Pharmacy Automation and Technology

Patient-Centered Technology to Enhance Population Health Management

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Take a little walk with us this month as we explore how things such as reimbursement systems are changing. Health systems are adopting population health strategies and performing experiments in rendering this type of care. Many health systems start with the care of their own employees, if they are self-insured. Perhaps you are already seeing this change and experiencing how your care is being impacted.

If you have practiced long enough, you have either experienced or read about a time when hospitals provided goods and services to those who approached them or were referred by their physician. They took care of the patients and then prepared a bill for those goods and services. This bill was then submitted to the patients or their responsible payer. In the 1980s, 467 diagnosis-related groupings (DRGs) were generated so that consistent reimbursement for patient cases could be addressed. Both of these models were considered fee-for-service because more services generated more revenue.

If you ask the CEOs of leading health systems how life is changing for them today, many will reply that they live in a world where they must straddle previous models of reimbursement while preparing for future models that include the formation of accountable care organizations (ACOs) and trying to perform what is being labeled *population health*. The population health model asks the health system to demonstrate outcomes and value for all of the patients within a given population, not just those who are actively seeking care. The goal is patient-centered, high-quality health care delivered to a specific population – not the volume of care delivered. Interestingly, greatly ignored but needed interventions such as preventative care, lifestyle changes, and wellness can suddenly get a lot of attention in the population health model.

We believe that there must be patient engagement strategies for those health systems that are

striving to implement population health management strategies to become successful. A robust plan that includes caring for people using the most progressive technologies remains important; but if patients are not involved and engaged, even the best planning can be lead to unsuccessful results. Previously, when a patient presented with hypertension, a medication prescription would have been generated. Other factors, including their body mass index, dietary emphasis on high-fat foods, or ingestion of copious caffeine and nicotine, might not get as much emphasis because of the time it takes to address these factors and the low likelihood of a successful intervention occurring with the patient. When physicians write a prescription during an ambulatory care visit, they typically get a bump in reimbursement. When lifestyle changes are recommended, patients frequently ignore these preventative measures and do not follow through on the recommended behaviors even though they have good intentions.

People often fail in their treatment regimens because they don't know what to do, they don't know how to do it, and/or they are not motivated to make changes in their behaviors that will benefit their health status. Here is where the technology starts to offer ways to address these issues. Prescribing a medication or a lifestyle change before addressing a patient's chief concern for their health care may not yield much success. A prescription that does not offer patients a choice to impact something as important as their health can leave them on the sidelines and

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resentful. Giving them an opportunity to share in decision-making can help turn this around. Educating them to the fact that they are partners in the care process and the entire care team will support them at every handoff is important.

Every prescription, whether it involves medications, vital sign testing, outcomes monitoring, or lifestyle changes, can be accompanied by a knowledge prescription demonstrating what to do for each specific, unique patient. This knowledge component can even include YouTube demonstrations on exactly how to do what is required, when appropriate. Explanations can be further enhanced by describing how the intervention can be integrated into their exact, personal situation.

Years ago, we wrote about the direction, “Take two websites and call me in the morning.” Today we can change this to, “Take two apps and call me in the morning.” One study demonstrated that patients would rather go to a portal or receive text messages than be assigned an app to integrate into their schedules. We think that apps will eventually be tailor-made to integrate most of what patients are needing and are interested in receiving in the form of prompts and to record their progress toward improved health from a variety of connected devices. Instead of jumping from app to app, an integrated dashboard will bring all of this capability together.

Obtaining high-quality information is not the end of the patient care process. Using technology to assist patients with becoming adherent to medication regimens, modifying behaviors for positive lifestyle changes, and measuring vital signs and disease-specific outcomes are all good, but this is also not

the end of the process. Until and unless these data are made available to the health system that has agreed to care for a specific population, they have only limited utility. These data must also be packaged in an appropriate manner that is specific to every health care provider discipline and specialty. They should be integrated into every electronic health record and should produce alerts when a health system intervention is required.

Interventions for population health management should always occur at the earliest practical point in the care continuum. Previously, this has meant that care should occur in ambulatory settings rather than acute care environments. In the population health model, self-care management becomes extremely important. Because populations are made up of complete families that include everyone from infants to seniors, the earliest practical point in the care continuum may begin in childhood. For seniors, the earliest practical point may be networking their existing homes in such a way that they avoid becoming institutionalized.

When the incentives change in health care, everything you are currently doing can change. For example, consider that you identify an adolescent patient with asthma who is continually using the emergency department because she lives in an apartment with her parents that has no filtration for the allergens that drive her to need a visit to an acute care center. Would it be better to spend \$2,500 on a filtration system or \$25,000 annually in trauma care at a health system? We welcome your comments and questions regarding this topic. You can reach Bill at felkebg@auburn.edu and Brent at foxbren@auburn.edu. ■