion on quality and efficiency, information technology, performance improvement initiatives, and policy innovations.

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**In Focus: Implementing Health Information Technology--
 Lessons from the Medicaid Transformation Grants**

Summary: States that received grants from the Centers for Medicare and Medicaid Services to advance the use of electronic health records and e-prescribing programs confronted challenges other states are likely to face as they implement health information technology initiatives using funds from the Stimulus Bill.

By Sarah Klein

Health information technology has long had the potential to transform the quality of health care by enhancing the ability to measure and analyze process and clinical outcomes—by condition, institution, and region.¹ But its widespread use has been hampered by a lack of funding, among other barriers. Congress has helped to address this through the American Recovery and Reinvestment Act of 2009 (ARRA), which appropriates \$46.8 billion to encourage hospitals and providers to become meaningful users of electronic health records.² The funds are included in the ARRA's Health Information Technology for Economic and Clinical Health Act, or HITECH Act.

The incentive payments, which are designated for Medicare and

Medicaid providers whose practices meet certain criteria for patient volume, will begin reaching those providers in less than two years—a short timeframe considering the amount of regulation and guidance that must be developed first. The federal government must determine what constitutes the meaningful use of such records, as well as standards for interoperability and security, and remedies for the misuse of information. That work, which is spearheaded by the [Office of the National Coordinator for Health Information Technology](#), has focused on ensuring that investments in health information technology lead to measurable changes in the prevention and management of chronic diseases; a reduction in medical errors and racial disparities in health care; improvement in coordination of care and communication between providers and families; and a contribution to public health efforts.

States, which are charged with disbursing the Medicaid funds, also have a considerable amount of work to do to leverage those funds to have an impact on the quality of care. Perhaps the best evidence for this is another recent federal program that supported similar health information technology projects at the state level. The Medicaid Transformation Grants were issued in two phases in 2007 and provided \$150 million to 35 states, the District of Columbia, and Puerto Rico to implement electronic health record systems and tools to enhance clinical decision making. (The grants also financed projects aimed at reducing spending on prescription drugs and preventing fraud, waste, and abuse in the Medicaid program.) The state initiatives ranged from the installation of e-prescribing systems for physicians in rural communities in Tennessee to the creation of a Web-based medical record for children receiving health care services through the foster care program in Texas.

To date, the states have accomplished a great deal, considering the relatively modest amount of funding they received. Arizona, which received \$17 million, built a Web-based health information exchange known as AMIE that gives hospitals and providers access to hospital discharge summaries, medication lists, and laboratory information at the point of care. Developed as a proof of concept, AMIE contains information about Medicaid and non-Medicaid patients and will be expanded to include clinical data and clinical decision support tools. Minnesota, which received \$2.8 million, expanded an existing Web portal to enable providers to see three years' worth of claims data on emergency department visits and inpatient stays for a patient, along with one year of medication history (the latter is combined with records of multiple insurers). The system was designed to help primary care providers identify individuals who were repeatedly hospitalized or sought emergency care and needed better short- or long-term management, says Julie Marquardt, the project manager on the grant. Once Minnesota enhances security measures for the Web portal, it hopes to add clinical data, such as laboratory results and diagnostic imaging. In time, it hopes to expand the record further to create a document that can be shared by all providers caring for a patient to coordinate his or her care.

Together, these projects demonstrate the challenges that providers, policymakers, and health care purchasers are likely to encounter as they implement large-scale health information technology projects in their communities. The states that implemented these projects were required to navigate complex policy, governance, and logistical issues. The challenges include how to handle medically sensitive information such as psychiatric records or HIV status; how to obtain consent from patients with diminished capacity; and how to keep providers—

especially those in small, independent medical offices—engaged enough to invest in and use the technology. While many of these issues are not new to clinical practice, the pace at which they had to be resolved to meet grant deadlines compelled the states to find creative solutions. With that in mind, *Quality Matters* asked program leaders (and others with expertise in health information technology) what advice they would offer to those who will soon receive HITECH funds and embark on similar projects. Here's a roundup of their advice:

1. ***Involve stakeholders from the beginning and define those stakeholders broadly.***

"There's a tendency for people to think of this narrowly—equating stakeholders with physicians and hospitals," says Patricia MacTaggart, a lead research scientist and lecturer at George Washington University in Washington, D.C., who has written about state e-health initiatives. To build systems that enable providers to coordinate care, development work must include input from pharmacies, nursing homes, dentists' offices, substance abuse centers, home health agencies, and others. Managing the participation of so many will be a challenge that requires prioritization, but it is worth the effort, experts say. States that exclude such stakeholder groups from the initial discussions may re-create a problem many managed care companies had when they created "carve-outs" for management of certain categories of services such as psychiatric care, only to discover that effective case management required them to integrate those services back into the insurance product. "You have to have everyone at the table to plan broadly," MacTaggart says. For a good example of stakeholder involvement, see the [case study](#) of Alabama's "Together for Quality" program in this issue. Planners also

should go out of their way to build trust among participants, because those participants are unlikely to share data essential for such projects otherwise, says Anthony Rodgers, director of Arizona's Medicaid program and Children's Health Insurance Program (CHIP). "We were very transparent," he says. "We would have meetings with all the stakeholders and show them who was accessing the data. We have an audit trail and, over time, they became comfortable that we knew what we were doing."

2. ***Don't surprise the end users.*** Make sure the intended users are included in the design stage of creating electronic health records, health information exchanges, and other technologies. "States that do it well involve stakeholders from the very beginning through to the design," says Jessica Pollak Kahn, M.P.H, the project officer for the Centers for Medicare and Medicaid Services, whose job includes overseeing and evaluating the Medicaid Transformation Grant program. While building a Web-based medical record for foster care children that combined demographic information with medical claims, pharmacy data, immunizations, and behavioral health records, Texas delayed involving providers because the process already required a great deal of coordination between multiple state agencies and the vendors who maintained these data. By the time physicians and other caregivers were invited to look at the product, it was too late to act on their recommendations. "We should have involved the providers earlier," says Yvonne Sanchez, senior health policy analyst for the Medicaid and CHIP division of the Texas Health and Human Services Commission. The state is now following up on providers' recommendations, which include adding laboratory results to the record and

ensuring its interoperability with electronic medical record systems that were already in place in some physicians' offices. Mark Zuliani, the transformation grant project manager for New Mexico's Human Services Department, says it's also important to include a broad range of users in the discussions. "People talk to high-level individuals because they tend to make the decisions, but the ground level is just as important because those are the individuals that have to use it," he says. New Mexico, which used its grant to build a medical history of Medicaid patients for use by emergency department physicians, found providers used the product only sparingly—in instances when a patient was incapacitated and could not provide a medical history or when providers wanted to review medication records.

3. ***Investigate whether state law will permit providers to share medically sensitive information—such as HIV status or treatment for psychiatric conditions—as well as other restrictions on sharing medical data.*** Such laws will restrict the usefulness of the end product. In Tennessee, for example, state law required that independent clinical laboratories return results to providers and no one else. That meant providers couldn't contract with a third party—such as an electronic health record vendor—to hold and aggregate laboratory data. There were separate rules for pharmacy data. "It's really a maze you have to wander through," says Brent Antony, chief information officer for TennCare, the state's Medicaid managed care program. The rules governing medically sensitive information complicate matters further. New Mexico was required to suppress information related to HIV status, substance abuse history, and psychiatric

conditions in its electronic health records. "The problem with suppression is how do you suppress it? Do you suppress the whole client?" Zuliani asks. "We suppress at a more defined level," he says, by provider type and code. But even that requires significant maintenance to ensure the system keeps up with treatment protocols and drug uses. Wisconsin changed its law to expand the amount of information that can be shared among independent institutions without the written consent of a patient. And Tennessee is investigating whether it can allow providers to "break the glass" and obtain medically sensitive information under limited circumstances.

4. ***Decide whether state policy should require residents or enrollees to opt in or opt out of participation in the electronic system.*** In Rhode Island, residents must opt in to the health information system before their data can be added. They also may choose which providers have access to their data. Other states, such as Tennessee and Minnesota, are using opt-out strategies, which require patients to request exclusion from the system. In Tennessee, fewer than 1,000 Medicaid enrollees out of 1.2 million opted out when given the option to do so, Antony says. Both methods of gaining consent require significant investment because states must inform residents of their plans and the process for opting in or out. "It's everything from the legal small print to beneficiary outreach," Kahn says. It also requires devising a plan to reach residents with low literacy or diminished capacity. "How do they interact and give their approval for use of the data? There are many levels that need to be thought through," she says. Texas managed to sidestep the issue by building a system for children in the foster care program. Because the children are wards of the

state, the state had authority to use their medical records.

5. ***Prepare to spend as much time helping providers implement the technology as you do designing and building it.*** Small providers, in particular, will need help purchasing equipment and integrating it into the workflow of their offices. Arizona helped them by creating a purchasing collaborative for electronic health records and soliciting bids for systems on behalf of physicians. The state evaluated 16 vendors in all and selected two for the physicians to consider. One product was more comprehensive than the other, but both were made available to physicians who agreed to participate in the collaborative on a subscription basis, which cost less than \$1,000 per month, Rodgers says. The state plans to offer the same service to hospitals and long-term care facilities. Arizona also deployed a support team to help providers learn how to use the technology. Without having such a person available via telephone or in person, states run a high risk that providers will not fully adopt and use the technology, Rodgers says. Tennessee, which negotiates a discounted rate for networking services for its offices, extended those rates to individual providers—including those in rural communities—to ensure they could find telecommunications services and support at reasonable rates. Federally funded regional extension centers that provide technical support and a means to allow hospitals and physicians to share best practices will also help, once they become operational.
6. ***To ensure interest and engagement on the part of the providers, reward them with something useful at the outset.*** High-demand items include current medication lists, laboratory results,

discharge summaries and allergies, and a summary of patients' medical history, Rodgers says. "That's the pecking order physicians give us," Rodgers says. It's very important to do this early. "At the end of the day, if all we've added is more hassle to the doctors, they will eventually say, this wasn't worth it. Even the administrative incentives aren't worth it," Rodgers says. For more information on designing systems that enable physicians to use such technology to their advantage, listen to an [audio interview](#) with Justin Starren, M.D., Ph.D, director of Marshfield Clinic's [Biomedical Informatics Research Center](#).

7. ***Find a vendor who is willing to make its methods and systems transparent, so that the state can replicate its work or expand its scope or functionality.*** Minnesota insisted on finding a vendor willing to do so. They "taught us what they were doing step-by-step," Marquart says. Without such a relationship, there's a risk the technology will become a black box, which only the vendor can control. Without such precautions, Medicaid programs "are all prisoners of their vendors," says Mark Frisse, M.D., M.B.A., a professor of bioinformatics at Vanderbilt University in Nashville, Tenn.
8. ***Consider the financial consequences of these programs on providers.*** "If successful, we will avoid duplication [of care]; we will avoid re-admits," MacTaggart says. And it won't take providers long to figure out they are making less money. Payment reform efforts must address this, she says. "We are all focused on getting them going, but if you don't deal with the back end, getting them going falls flat really quickly," MacTaggart says.

Despite the challenges states are likely to face as they implement health information technology initiatives, Medicaid agencies are in a unique position to promote the use of health information technology and influence its impact on quality of care outcomes. Their purchasing power and the extensive

relationships they have with both private payers and providers will provide an opportunity to improve coordination of care and accountability in health care organizations, both of which have been difficult to achieve.

References

1. There are multiple definitions for health information technology. The term is most often used to describe computer systems and applications that allow for the acquisition, management, and retrieval of medical information for the purpose of improving health care quality, reducing medical errors, enabling disease surveillance, and improving chronic care management. Using such technology to influence the quality of care through the measurement and analysis of performance and outcome measures requires sophisticated systems, which depend on extensive data collection. Many of the projects funded by the Medicaid Transformation Grants focus on the collection of data rather than analysis of it.
2. The \$46.8 billion figure includes \$23.1 billion in incentives for providers in the Medicare program, \$21.6 billion for providers in the Medicaid program and \$2.1 billion for the administration of the program by federal and states agencies.

Case Study: Alabama's Together for Quality Program--Putting Health IT to Work for Medicaid Beneficiaries

By Martha Hostetter

***Summary:** Using Medicaid Transformation Grant funds, Alabama created a health information exchange system with clinical support tools and e-prescribing functions, called QTool. The goal is not to have QTool become the dominant electronic health record system in the state, but rather to have it serve as an electronic infrastructure linking together disparate data sources, so that providers know as much as possible about their patients. In a pilot test that began in July 2008, 50 primary care physician practices have been using QTool to manage care for their Medicaid patients. Use of the tool has gradually increased as the state enhanced the system, offered training, and increased financial support to help practices integrate the system into their workflow.*

Issue

In our fragmented health care system, reports from specialists or laboratories may not be available to primary care physicians when they need to make decisions about their patients' care. In addition, providers are often unaware of the various medications their patients are taking or of their previous treatments and diagnoses—leaving considerable room for duplication and error. Meanwhile, large payers such as Medicaid are often frustrated in their attempts to

evaluate the health of their patient populations and target improvement initiatives where they are needed most.

Health information systems that provide access to comprehensive patient information at the point of care and enable information exchange across care settings have the potential to improve health care quality, safety, and efficiency.

Alabama is one of 35 states plus the District of Columbia and Puerto Rico that received

Medicaid Transformation Grants from the Centers for Medicare and Medicaid Services (CMS) to support initiatives aimed at improving the effectiveness and efficiency of care in the Medicaid program. Like most of these states, Alabama is using the grant funding to deploy health information technology. Its "Together for Quality" program seeks to create a statewide electronic health information system to improve the quality of care for Medicaid beneficiaries, particularly those with chronic conditions. In Alabama, chronic conditions are responsible for seven of 10 deaths and 75 percent of all health care costs.¹

Alabama also hopes that having statewide electronic health information will help it prepare for public health emergencies. In the aftermath of Hurricane Katrina, hundreds of evacuees arrived in Alabama without prescription medication, medical records, and—in some cases—a history of their medical conditions.

Objective

Alabama aims to improve the quality of care for Medicaid beneficiaries and control health care costs through development of a statewide electronic health information system.

As an initial step, the state created a health information exchange system with clinical support tools and e-prescribing functions, called QTool. The goal is not to have QTool become the dominant electronic health record system, but rather to have it serve as an electronic infrastructure linking together disparate data sources, so that providers know as much as possible about their patients.

Organization and Project Leadership

The Together for Quality (TFQ) initiative is led by the Alabama Medicaid Agency. Kim Davis-Allen, B.S., is the project director and Carol H. Steckel, M.P.H., Medicaid commissioner, provides leadership. Janet Bronstein, Ph.D., professor in the department of health care organization and policy at the University of Alabama at Birmingham School of Public Health, is leading an evaluation of the TFQ pilot project.

Alabama formed a stakeholders' council that includes health care providers and professional associations, other state agencies, private health plans, health care purchasers, health information technology entities, business groups, academics, patient groups, and quality improvement organizations. The council has a steering committee and clinical, financial, policy, privacy, and technical workgroups.

Blue Cross Blue Shield (BCBS) of Alabama, which covers about 80 percent of the state's insured, non-Medicare population (Medicaid covers most of the remaining insured residents), also has been an active participant in the planning and deployment of QTool, which will supersede an electronic health record system that BCBS had been promoting.

Target Population

TFQ aims to improve the quality of care for Alabama's Medicaid beneficiaries, particularly those with chronic conditions such as diabetes or asthma.

Key Measures

To assess the adoption of the health information system by primary care practices, the Medicaid agency is monitoring the

number of visits to the QTool Web site and the number of electronic prescriptions made.

When the grant ends in March 2010, Alabama will gauge success not by how many doctors use QTool, but whether their performance on process-of-care measures improves. Measures currently being tracked include: receipt of eye exams, appropriate tests, and flu shots among diabetic patients; and receipt of flu shots, emergency department visits and hospitalizations, and controller use among asthma patients.

Evaluators will solicit feedback from providers on the effectiveness of the training, ease of use of the QTool, and value of information available. A telephone survey of beneficiaries will assess the impact of the TFQ pilot program on patients.

Timeline

Alabama received \$7.6 million from CMS to fund the TFQ initiative between 2007 and 2008; the state has received a no-cost extension through March 31, 2010, to further its grant work.

Process of Change

The TFQ initiative focuses on three activities:

- development of QTool, a health information exchange system with clinical support features and e-prescribing;
- implementation of a care management program, known as Q4U; and
- creation of a patient data hub for the exchange of information among

Medicaid and other state health and human services agencies, known as Qx.

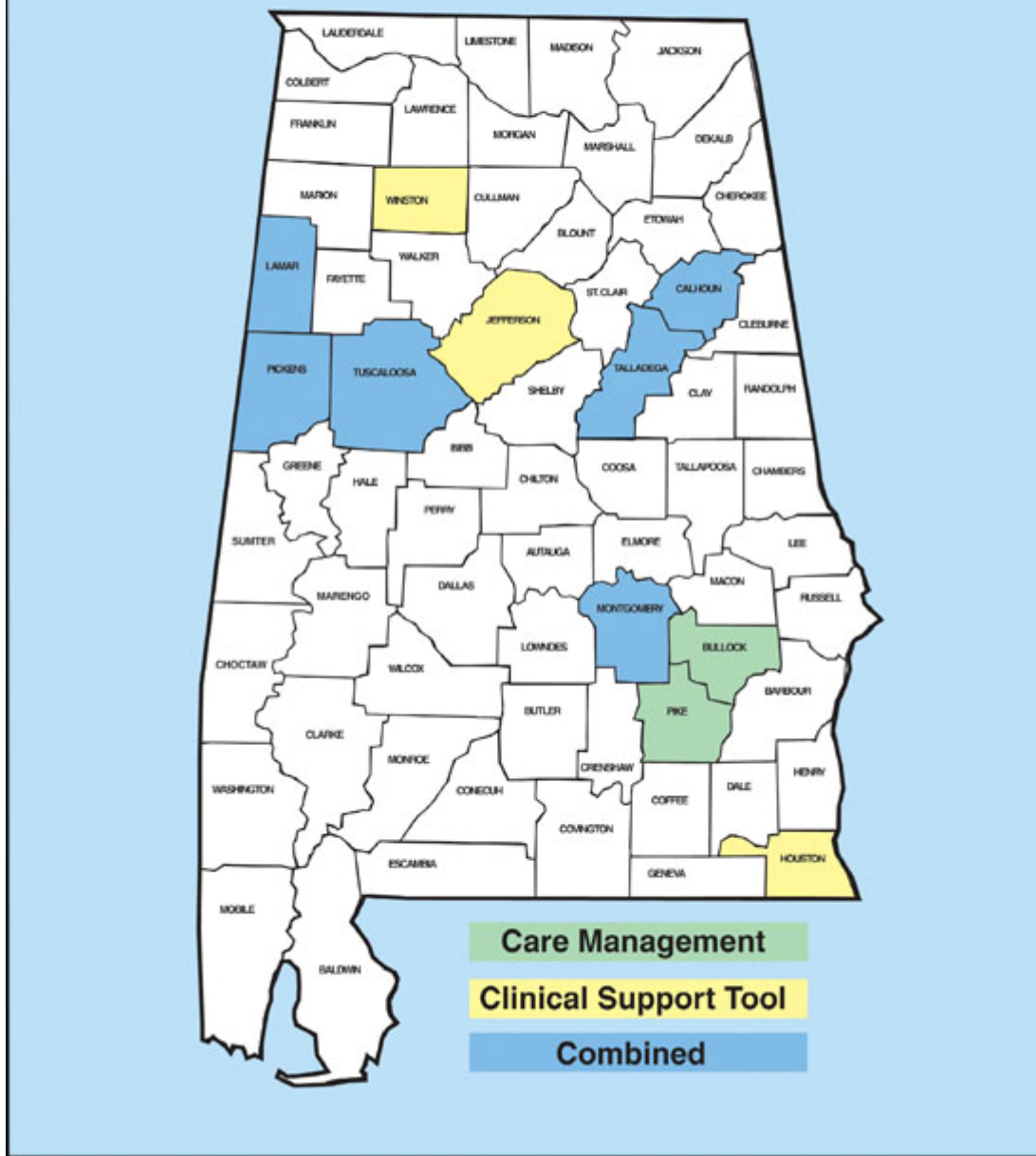
This case study focuses on the development and implementation of QTool.

Together for Quality builds on [Patient 1st](#), a primary care case management program that offers Alabama's Medicaid providers financial incentives to serve as a medical home for beneficiaries. Participating providers earn \$1.60 per patient for ensuring 24/7 coverage, taking part in prior authorization programs, and following other protocols. Providers are paid an additional \$1 per patient if they use an electronic health record system. About 420,000 patients and 1,083 providers (either physician groups or individual physicians) are enrolled.

Alabama is piloting QTool among Patient 1st primary care providers. The pilot program targets 11 counties: in two counties, practices are engaged in traditional care management (i.e., the Q4U program, which uses licensed social workers as care coordinators to ensure patients understand and adhere to recommended treatment); in three counties, practices are using the QTool only; and in six counties, practices are using both care management and the QTool (Figure 1). This approach will enable a comparative analysis of which interventions are most effective in coordinating and improving care—care management, use of the QTool, or both approaches working in concert, which would indicate that both people and technology are needed to improve care.

All aspects of the pilot focus on patients with asthma or diabetes, two common conditions among Alabama's Medicaid beneficiaries.

Figure 1. TFQ Pilot Counties



Source: Alabama Medicaid, 2009

Alabama began rolling out the QTool to pilot practices in July 2008. Since QTool is Web-based, practices only need computers and a reliable Internet connection to use it. In some cases, the Medicaid agency provided small grants, capped at \$5,000 per physician,

to help practices purchase hardware or obtain Internet service.

Q Tool is designed to be compatible with any standard electronic medical record platform (e.g., those that use Snomed or

HL7 standards). One electronic medical record vendor has now created an automated interface with QTool, and six other vendors are currently working on this capability.

QTool aims to give providers access to patient information when they need it, bringing together all medical claims data from beneficiaries' office visits, hospitalizations, and emergency department visits as well as immunization records, results of laboratory tests, filled prescriptions, and reports of other procedures. It also includes Medicaid's preferred drug list. Beneficiaries can opt out if they do not wish to make their information available, though none have done so. (Currently, medical information on mental health and HIV does not appear in QTool, while the state reviews confidentiality regulations and forges

consensus on whether such sensitive information should be displayed.)

The QTool also provides clinical support, prompting providers when vaccinations, laboratory tests, or preventive care processes are needed (Figure 2). It does so through three types of automated alerts: 1) opportunities to provide recommended care for diabetes and asthma, as identified by the TFQ clinical workgroup; 2) opportunities to order laboratory tests, based on clinical guidelines from the American Diabetic Association and the National Cholesterol Education Program; and 3) notices of patient allergies, which are derived from claims data or entered by physicians. It does not currently have functions enabling providers to call up lists of patient registries, for example of diabetic patients with abnormal lab results.

Figure 2. QTool Prescription Pad

Prescription Pad

MARY ASTHMATIC, Female, 16

Home | Search | Mail | Patient | Announcements | ePrescribe | Prescription Pad | Prescription History | Prescribing Menu

Prescription
 Demonstration Practice
 Demonstration Location
 1234 Main Street
 Richmond, VA 23113

Prescriber: Dr. Jane User Date: 6/15/2009
 Prescriber Agent

Patient: MARY, ASTHMATIC DOB: 19921004

Drug: [Text Field]
 Quantity: [Text Field]
 Format: Capsule
 Days Supply: [Text Field]
 Refills: [Text Field]
 Sig: [Text Field]

Substitution Permitted Dispense as Written

Transmit Prescription To
 Pharmacy: [Text Field]

Templates Save Send Print

Prescription Status
 Prescription Status
 Method: Printed Faxed ePrescribed
 Status
 Details

Active Patient Alerts
Alert
 Due for #1 HPV vaccination
 High Risk Hep A
 TFQ Asthma: No influenza vaccine in the last 365 days
 TFQ Asthma: Non-ICS non-compliance with SA beta agonist use
 TFQ Diabetes: No influenza vaccine in the last 365 days
 TFQ Diabetes: No lipid panel in the last 365 days

*Please check both areas for possible Allergy Alerts

Drug Allergies
 No Drug Allergies Found

*Please check both areas for possible Allergy Alerts

Recent Prescriptions

Date Prescribed	Summary
06/12/09	AMOX TR-K CLV 400-57/S SUSP : Days 5 Qty 250
06/12/09	CEFZIL 250 MG/5 ML SUSPENSION : Days 10 Qty 0
06/12/09	ZOCOR 10 MG TABLET : Days 60 Qty 250
05/29/09	ZOCOR 80 MG TABLET : Days 1 Qty 500
05/28/09	SDVASTATIN 40 MG TABLET : Days 20 Qty 200
05/26/09	DIAZEPAM 2 MG TABLET : Days 2 Qty 10
04/22/09	ALBUTEROL SUL 0.63 MG/3 ML SOL : Days 5 Qty 20

New functions will be added to the tool over time. In March 2009, providers began using QTool to prescribe medications electronically—a function many of them took to quickly, says Davis-Allen. In the first two weeks, approximately 300 e-prescriptions were generated by participating providers. In future updates of QTool, providers will be able to add notes, edit records, and refer patients to other providers. In the next six to nine months, providers will be able to use QTool to compare their performance, in terms of patient acuity and health outcomes, to that of their peers. Later, computerized physician order entry will be added, enabling physicians to order laboratory tests and other services.

The QTool vendor provides training in the pilot practices, while Davis-Allen and a part-time staff member provide training for physicians and their office staff on use of the tool at additional practices.

"The in-office training takes anywhere from 10 minutes to over an hour, depending on the user," says Davis-Allen. "I try to give specific examples of how a particular provider might use it. For example, one physician may want to call up a list of all new Medicaid patients to review their medication histories. Another may want to look at ER visits. It takes one-on-one contact to ensure users understand the system and, more importantly, know how to integrate the tool into their daily workflow. Once they are able to see how the QTool data can be used to facilitate decision making, then we will see greater impact on outcomes."

As an example of the value of the system, Davis-Allen recalls a story she heard from a Birmingham primary care physician, whose young patient went to the emergency department (ED) for suspected appendicitis, but was sent home with a clean bill of health.

Several months later, the child came for a visit, at which time the primary care physician checked his QTool information. He was surprised to see a diagnosis of renal cysts. The ED had previously sent him a report indicating that the child's appendix and gallbladder were fine, but it did not include the ultrasound report. When the physician requested that report, he found that it did, in fact, note the presence of multiple renal cysts. Since the child's parents had not been told about the cysts, and they were not documented in the report that the ED had sent to the doctor, this diagnosis would have fallen through the cracks if the doctor had not seen it in QTool.

Early Results

As of June 2009, 50 practices, including some 150 individuals, are using the QTool. In addition, one hospital is using the system. Over a period of 90 days of utilization (as of mid-July) there were 4,400 unique visits to QTool, including views of about 2,600 individual patient records.

In a little less than three months (from April through June), there were 1,400 prescriptions written using the QTool. Of the 50 pilot sites, 10 are consistently e-prescribing, while the others are using the system sporadically or not at all—demonstrating the need for further training and encouragement.

Lessons Learned

Implementation of health information technology—particularly user training—is time- and resource-intensive. For that reason, the deployment of QTool has taken much longer than anticipated. (Alabama is not alone here: 99 percent of the Medicaid Transformation grantees had requested no-cost extensions as of January.)

Alabama found that users not only needed training and re-training, but also regular encouragement to use the system. "We got everybody set up on QTool. Then, unless we heard from them, we didn't follow up. Then when we looked at the user statistics, it was like 'Oh wait, nobody's using it.' Users forget their password, forget how to use it, and just generally have a lot of questions during the start-up period," says Davis-Allen. "In hindsight, we would have devoted many more resources to training providers and encouraging their use—with structured steps to follow up."

To sustain provider interest in health information technology, it helps to train office managers and encourage them to champion its use, says Davis-Allen. In addition, peer-to-peer learning can be effective. Davis-Allen has brought together office staff or clinicians from neighboring practices to exchange ideas on how to use QTool. The Medicaid agency is also reaching out to providers through news media, presentations at provider association meetings, Web-based training sessions, and other channels.

It is often best to roll out new technology systems gradually, addressing user problems and adding new functions over time. For example, TFQ leaders heard from physicians that being required to enter information into QTool would be a turnoff, since most of them maintain paper-based medical records and do not want to have to also maintain electronic records. Therefore, the state made the initial version of QTool "read-only," creating time for clinicians to become accustomed to the system and see its value. The current version enables providers to enter information, though less than 1 percent of participating providers have done so. Integrating new technology into existing workflows is critical to success. QTool also provides a "value-added" tool, since it gives

providers access to data they otherwise would not have.

Eventually, however, Alabama will have to integrate QTool with legacy systems, including paper-based medical records. [Experience from other states](#) shows that providers' want health IT systems to provide "one-stop shop" solutions, enabling them to perform multiple tasks, such as checking drug formularies, handling administrative functions, and ordering tests or treatments, in a single application.

Alabama's experience shows that strong leadership is crucial to the success of large-scale IT projects. Even if states do not want to be in the business of creating electronic health record systems, they can create the architecture on which to build data exchange between public and private stakeholders, help set policies in regard to governance and privacy issues, and make the case to both providers and patients that health information technology can improve care.

Alabama's partnership with BCBS is crucial to the success of the TFQ program. For enrolled BCBS providers, the private insurer has made its medical and pharmacy claims data available through QTool, so that a patient formerly covered by BCBS and now covered by Medicaid would have a complete medical history available. Other states with greater numbers of competing private insurers may find it harder to forge such collaborations among public and private payers.

"Communication of the vision has been crucial to getting buy-in from BCBS. Without a state-level vision, the different stakeholders are likely to continue 'silo-ing' their data," says Davis-Allen. "Our ultimate goal is that information truly follows the patient. This means that wherever the patient goes for care, their information

should be available regardless of where—or who—originally generated it, and regardless of payment source."

Next Steps

Beginning this September, QTool will be rolled out to Patient 1st providers who have not been involved in the pilot test (the rollout will exclude those in control counties). The state will help such practices make the transition from use of the BCBS electronic health record system to use of the QTool. Starting January 1, 2010, Patient 1st providers will be required to use QTool to receive the extra dollar in per-patient case management fees that is now allocated for use of any electronic health information system.

Beginning in April 2010 (after the pilot program is completed), Alabama will begin to roll out QTool to practices statewide.

Eventually, the Medicaid agency plans to use the information in QTool to proactively assess care and target improvement initiatives. It will pave the way to evaluate the quality of patient care according to outcomes and provide data to inform pay-for-performance and disease management initiatives. The clinical workgroup is currently developing recommendations for care processes for cardiovascular diseases, stroke, obesity, and chronic obstructive pulmonary disease; these recommendations will be implemented into QTool's clinical support tools.

In the longer term, Alabama hopes to give patients access to their medical information, to help them manage their own conditions and communicate with providers about their care.

"We began TFQ with a vision of connecting patient information among all payers," says Medicaid Commissioner Steckel. "Thanks to the ARRA federal stimulus, we will be able to further that vision."

Implications

[Research](#) has shown that physicians in urban settings and large physician practices are more likely to adopt and use electronic health information than those in rural and small practices. But the success of the QTool deployment in Alabama—a rural state with many small physician practices—shows that such practices are capable of adopting health IT, in spite of hurdles related to lack of computer equipment, scant resources, and widely dispersed sites.

Still, technology is just a tool: real change will depend on whether providers use IT systems to proactively manage care. Much work remains to be done in creating appropriate incentives and fine-tuning health IT to encourage medication management, review and management of patient registries, care coordination, and other care processes that are likely to improve care and control costs.

"Only when providers truly embrace and incorporate the information and feel comfortable with the information will quality of care begin to be affected," Steckel says.

"Medicaid has to engage physicians in why using a tool like this matters," adds Davis-Allen. "We have to break it down for them so they can understand why—at the end of the day, when you still have patients still in the waiting room—worthwhile to take a few moments and consult QTool."

This study was based on publicly available information and self-reported data provided by the case study institution(s). The Commonwealth Fund is not an accreditor of health care organizations or systems, and the inclusion of an institution in the Fund's case studies series is not an endorsement by the Fund for receipt of health care from the institution.

The aim of Commonwealth Fund–sponsored case studies of this type is to identify institutions that have achieved results indicating high performance in a particular area of interest, have undertaken innovations designed to reach higher performance, or exemplify attributes that can foster high performance. The studies are intended to enable other institutions to draw lessons from the studied institutions' experience that will be helpful in their own efforts to become high performers. It is important to note, however, that even the best-performing organizations may fall short in some areas; doing well in one dimension of quality does not necessarily mean that the same level of quality will be achieved in other dimensions. Similarly, performance may vary from one year to the next. Thus, it is critical to adopt systematic approaches for improving quality and preventing harm to patients and staff.

For Further Information
Contact Kim Davis–Allen, project director, kim.davis-allen@medicaid.alabama.gov .

References

1. Together for Quality Overview, Alabama Medicaid Agency, available at http://www.medicaid.alabama.gov/news/Transformation_Info.aspx?tab=2.

Quality Matters Podcast: Maximizing the Value of Health Information Technology

An Audio Interview with Justin Starren, M.D., Ph.D., director of the Marshfield Clinic's Biomedical Informatics Research Center (MP3)

Interviewed by Sarah Klein

Listen to the podcast on the Fund's Web site at:

<http://www.commonwealthfund.org/Content/Newsletters/Quality-Matters/2009/July-August-2009.aspx>



News Briefs

Definition of "Meaningful Use" Comes into Focus

Last week, the federal Health IT Policy Committee approved [revised recommendations](#) for a definition of "meaningful use" of electronic health record (EHR) systems. Hospitals and physicians must demonstrate that they are making meaningful use of EHR systems to receive

incentive payments from Medicare and Medicaid under the terms of the American Recovery and Reinvestment Act of 2009 (ARRA).

The initial recommendations will now go to the Office of the National Coordinator for Health Information Technology and other units of the Department of Health and Human Services, which are charged with

developing the detailed rules required to implement the incentive programs.

The recommendations include some two dozen requirements for use, each linked to care goals. For example, to improve the coordination of care, providers must perform medication reconciliation at relevant encounters and at each transition of care. To engage patients and their families, providers must provide patients with an electronic record of their health information upon request. To improve the quality, safety, and efficiency of care, providers must implement drug–drug, drug–allergy, and drug–formulary checks and maintain a list of current and active diagnoses, among other requirements. Providers also must submit medical claims electronically and perform electronic insurance checks.

When feasible, providers must be able to exchange health information with other providers by 2011, and participate in a national health information exchange by 2015.

Providers stand to gain significantly from the incentive payments. For example, a new [study](#) finds that, over the next six years, 45,000 office-based physicians (roughly 15 percent of the nation's 300,000 practicing office-based physicians) will qualify for incentive payments from Medicaid for use of EHRs. Researchers at George Washington University School of Public Health and Health Services used data from the 2006 National Ambulatory Medical Care Survey to determine how many physicians would be eligible for ARRA incentives based on their Medicaid patient volume. ARRA allocates \$21.6 billion in increased Medicaid payments to implement EHR systems.

Texas System Launches Health IT Experiment

On July 13, the *New York Times* technology blog [reported](#) on Cook Children's Health Care System's use of health IT to improve patient care. The Fort Worth, Tex.–based pediatric health system, which includes a 250-bed hospital and has 350 employed physicians in 60 practices, will install a Web-based electronic health record system (built by AthenaHealth) and a data integration system (created by Microsoft) that unites inpatient and outpatient records with laboratory, radiology, and home health data at the point of care. Patient health records will be stored in Microsoft's Health Vault, enabling patients to access personal health records after they have outgrown the pediatric system.

According to blog author Steve Lohr, "the most intriguing thing Cook Children's has planned is probably its prototype Innovation Clinic." This small physician office, serving 2,000 to 3,000 Medicaid patients, will use electronic health record and other technology to help them engage families in delivering preventive care and managing chronic conditions. As an example, Cook Children's may link weather data with patient records to identify and alert asthma patients and their families when the environment puts them at risk. "We expect practices like this to help prevent medical crises and significantly reduce visits to the emergency room," said Rick Merrill, president and CEO of the health system. Providers will be paid annual capitated fees for each patient.

Small practices have lagged behind in adoption of health IT since they often cannot afford the technological infrastructure or expertise to implement it. According to Lohr, "Cook Children's is betting that the new technology will help the clinic improve

care management and curb costs, which is the outcome-oriented approach that the [Obama] administration seeks."

2008 State Snapshots: Mixed Reviews Across the Nation

This month, the Agency for Healthcare Research and Quality published its annual review of health care quality across the nation, drawn from the [National Healthcare Quality Report](#), which was published in May. The 2008 [State Snapshots](#) find wide performance variation across the nation, with no one state emerging as a model of high performance. The State Snapshots examine quality on three dimensions: type of care (preventive, acute, and chronic), care setting (hospitals, ambulatory, nursing home, and home health), and clinical area. For the first time, the Scorecards include information on asthma rates and potentially preventable hospitalizations related to the condition.

Last month, the U.S. Department of Health and Human Services (HHS) published [state-by-state reports](#) on the quality and costs of care. The reports examine issues such as the increasing cost of family health insurance premiums and the impact of failing to invest in preventive care that are, according to HHS Secretary Kathleen Sebelius, a "clear

demonstration that there are problems with health care in every state."

Hospital Compare Adds Readmissions Data

For the first time, the Centers for Medicare and Medicaid Services (CMS) has posted on its public reporting Web site, [Hospital Compare](#), 30-day hospital readmission rates for Medicare patients who have experienced heart attack, heart failure, or pneumonia. Hospitals' performance is described as "better than U.S. national rate," "no different than U.S. national rate," or "worse than U.S. national rate." There are also comparisons to the average readmission rates in each state. Users can drill into particular measures to view graphs showing hospital-specific readmission rates. The rates, which are based on three years' worth of data, are risk-adjusted to account for clinical and demographic factors.

CMS also updated other data for 30-day mortality, process-of-care measures, and measures of hospital patient experiences.

The Commonwealth Fund Web site, [WhyNotTheBest.org](#), has posted the new data for the process-of-care and hospital patient experiences measures and will post mortality and readmission rates later this year.

Recent Publications of Note

Selected articles on quality improvement from a number of journals, including the *American Journal of Medicine*, *Annals of Internal Medicine*, *Archives of Pediatric and Adolescent Medicine*, *BMJ*, *Health Affairs*, *Health Services Research*, *International Journal for Quality in Health Care*, *Joint Commission Journal on Quality and Safety*, *Journal of the American Medical Association*, *Journal of General Internal Medicine*, *Journal of Patient Safety*, *Journal of Safety and Quality in Health Care*, *Medical Care*, *The Milbank Quarterly*, *The New England Journal of Medicine*, and *Pediatrics*. The articles are nominated by Editorial Advisory Board members from a preselected list.

Culture, Organizational Support Distinguish Top-Performing Hospitals in Medicare P4P demo

Using performance measure data from October 2004 to September 2005, the authors identified key organizational factors associated with high performance in the Centers for Medicare and Medicaid Services (CMS)/Premier Hospital Quality Incentive Demonstration and found top performers were distinguished by organizational cultures that supported coordination of care, a willingness to try new projects, and a focus on identifying system errors rather than blaming individuals. Also important were the support of nursing staff to increase adherence to quality indicators; use of quality improvement interventions, including clinical pathways; and physician leadership. Educational sessions and data feedback did not distinguish top from bottom performers. E. R. Vina, D. C. Rhew, S. R. Weingarten et al., [Relationship Between Organizational Factors and Performance Among Pay-for-Performance Hospitals](#), *Journal of General Internal Medicine*, July 2009 24(7): 833–40.

Review of Efficiency Measures Identifies Problems with Definition, Reliability

A systematic review of existing health care efficiency measures noted in literature between 1990 and 2008 and in use by measurement product vendors revealed that these measures do not account for differences in quality, and as such, would be more accurately classified as cost-of-care measures. The reviewers also noted, in contrast to quality measures, few existing efficiency measures have been subjected to a rigorous evaluation of their reliability, validity, and sensitivity. They found evidence of reliability or validity reported for six measures (or 2.3 percent of the 265 reviewed). P. S. Hussey, H. de Vries, J. Romley et al., [A Systematic Review of Health Care Efficiency Measures](#), *Health Services Research*, June 2009 44 (3): 784–805.

Medicare Nonpayment for Hospital Falls May Lead to Restraints and Complications

This perspective argues that Medicare's 2008 decision not to reimburse hospitals for the care of patients who suffer hospital falls and trauma may cause more harm than the falls the initiative is meant to prevent. A review of literature by the authors suggests that, unlike other hospital-acquired conditions that CMS has excluded from payment because they may be reasonably prevented through the use of evidence-based guidelines, only 20 percent of hospital falls can be prevented. The authors warn that hospitals may rely on physical restraints, which are associated with complications such as immobility, functional loss, delirium, agitation, and pressure sores, to reduce the risk of falls. S. K. Inouye, C. J. Brown, and M.E. Tinetti, [Medicare Nonpayment, Hospital Falls, and Unintended Consequences](#), *New England Journal of Medicine*, June 2009 360(23): 2390–93.

Telemedicine Model Reduces ED Visits for Non-Emergency Problems

Using insurance claims, the authors compared the utilization rates of telemedicine, office care, and emergency department care for patients with access to a Rochester, N.Y., telemedicine service to those without. They found that the overall illness-related utilization rate for office and telemedicine service was 23.5 percent higher for children with access to the service, compared with the control group, but the emergency department utilization was 22.2 percent less. The telemedicine service, known as Health-e-Access, provides care for acute illnesses in children in Rochester-based child care and school sites. K. M. McConnochie, N. E. Wood, N. E. Herendeen et al., [Acute Illness Care Patterns Change with Use of Telemedicine](#), *Pediatrics*, June 2009 123(6): e989–e995.

Ending Payments for "Never Events" a Small Step

In this perspective, a member of the Medicare Payment Advisory Commission argues that, while few clinicians and hospitals welcome greater accountability for the financial consequences of flaws in health care services, such as the change in Medicare payment policy that excludes payment for hospital-acquired conditions deemed reasonably preventable, such initiatives resonate loudly with consumers, employers, insurers, and state Medicaid agencies. And while Congress has followed, rather than led, efforts to provide incentives for improving clinical performance, employer, consumer, and labor leaders have begun to collaborate more effectively for increased accountability. A. Milstein, [Ending Extra Payment for "Never Events" — Stronger Incentives for Patients' Safety](#), *New England Journal of Medicine*, June 2009 360(23): 2388–90.

Physicians Working in Larger Groups Perform Better on Patient Experience Measures

The authors examined the extent to which medical group and market factors are related to individual primary care physician (PCP) performance on patient experience measures by using survey data on 2,099 adult primary care physicians in medical groups across California and interviews with medical group directors. They found that physicians from integrated medical groups had better performance on communication and care coordination measures and that physicians belonging to medical groups with greater numbers of PCPs performed better on several patient experience measures. Greater emphasis on productivity and efficiency criteria in individual physician financial incentive formulae was associated with worse access to care. H. P. Rodriguez, T. von Glahn, W. H. Rogers et al., [Organizational and Market Influences on Physician Performance on Patient Experience](#)

[Measures](#), *Health Services Research*, June 2009 44(3): 880–901.

Study: Medicare P4P Demo Had Little Impact on Value of Care Purchased

This retrospective cohort analysis of 11.2 million hospital admissions, from 6.7 million patients with principal diagnoses of acute myocardial infarction (AMI), heart failure, pneumonia, or a coronary-artery bypass grafting (CABG) procedures from 3,570 acute care hospitals between 2000 and 2006, examined the effects of the CMS/Premier Hospital Quality Incentive Demonstration. The analysis found no evidence that the demonstration had a significant effect on risk-adjusted 30-day mortality rates or risk-adjusted 60-day costs of care for AMI, heart failure, pneumonia, or CABG; it found weak evidence that the program increased risk-adjusted outlier classification (the payment Medicare makes for extremely costly cases) for heart failure and pneumonia. The authors suggest that, by not reducing mortality or cost growth, the demonstration had little impact on the value of inpatient care purchased by Medicare. A. Ryan, [Effects of the Premier Hospital Quality Incentive Demonstration on Medicare Patient Mortality and Cost](#), *Health Services Research*, June 2009 44(3): 821–42.

Pros and Cons of Denying Payment for Catheter-Associated UTIs

The authors of this perspective examine the preventability of catheter-associated urinary tract infection (UTI), a common and potentially preventable complication of hospitalization for which hospitals no longer receive additional payment from CMS. They also assess the possible consequences of this change and provide guidance to hospital administrators and clinicians. While the authors conclude the change may do more good than harm by encouraging hospitals to minimize the unnecessary placement of indwelling catheters and facilitating their

prompt removal, they warn the payment change also may encourage unnecessary screening of urine cultures and antibiotic treatment of asymptomatic bacteriuria. S. Saint, J. Meddings, D. Calfee et al., [Catheter-Associated Urinary Tract Infection and the Medicare Rule Changes](#), *Annals of Internal Medicine*, June 2009 150(12): 877–84.

Patient Preference Has Little Influence on Regional Variation in Utilization

After comparing Medicare claims data from 2004 and 2005 with the results of a survey of 4,000 Medicare patients, the authors found that patient preferences for immediate or specialty care are associated with higher utilization of health care services on an individual level, but that the distribution of such preferences across regions appears so similar that such preferences have only a minor influence on aggregate regional usage patterns. Regional variations in utilization are more likely the consequence of health care system characteristics, such as supply of specialists, intensive care beds, and medical resources, rather than patient demand, the authors note. D. L. Anthony, M. B. Herndon, P. M. Gallagher et al., [How Much Do Patients' Preferences Contribute to Resource Use?](#) *Health Affairs*, May/June 2009 28(3): 864–73.

For AMI and CHF, Lower-Cost Care Associated with Marginally Lower Quality

Using Hospital Quality Alliance data on 3,794 U.S. hospitals, the authors compared condition-specific costs with process measures and mortality rates and found that, on average, hospitals with lower costs for acute myocardial infarction (AMI) and congestive heart failure (CHF) had marginally lower quality of care for those conditions, although the magnitude of this association was small. The researchers found no relationship between risk-adjusted hospital costs and performance on measures

of pneumonia care. They did not find a relationship between the cost of care and mortality rates for these conditions, but did find that hospitals with low risk-adjusted costs were more likely to be for-profit, treat more Medicare patients, and employ fewer nurses, compared with hospitals with higher costs. A. K. Jha, E.J. Orav, A. Dobson et al., [Measuring Efficiency: The Association of Hospital Costs and Quality of Care](#), *Health Affairs*, May/June 2009 28 (3): 897–906.

Quality More Important than Volume in Determining Coronary Bypass Surgery Outcomes

The authors studied 81,289 patients who had undergone coronary bypass surgery in 164 U.S. hospitals to determine how volume and differences in quality of care affect outcomes and found that maximizing adherence to quality measures is associated with improved mortality rates, independent of hospital or surgeon volume, and that consistent performance on measures of quality seems to be more important than the volume of surgery. A. D. Auerbach, J. F. Hilton, J. Maselli et al., [Shop for Quality or Volume? Volume, Quality, and Outcomes of Coronary Artery Bypass Surgery](#), *Annals of Internal Medicine*, May 2009 150 (10): 696–704.

Holding Medicare Advantage Plans Accountable for Quality and Cost

This perspective recommends the Obama Administration and Congress hold health plans accountable for the quality and cost of care they provide to Medicare beneficiaries by requiring plans to provide encounter-level data on the content and cost of services; defining quality improvement goals and measuring success in achieving them; encouraging partnerships between the health plans and their providers; and demonstrating that the plans have implemented processes for end-of-life care that improve physician-patient communication and ensure patient

preferences are honored. To hold health plans accountable for their performance, CMS will need additional resources and a mandate from Congress, the author notes. R.

Kronick, [Medicare and HMOs — The Search for Accountability](#), *New England Journal of Medicine*, May 2009 360(20): 2048–50.

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