The Use of Technology to Improve Quality and Reduce Costs for Hospitals in Georgia

Health Policy and Management Capstone Project

Spring 2014

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I. Introduction

Payment in the United States healthcare industry has been traditionally based on a fee-for-service model. Fee-for-service is a payment model where healthcare services are delivered and paid for as a unit delivered as opposed to being bundled or tracked for quality/appropriateness of the service. Recent studies have shown that fee-for-service reimbursement provides incentives for healthcare providers and organizations to provide quantity of care over quality of care. These studies link fee-for-service reimbursement to inflationary rises in healthcare costs, overutilization, and a decrease in the quality of care delivered to patients (Berenson).

The Centers for Medicare and Medicaid Services (CMS) took this data into account and has begun testing of new payment models for healthcare reimbursement. These new payment models have been used in the private sector (for example by integrated health systems like the Mayo Clinic or private insurance companies like Blue Cross Blue Shield) and include accountable care organizations (ACO's), bundled payment initiatives, patient-centered medical homes, and fines for hospital readmissions. The core premise of each of these models is incentivizing providers to utilize services to keep their patients healthy and out of hospitals and emergency rooms. However, as these new payment models came into place it became clear that many health organizations, especially those in Georgia, were inadequately prepared for this shift in reimbursement. In fact, most hospitals in Georgia faced fines for readmissions which equaled 1% of their total Medicare reimbursement (a penalty in the hundreds of thousands of dollars). These fines are added onto current Value Based Purchasing penalties and future Meaningful Use penalties. Hospitals can incur penalties of up to 2% for excessive readmissions and incentives and/or penalties of up to 1.25%, related to Medicare's Value-Based Purchasing Program. For

example, if a qualifying hospital has $10 million in annual Medicare reimbursement, and incurs a 2% Readmissions penalty as well as a 1.25% VBP penalty, the total FY2014 Medicare penalty will be $325K. Current penalties are based on a running 3-year average of these metrics, and the total penalty amount will continue to increase in subsequent years.

Healthcare providers and public health organizations around Georgia and around the nation are looking for tangible solutions to promote healthcare quality, reduce readmissions, and improve patient compliance in order to mitigate these fines and penalties. This paper will be an analysis of the current challenges faced by healthcare organizations, specifically those in Georgia, in meeting the goals of increased reduced readmissions and improving healthcare quality. The analysis of these obstacles will also contain an analysis of the current interventions and tools available to healthcare organizations as well as specific strategies which are most effective for hospitals in Georgia.

II. Site Description and Mission

Although healthcare organizations can vary greatly from location to location, hospitals and provider networks in Georgia face similar problems in terms of funding, patient outreach, and providing uncompensated care. Generally speaking, most hospitals in Georgia have a strong mission of providing quality care as well as a community benefit. For the purpose of this paper, we will use take use the example of Athens Regional Medical Center, a 350 bed acute care facility with urgent care centers, a network of physicians and specialists, a health maintenance organization, and a home health agency. Athens Regional is a larger hospital in Georgia but its location in a highly impoverished area of Georgia can serve as a model for other hospitals which are smaller but have similar challenges in delivering care. The mission of Athens Regional Medical Center is "to improve the lives and health of those we touch" and it's vision to be "the leading integrated health system for the communities we serve, offering the highest quality and value."

One of the most important components of the mission of Athens Regional Medical Center, along with almost every hospital in Georgia, is the acceptance of Medicare as a health insurance payer. By accepting Medicare patients, Athens Regional commits to providing emergency room services to patients regardless of ability to pay as well as partake in any of CMS' cost savings measures, fines, and penalties. This puts Athens Regional Medical Center in a unique situation in which it is forced to balance the high levels of uncompensated care it delivers while also trying to maintain sustainability as a business. Hospitals around Georgia are especially vulnerable to even slight fluctuations in reimbursement. This is critically important because, oftentimes, the hospitals are the main employers of the city of region. When a hospital

closes, it can have drastic effects on both the economics of the city as well as the quality of care the surrounding area receives.

Recently, the passage of the Affordable Care Act and many other aforementioned reimbursement strategies have put tremendous pressure on hospitals and healthcare providers to focus on providing quality of care outside of the hospital. This includes coordinating care for patients, improving patient education and engagement, and reducing readmissions. The highest qualities of care are seen in integrated systems such as the Veterans Affairs Hospitals or the Kaiser Permanente system. This is because these health systems have integrated technology and workflows which allow them to communicate seamlessly about a single patient. However, in a single city in Georgia, the hospital, the outpatient clinics, and the physicians' offices can all be using different electronic medical records systems. Information transfer and patient follow-up are more difficult in these settings than in an integrated system. For hospitals like Athens Regional Medical Center, the economic pull is now to become as integrated as possible. However, for many hospitals in Georgia, this is not an option simply because services may be inaccessible or located far away.

In order to accommodate for changing payment structures which result in a decline in reimbursement while still providing quality and uncompensated care as per their missions, it is critical for hospitals in Georgia to understand and effectively implement strategies to improve integration and promote population health management. The importance of adopting these strategies are critical to both the mission and visions of hospitals in Georgia as well as maintaining the viability of these hospitals as businesses and economic centers.

III. Analysis of the Problem

The average hospital in the United States works on a very limited budget, with very slight profit margins compared to other industries (See Appendix A). It is established that price fluctuations can be potentially deadly to a hospital. Therefore, it is important that hospitals understand where reimbursement is set to change in the future as well as what sorts of tools they can use to receive the most reimbursement possible. This section will cover a range of issues related to reimbursement which are facing hospitals in Georgia and around the nation today.

1. Readmissions penalties

Section 3025 of the Affordable Care Act added section 1886(q) to the Social Security Act. This section established a Hospital Readmissions Reductions Program. In this program, CMS is adjusting payment and creating penalties for hospitals with excess thirty day readmissions related to certain conditions or inpatient procedures beginning on October 1st, 2012 (Centers for Medicare and Medicaid Services). These penalties are currently for the conditions of acute myocardial infarction, heart failure, and pneumonia. In Fiscal Year 2015, CMS proposes to expand the applicable conditions and procedures scrutinized by the program to include: patients admitted for acute exacerbations of chronic obstructive pulmonary disease (COPD) and patients admitted for elective total hip arthroplasty (THA) and total knee arthroplasty (TKA). The readmissions penalties are calculated by holding the total number of patients admitted to the hospital for a certain condition on the denominator and the number of patients readmitted in thirty days on the numerator. An excess readmissions ratio compared to the national average results in Medicare payment penalties. It is also important to note that there is a risk adjustment for these penalties which includes adjustment for factors that are clinically relevant including patient demographic characteristics, comorbidities, and patient frailty.

Recently, Medicare revised its policies to create exemption from readmissions penalties those cases in which a physician planned for a readmission. Medicare estimates that physicians plan for readmissions in about 12% of heart attack cases, 6% of heart failure cases, and 4% of pneumonia cases. Providers assert that he change indicates CMS's willingness to address providers' concerns about the readmissions program, especially given new evidence that some readmissions are not preventable. However current research indicates that the revision "doesn't address some of the underlying issues, including the fact that research shows that what really drive readmissions are the social factors affecting patients and what is happening in their community." (Joynt) For fiscal year 2013, 2,225 hospitals were fined nationally for excessive readmissions. In Georgia, seventy-three hospitals were fined last year for excessive readmissions, roughly 68% of eligible hospitals in the state (Kaiser). Despite the adjustments for risk, it was found that hospitals in rural and impoverished areas were more likely to incur a readmissions penalty than those in urban areas. Therefore, readmissions present a high financial threat to hospitals in Georgia which are oftentimes in rural areas with low income populations.

A study conducted by the Dartmouth Institute lists several reasons why patients are typically readmitted. The top five reasons found in the study were: 1. Patients may not fully understand what is wrong with them. 2. Patients may be confused over which medications to take and when. 3. Hospitals do not provide patients or doctors with important information or test results. 4. Patients do not schedule a follow up appointment with their doctor. 5. Family members lack proper knowledge to provide adequate care. In order to solve readmissions penalties, hospitals in Georgia should employ strategies which improve these five reasons for readmissions (Dartmouth).

Value-Based Purchasing

Another important payment incentive program for CMS is the Value Based Purchasing program. This program gives bonuses and penalties to hospitals based on their performance on twenty four quality measures. The Value-Based Purchasing payments for the 2014 federal fiscal year are determined by how hospitals scored on six sets of measures. The first are 13 "measures of timely and effective care" also known as "process" measures. These evaluate how often hospitals adhered to various clinical guidelines for appropriate care delivery. The second set of measures are “patient experience of care dimensions” which are surveys of patient satisfaction and experience. The final three measures are measures of mortality, safety, and spending (Quality Net).

It is important to note that Value-Based Purchasing, as opposed to readmissions, focuses on following the patient while they are in the hospital as opposed to in the community. This means that the community and environment of a hospital plays less of an effect on the hospital’s performance of these standards. However, the financial viability of a hospital (which is impacted by its community and patient-mix) to improve internal quality metrics is an important factor in whether or not a hospital will be affected by Value-Based Purchasing penalties. For Fiscal Year 2013, 1,213 hospitals were given bonuses for high performance on these measures while 1,451 were penalized for poor performance. Oftentimes improvement in these quality metrics requires adopting high levels of technology within a hospital or health system, a challenge for many Georgia healthcare providers (Herman).

2. Uncompensated Care

The final financial threat to many hospitals in Georgia is the high levels of uncompensated care which they provide. For many hospitals, this is the single largest expense for their operation and can mean the difference between profitability and loss in a single year. Uncompensated care is defined as "free or discounted health services provided to persons who meet the organization's criteria for financial assistance and are thereby deemed unable to pay for all or a portion of the services." About one in five Georgians is uninsured with a total of 1.9 million Georgians being uninsured to a total cost of $2.8 billion in uncompensated care (Georgia Public Policy Foundation).

For certain hospitals, labelled safety net hospitals, the burdens of uncompensated or charity care are higher than others. Safety net hospitals, such as Grady Memorial, provide services to large populations of uninsured and underinsured patients. Because safety net hospitals are under great financial strain, many have closed in recent years or re-structured in order to survive. According to the National Association of Public Hospitals, safety net members account for two percent of all hospitals but provide 25 percent of uncompensated care in the United States.

In the past two years, four hospitals in Georgia have closed due to high levels of uncompensated care. The most recent hospital to close Lower Oconee Community Hospital, a critical access hospital in South Georgia which has 25 beds. The hospital is suffering from serious cash-flow problems, largely due to the area's 23 percent uninsured population, and hopes to reopen as "some kind of urgent care center," CEO Karen O'Neal said. This is the case around Georgia, where high levels of uninsured without access to a primary care physician come to the hospital for services, burdening the available time and resources of these hospitals.

IV. Analysis of the solutions

Many of the aforementioned challenges to hospitals in Georgia have been faced by many hospitals around the nation for many years. Many established models have been researched and published in relation to managing readmissions, improving quality, and reducing the burden of uncompensated care. Overall, the two main solutions are improving patient engagement and improving care coordination. This section of the paper will highlight some of the nationally recognized strategies for improving quality and reducing cost with a specific focus on how technology can help hospitals in low income or rural areas achieve results.

1. Patient Engagement

Patient engagement broadly defines the set of interventions which improve the patient's attachment and commitment to their own health. National statistics suggest that at discharge only 42% of patients are able to state their diagnosis and only 37% are able to state the purpose of their medications (Axial). Even when a patient is engaged, studies have shown that 23% of patients who embrace healthy behaviors worry that they will falter after a short period of time and 29% reported not having the knowledge to maintain their treatment regimens. (Hibbard)

Currently, there are multiple interventions that a hospital can employ. These interventions can include dissemination of educational materials, connection to community resources and peer support for their condition, and appointing case managers or nurses to remind and follow the patient through their recovery. Technology is beginning to play a crucial role in patient engagement. Reports from the Nielson group indicate that 40% of seniors (1 out of 6 seniors in the lowest income bracket) and 75% of adults under that age of 55 possess a smartphone and many more have regular access to a computer (Nielson). The adoption of Meaningful Use

standards has increased the level of engagement of patients through the use of patient portals. However, these portals oftentimes lack the tangible actions a patient may take to improve their health. New technologies in the forms of apps, text messaging, and email reminders put information into more actionable formats for patients. A care plan constructed by a hospital for a specific patient population could be tailored to the interventions available in the community and be more engaging for patients than constant phone calls from a case manager.

2. Care Coordination

Care coordination is an essential part of reducing readmissions, improving patient satisfaction, and reducing uncompensated care. Care coordination is oftentimes linked to patient engagement but they are two distinct quality areas. While patient engagement is the process of encouraging patients to use a roadmap, care coordination is how hospitals and healthcare providers build roadmaps for patients to follow. The Agency for Healthcare Research and Quality defines care coordination as “the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services. Organizing care involves the marshalling of personnel and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care." (See Appendix C)

Currently, care coordination is difficult to effectively implement on scale for a low cost. Care coordinators are oftentimes nurses with inpatient duties during normal work hours. They also lack the time and capacity to follow up on each patient individually, the data to understand what a patient might require at a certain point in time, and the tools to intervene effectively on behalf of that patient. Technology can work in multiple ways to improve care coordination. First,

it can significantly reduce the turnaround time in receiving and transmitting patient data. Secondly, new standards are being developed which can improve verification and confirmation of the data's receipt. For example, Athens Regional Medical Center currently uses a device vendor to monitor sleep apnea patients. The device vendor creates patient records and faxes hundreds of sheets of paper back to Athens Regional Medical Center every day. Oftentimes, patient information is not categorized or received correctly and is lost. The use of a cloud-based system to transmit data would not only reduce the amount of time spent in transmitting the data but also provide a safeguard to ensure its transfer.

V. Summary and Conclusions

Currently, hospitals around the nation are facing tremendous financial pressure. Long standing burdens such as treating the uninsured, coupled with new reimbursement penalties and fines have put many hospitals in Georgia in a dire situation. The move in healthcare payment is towards quality over quantity and hospitals are asked to lead their communities in adopting this change. For integrated health systems such as Kaiser Permanente and Mayo Clinic this change comes easier than for smaller, rural hospitals. In order to bridge the gap in quality and cost between these two types of care delivery models, small, rural hospitals in Georgia must employ new methods of improving care coordination and increasing patient engagement.

Technology can be a significant factor in ensuring the viability of a healthcare organization in the future. Currently, strategies which employ technology to connect patients and caregivers have shown promise in reducing unnecessary readmissions and improving patient satisfaction. For hospitals in rural Georgia, these technologies will become a more common service offering in connecting patients with their community. For hospitals with limited resources, technologies to be invested in should show both short term and long term benefit to the hospital and the patients it serves.

VI. References

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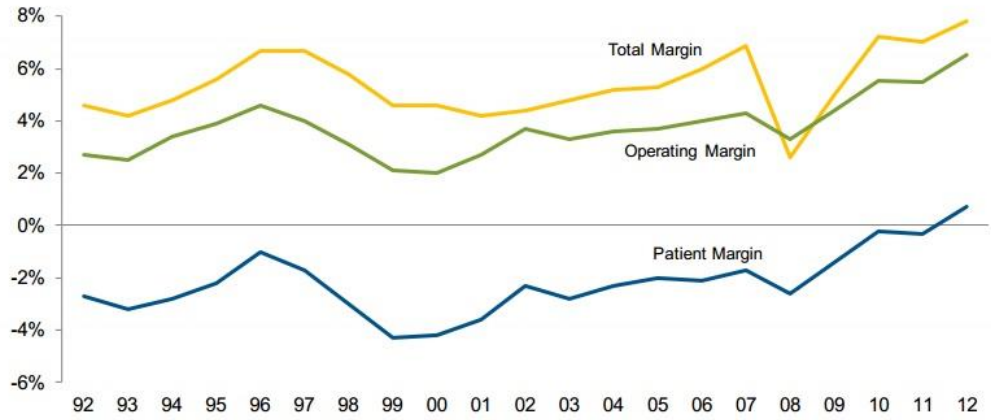
TRENDWATCH CHARTBOOK 2014
Trends in Hospital Financing

Chart 4.2: Aggregate Total Hospital Margins,(1) Operating Margins(2) and Patient Margins,(3) 1992 – 2012

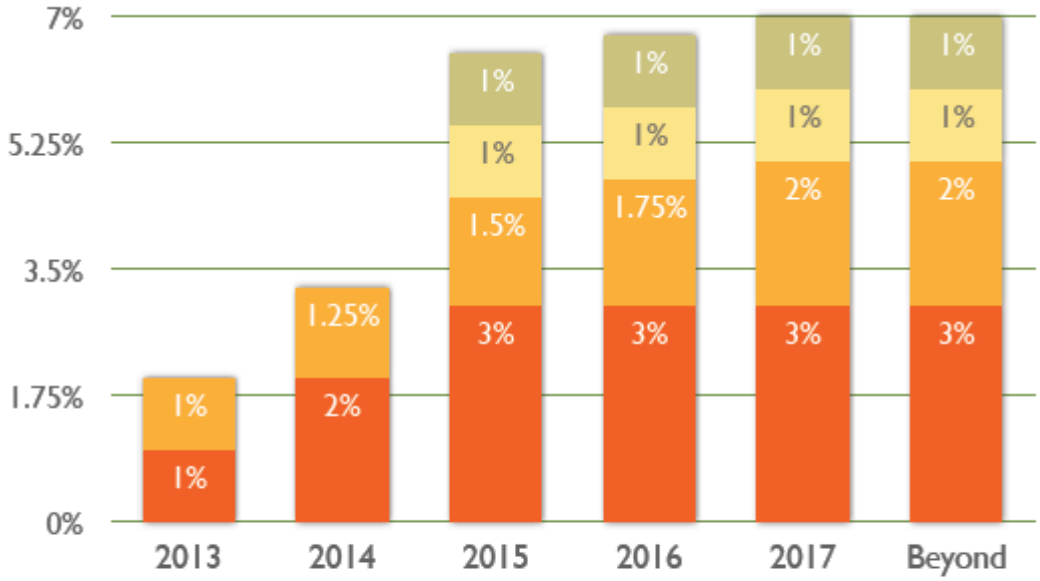


Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2012, for community hospitals.
(1) Total Hospital Margin is calculated as the difference between total net revenue and total expenses divided by total net revenue.
(2) Operating Margin is calculated as the difference between operating revenue and total expenses divided by operating revenue.
(3) Patient Margin is calculated as the difference between net patient revenue and total expenses divided by net patient revenue.

American Hospital Association. Avalere

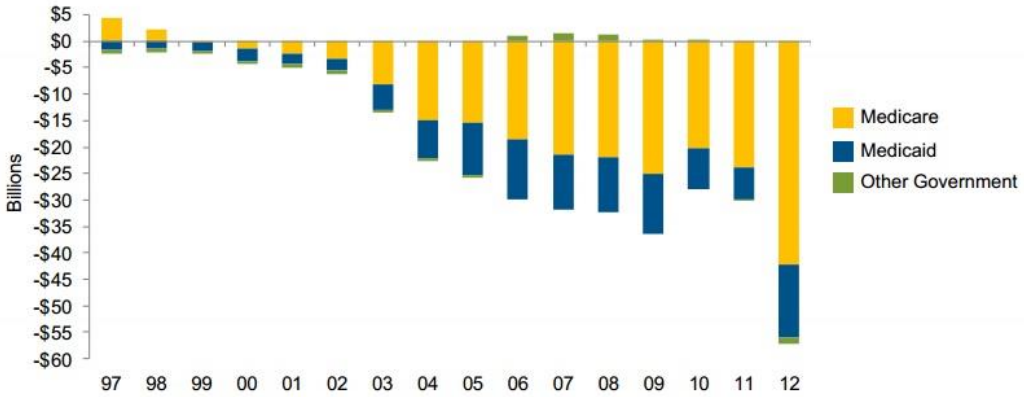
VII. Appendix A: Average Hospital Profit Margin

VII. Appendix B: Rising Hospital Penalties



VII.

Medicaid and Other Government, 1997 – 2012(1)



Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2012, for community hospitals.
(1) Costs reflect a cap of 1.0 on the cost-to-charge ratio.

American Hospital Association
Avalere

Appendix C: Loss in Total Reimbursement by Payer

VII. Appendix D: The Care Coordination Ring