ABSTRACT

BACKGROUND: Health information technology (HIT) tools are needed to sort the ever-increasing volume of available clinical data, and thereby allow patients, practitioners, and health plans to understand and use the data to its fullest potential. By harnessing this potential, managed care organizations (MCOs) will see improvements in the quality of health care and ultimately reduced costs. Furthermore, HIT offers the ability to help improve communication channels to share the increasing amounts of information available to MCOs today. In effect, medication therapy management (MTM) programs are using HIT to identify an at-risk population and reach that population in the most appropriate measure. OBJECTIVE: To identify and review the design components of an operationally effective MTM program, including the services offered. The use of HIT in quality improvement initiatives at managed care plans will also be reviewed. SUMMARY: The operational components of MTM programs that rely heavily on HIT include patient identification, stratification of care, coordination of care, and safety evaluation. Primarily, HIT plays a significant role in identifying the services offered to MTM program patients in MCOs. For example, the Humana MTM program offers personalized educational mailings, telephone consultations, and face-to-face consultations with the community pharmacist. Within the plan, HIT is used to score and stratify eligible patients according to these available services. HIT is further employed to coordinate the collective efforts of pharmacists and physicians in the administration of care, as well as to monitor medication safety measures. CONCLUSIONS: As the amount of data available to managed care stakeholders increases, HIT is becoming a crucial tool for sorting and stratifying the information. MTM programs provide another example of the application of HIT in managed care, with involvement on every level of the care continuum: payers, providers, and patients. Services offered by MTM programs are useful and varied, including process-improving initiatives, such as personalized educational mailings, telephone consultations, and face-to-face consultations with the community pharmacist. The end result is quality improvement in the delivery of care with a focus on improving medication adherence and safety.

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Overview

With the advent of Medicare Part D, particularly with medication therapy management (MTM), there are a number of processes that cannot be addressed in managed care without the integration and use of health information technology (HIT). This becomes more apparent considering the ever-increasing volume of clinical data that is becoming available. For example, more than 50 new clinical trials conclude every day around the world. This is a lofty number of trials for practitioners to keep up with and to know what is relevant for their patients. Therefore, HIT tools are helpful to sort these data and allow patients, practitioners, and health plans to understand and use the data to the fullest potential. By harnessing this potential, managed care organizations (MCOs) will see improvements in quality and ultimately reduced costs. Furthermore, HIT offers the ability to help improve communication channels to share the increasing amounts of information available to MCOs today. In effect, MTM programs are using HIT to identify an at-risk population and reach that population in the most appropriate measure.

MTM Program Design

Several stakeholders are involved in MTM, beginning with pharmacists who administer MTM services and patients who play an integral role in the success of such programs. Likewise, physicians are key stakeholders in MTM. Any recommendations from the plan or from a pharmacist performing MTM services must ultimately go back to the prescriber who is working closely with the patient to achieve therapeutic goals. Physicians also hold a particularly empowered position in MTM and often possess the most complete collection of medical, pharmacy, and laboratory claims data from various care providers. This creates a repository of data and a responsibility for the health plans to share that data with appropriate parties.

The operational components of MTM programs that rely heavily on HIT include patient identification, stratification of care, coordination of care, and safety evaluation. The use of HIT in patient identification begins with segmenting patients who are eligible for the program and patients who are not eligible. From there, services are stratified by determining those patients within the population of MTM-eligible patients that will receive a type of a service ranging from a review of current medications to patient education on the appropriate use of medications to on-going disease management. HIT also plays a significant role in addressing patient needs for information (i.e., language and cultural needs), documenting services rendered, and billing for those services so that practitioners may be paid and measures may be captured and recorded.

Humana’s MTM program was designed within the guidelines provided by the Centers for Medicare and Medicaid Services (CMS) and as described in the Medicare Modernization Act (Table). These services were initially offered only to enrolled Medicare Part D populations but were subsequently extended to commercial populations. In the commercial populations, the plan sponsor

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may be able to specify eligibility requirements. For the Medicare Part D population, only patients who had 5 or more chronic, systemic Part D medications were eligible in 2007. The threshold for eligibility in 2008 is 8 or more chronic, systemic, Part D medications. This ability for plans to choose the number and type of medications to use to identify patients for MTM services allows a certain degree of flexibility in patient identification and requires the use of HIT. The presence of specific chronic conditions also plays a significant role in identifying patients eligible for MTM programs. Particularly in a prescription-only benefit, a plan will be working with inferred disease states, which requires the use of HIT. The common multiple conditions selected by a plan for patient inclusion in a MTM program reflect the population and are related in some way, such as diabetes, congestive heart failure, hypertension, and dyslipidemia. Finally, estimated drug costs can be determined through calculations and predictive models to establish MTM program eligibility. At Humana, anticipated Part D medication costs > $4,000 per year matches the CMS criterion and is another component of MTM program eligibility (Table).  

Opportunities exist for improving patient identification for MTM programs through the use of HIT. One potential improvement is the role of the pharmacist in patient identification through prescription claims processing. Pharmacies currently process prescription claims by the National Council for Prescription Drug Program (NCPDP) standard, which means there is a standard response sent from the pharmacy to the payer and standard information that is sent back to the pharmacy. By placing a required indicator on the information that is sent back to the pharmacy stating that a patient is MTM-eligible, pharmacists would be informed as to which patients are eligible for the program and encouraged at the point of service to explain the program and invite these patients to enroll. In this manner, greater MTM program acceptance may be garnered by patients hearing about the service when they first fill their prescription and by patients being given the opportunity to ask questions about the service in a one-on-one forum with a pharmacist that they know and trust.

**Services Offered Through MTM Programs**

HIT plays a significant role in identifying the services offered to MTM program patients in MCOs. At Humana, the MTM program offers personalized educational mailings, telephone consultations, and face-to-face consultations with the community pharmacist. Within the plan, HIT is used to score and stratify eligible patients according to these available services. In fact, any plan that has an MTM program offering multiple services needs to be able to distinguish which patients are eligible to receive the different services. This process begins with the assignment of an MTM score, followed by the identification of special populations, such as long-term care. From there, processes can match services to the identified needs of each population.

MTM scores for each patient may vary based on plan-defined criteria, such as the number of medications, cost of the medications, certain identified disease states (e.g., diabetes and cardiovascular disease), use of MTM network pharmacies, long-term care indicators, and geographic location. These latter considerations are factored in to prevent obvious errors, such as referring a patient in an assisted living facility or a skilled nursing facility to their community pharmacist for a consultation. In short, the process employs HIT to collect the indicators and data available to a plan and uses that information to appropriately match patients to avenues of care.

After patients are identified and scored for inclusion in an MTM program, plans are responsible for getting the appropriate information into the patients’ hands. At Humana, this process is initiated via mail or e-mail with the SmartSummary RxSM. This mailer is personalized for each recipient with messages that are based upon the recipient’s own history and claims. Furthermore, the SmartSummary RxSM contains plan information, such as stage of plan and current and predicted costs for the recipient. Likewise, the recipient’s health information is included in the summary, such as the prescription drug record (including photographs of all prescription medications) and rolling 12-month prescription fill history (to assist in identifying medication adherence gaps). The SmartSummary RxSM is Humana’s approach to the explanation of benefits but goes beyond the standard by serving as a guidance tool for the patients to share with their physician and pharmacist. To complete the involvement of all the MTM program stakeholders in the process, the information from a patient’s SmartSummary RxSM is also sent to the pharmacist in electronic format before a consultation. This information sharing with physicians and pharmacists is crucial in situations where these stakeholders can provide some sort of additional insight. For example, if a patient has chosen a Medicare Part D plan and has a coverage gap, physicians and pharmacists can assist the patient in looking at lower cost medications that may be available. Likewise, if the patient’s 12-month prescription fill history indicates nonadherence, pharmacists and physicians can engage the patient in dialogue regarding the importance of adherence to medications despite the gap in coverage. Humana’s MTM program also provides patients with a dynamic RxSM calculator to give them a personalized view of their current utilization, including how much they are spending on medica-

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<th>TABLE</th>
<th>CMS Eligibility Criteria Versus that of Humana for MTM Inclusion</th>
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<td>CMS Requirements</td>
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CMS = Centers for Medicare and Medicaid Services; MTM = medication therapy management
tions and what the monthly total would be if they switched to less costly alternatives (Figure). This calculator is varied for each patient by their stage in the plan and any changes in medication. As a component of the SmartSummary RxSM, this constantly changing chart can be sent to patients in an electronic format or via mail.

To overcome some of the cultural and language barriers encountered in the MTM program at Humana, the plan offers written or electronic information in two languages: English and Spanish. In addition, Humana has performed MTM consultations in more than 22 languages through an IT-based translator service offered through MTM call center operations. Without this extensive number of languages available, there would be many patients unable to take advantage of the services that they need.

Another service of MTM programs, consultation with a practitioner, requires an initial Comprehensive Medication Review covering extensive patient information, such as adherence, medication understanding, medication safety and cost profiles, over-the-counter medication use, and optimal use of medications. Whether the consultation is over the phone or face-to-face, there may be significant background work required by the pharmacist. The findings and recommendations from the consultation are then sent back to the physician for further review. The initial metrics that were tracked concerned identification of any medication changes occurring in response to the MTM program intervention, such as conversion to a lower cost alternative (formulary or generic) or any resulting change in medical costs (reduction in hospitalizations, emergency room visits, and total medical care cost). At Humana, all MTM network pharmacists are required to be knowledgeable on national standards (e.g., American Diabetes Association guidelines, JNC VII, etc.) and drugs inappropriate for use in elderly populations. The contracting entity (chain or individual pharmacy) must attest that the pharmacist is knowledgeable in current treatment standards. Hence, the required knowledge of network pharmacists is based on the disease states that are most prevalent in the MTM population. It is at the discretion of the MTM pharmacist to counsel the patient on other health conditions or issues as needed.

After patients receive services from an MTM program, the services must then be documented by pharmacists or other health care clinicians using HIT before billing can occur. There are many options for documentation ranging from paper forms kept in a file or patient chart to fully electronic processes. For the purposes of MTM consultations, certain companies (e.g., Outcomes Pharmaceutical Health care and Mirixa), have developed Internet-based documentation tools for pharmacists. Ideally with the progression of HIT, documentation tools will not be unidirectional but will allow for payers to provide practitioners with recommendations for care as well as track the care that was provided to patients. This bi-directional exchange of information allows for pharmacists to be notified of available patients and to be prompted to perform specific patient care activities. Likewise, safety and cost-savings alerts can be distributed to pharmacists, and estimated savings calculations due to consultation can be performed. In addition, Web-based tools are being used to generate letters to patients and physicians and perform electronic billing.

The billing of the services, in many cases, varied in the past for different pharmacies. Often NCPDP format was used if the pharmacist was practicing in a retail pharmacy, whereas billing methods mirrored physician billing via a CMS 1500 form, if the pharmacist was practicing in a clinic or other non-retail setting. MTM programs in general are working toward the integration of the billing process and making it universally electronic in format. Electronic billing may be achieved through the use of Internet-based documentation tools that are able to automate the billing processes as well. The profession of pharmacy, through the Pharmacy Services Technical Advisory Coalition (PSTAC), is working to unify billing practices so that there is standardization across the industry allowing for a greater exchange of data between payers and pharmacists.3 An example of progress toward unified billing practices was the creation of specialized codes for MTM billing. Until 2006, pharmacists did not have a CPT code to bill for services unique to MTM. At this time, codes 0115T, 0116T, and 0117T were designated. A newer and permanent set of CPT codes have now been established for MTM and became effective on January 1, 2008. Codes 99605, 99606, and 99607 are designated for a 15-minute consultation with a new MTM patient, a 15-minute consultation with an established patient, and time modification for the previous two codes, respectively.4

**Quality Improvement**

Health plans also gain greater ability to improve the quality of care of their patients through proper application of HIT. The opportunities exist both internally at the plan and externally partnered with other organizations. Quality improvement begins with measure-
ments and tracking of quality measures and then the development of quality improvement projects in an effort to improve quality of care and the resulting health outcomes. In many cases, plans may partner with health care providers or outside organizations, such as Quality Improvement Organizations (QIOs) or Medicare Health Service Organizations (MHSOs). In these events, patient privacy must be properly safeguarded, but once these appropriate measures are in place, the data obtained from physicians, pharmacists, and other organizations can serve as an important component in the process of improving the quality of care that patients receive.

Quality improvements may be accomplished when a Medicare plan participates in a collaborative project with a Quality Improvement Organization (QIO). QIOs are private companies that are contracted with CMS to improve the quality of care provided to Medicare beneficiaries. QIOs have historically worked within hospitals, home health, nursing homes, and physician practices; they have entered the pharmacy arena with the introduction of Medicare Part D. The QIOs are evaluated by CMS for their effectiveness in collaborating with plans, but plan participation and level of involvement is voluntary. While most QIOs have a strong background in data analysis and HIT, pharmacy analysis is a relatively new area of involvement.

Each QIO was tasked to develop a project with a goal of either improving prescribing, patient self-management through MTM, disease-specific monitoring, or a QIO directed project. Each project had a baseline measure period, an intervention phase, and quality indicators to determine project impact.

Projects attempting to improve prescribing assessed generic prescribing ratios, drugs to be avoided in the elderly, drug duplication within the same therapeutic class, and the use of preferred medications. QIOs in New York, Oklahoma, and Louisiana are doing projects to reduce the use of potentially inappropriate drugs. Patient self-management projects employ MTM process measures, such as identification of patients and utilization of MTM services, in addition to outcomes measures, such as patient satisfaction and hospitalization rates, to improve the use of MTM at the patient level. Florida, Iowa, Michigan, Kansas, Illinois, Missouri, and Minnesota's projects focus on MTM outcomes. Projects for improving disease-specific data take into account factors, such as drug-disease interactions and therapeutic monitoring using integrated Medicare A, B, and D data. For example, diabetes care is the focus of programs in New Jersey, Kentucky, Indiana, Ohio, and Florida. Finally, QIO-directed projects are designed at the discretion of the QIO to address significant issues in drug therapy management.

Humana has partnered with Qualis, a QIO collaborative representing states in the northwest (i.e., Washington, Oregon, Idaho, Nevada, and Utah) to improve quality in the plan's MTM program. Qualis offered expertise to Humana for data analysis surrounding Medicare Part D measures on generic prescribing, potentially inappropriate drugs, and disease-specific data based on the plan's MTM program. Humana was able to leverage this experience in the treatment of diabetes with the following measures: percentage of diabetes patients prescribed lipid-lowering agents; adherence to statins; and percentage of patients with diabetes using generic lipid-lowering agents. Phase 1 of the project with Qualis involved the evaluation of baseline and post-intervention data for MTM populations, while Phase 2 will look to match pharmacy results with Medicare Parts A and B data where available.

Medicare Health Support Organizations (MHSOs), as described in section 721 of the Medicare Modernization Act, are another means by which MCOs can forge a partnership to improve quality in their MTM programs. Formerly known as Chronic Care Improvement Programs, there were 8 Medicare Chronic Care pilot programs originally approved by CMS. Each program is assigned approximately 20,000 chronic care Medicare beneficiaries (i.e., patients with specific chronic conditions such as diabetes and congestive heart failure) to manage. Also, MHSOs must convince the beneficiaries to enroll. By law, MTMs and MHSOs are required to interact, though this has not been specifically defined yet. CMS will eventually specify how data must be shared between these 2 programs.

Conclusion

Innovations in HIT have allowed plans an excellent opportunity to incorporate clinical safety rules into their MTM programs. With new clinical data emerging every day, plans are charged with determining which rules are appropriate and how they should be applied in an increasingly complex environment. HIT systems are beneficial in sorting and prioritizing such data to ensure accuracy and follow-up. For example, if a safety update for an approved drug has been discovered in a clinical trial, plans are involved in the process of identifying affected patients and providers, and communicating appropriately with them. Finally, HIT is a way to identify deviations from best practices. These deviations may include medication nonadherence or even the potentially inappropriate use of specific medications in the elderly. HIT applied in MTM allows plans to review these safety rules and deviations from best practices to target specific areas and providers for intervention.

DISCLOSURE

Robert McMahan discloses that there was no financial relationship or financial interest relating to the topic of this activity. He was responsible for the entire study concept and design of this article. McMahan performed all the data collection, data interpretation, writing, and revision for this article.

REFERENCES