PRIDE: A Decade of Improving Health Care Quality and Patient Safety in Southeastern Pennsylvania
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MESSAGE FROM THE PRESIDENT

Since 2006, the Health Care Improvement Foundation has proudly joined forces with Independence Blue Cross and local hospitals in promoting improvement in the quality and safety of care delivered to patients in our region. The Partnership for Patient Care (PPC) has represented a groundbreaking collaborative effort among hospitals and health systems, in what is otherwise a very competitive southeastern Pennsylvania market.

As the tenth year of our collaboration approached, HCIF’s board identified our obligation to be accountable to our community for the effectiveness of our work. We engaged the services of our longtime data partner, the Pennsylvania Health Care Quality Alliance, to conduct an independent review of the performance of southeastern Pennsylvania hospitals over the last decade. In a time of sweeping change in quality measurement and public reporting, the report provides important evidence of how hospitals have risen to the challenge of improving care, from preventing infections to reducing hospital readmissions. At the same time, it is clear that gaps in quality and safety persist, and will require renewed commitment by every stakeholder in the system as we begin our next decade.

HCIF supports the value of transparency in undertaking the difficult and complex work of improving healthcare quality. We welcome your review of this report and hope you will gain a better understanding of our region’s performance in meeting the healthcare needs of patients and consumers.

Kate J. Flynn, FACHE
President
Health Care Improvement Foundation
TAKing pride in taking the lead

Since the publication of the Institute of Medicine’s 1999 report *To Err is Human* and the subsequent 2001 report *Crossing the Quality Chasm*, both patients and health care professionals have expressed the need to reform the U.S. health care system. Health care advocates and consumer groups have been demanding safer, more patient-centered, and transparent health care. At the same time, insurers, employers, and government payers are seeking to replace their traditional volume-based payments with a value-based payment system. There is a clear mandate for change in an industry that is not typically known for its ability to reinvent itself. Thus, organizations that have embraced this mandate and spearheaded programs to aid in this transformation have reason to take pride in their efforts.

The Health Care Improvement Foundation (HCIF) is an independent nonprofit that leads healthcare initiatives aimed at improving the safety, outcomes, and care experiences of all patients, residents, and consumers. Founded in 1980 as an affiliate of the Delaware Valley Healthcare Council of HAP, HCIF has operated as an independent 501(c)(3) organization since 2003. HCIF has been working together with hospitals and physicians on quality improvement initiatives aimed at meeting and sustaining high levels of performance. In 2006, HCIF launched the Partnership for Patient Care (PPC) with financial support from Independence Blue Cross and local area hospitals to accelerate the adoption of evidence-based clinical practices by pooling the resources, knowledge, and efforts of health care providers in the southeast region of Pennsylvania. This unique collaboration between payers and providers to share successful experiences and to jointly fund quality improvement initiatives has been recognized as a national model and has led to the development of fifteen separate programs over the last ten years.

To celebrate the tenth year of PPC’s efforts to transform health care quality in Southeastern Pennsylvania (SEPA), HCIF asked the Pennsylvania Health Care Quality Alliance (PHCQA), a nonprofit that specializes in analyzing health care quality data, to assist in the development of a report that summarizes the progress in health care quality and patient safety in SEPA.

**PHCQA’s Analysis**

In order to evaluate the extent to which health care quality and patient safety have improved in SEPA, PHCQA extracted, analyzed, and compared data from numerous publicly available sources such as the Centers for Medicare and Medicaid Services (CMS), the Joint Commission, the Pennsylvania Department of Health, and the Pennsylvania Health Care Cost Containment Council (PHC4). PHCQA generated benchmarks for SEPA hospitals, calculated hospital averages for those participating in various HCIF projects, and compared those data to overall Pennsylvania and national averages. Where available, PHCQA examined internally tracked metrics from HCIF projects in order to compare results to public data. Close attention was paid to hospital performance before, during, and after HCIF projects in order to find patterns and trends.
Hospitals are complex human service organizations that often treat a wide variety of patients from different socioeconomic environments. Consequently, they are challenging to measure as a collective group with a high degree of accuracy. PHCQA attempted to choose measures widely endorsed by clinical experts in order to evaluate improvement. For some of these indicators, however, the years of available data did not correspond with the timeframe of the projects. In addition to timing, another constraint encountered was that many commonly endorsed measures related to only certain aspects of HCIF projects, and thus, may only capture a glimpse of a given project’s overall impact. In order to fill in some of the gaps, PHCQA solicited firsthand vignettes and success stories from project participants and summarized the reported impacts of interventions. An important consideration to be made when analyzing HCIF’s impact in the SEPA region is the degree of change that the health care environment itself has undergone. Figure 1 depicts some of the key state and national initiatives and regulatory changes alongside the launch dates of HCIF projects. Evolving national and state quality improvement campaigns, public reporting initiatives, meaningful use mandates, expanded health insurance coverage, and evolving payment models, such as the implementation of pay-for-performance programs, have shaped the environment in which hospitals and physicians operate.

Figure 1: The Changing Landscape: National and State Health Care Initiatives

Some portion of HCIF’s success in quality improvement undoubtedly can be attributed to these external forces. On the other hand, some of these factors provided a window of opportunity for HCIF to address a particular issue due to the salience of the targeted topic among providers. For example, value-based purchasing models implemented following the passage of the Affordable Care Act rewarded or penalized hospitals based on their performance in quality metrics, such as readmission rates. This development encouraged hospitals to devote resources to creating strategies that focus on preventing avoidable readmissions. Around the same time, HCIF
launched its own project to help providers reach their readmission reduction goals. Ultimately, all these factors working together have attuned both providers and patients to flaws in our health care system and resulted in tremendous change in the way providers deliver care.

**Spotlight on Southeastern Pennsylvania**

Over the last ten years, HCIF has implemented a variety of programs to improve health care quality in the SEPA region. The five-county SEPA region includes Bucks, Chester, Delaware, Montgomery, and Philadelphia counties. This area stretches over 4,600 square miles and has a population of just over 4 million people. Nearly 50 hospitals are located in SEPA, discharging over a half million patients each year and employing almost 100,000 people.

HCIF uses a collaborative approach to help the SEPA region benefit from a high performing health care delivery system. This approach includes engaging a multi-stakeholder group of health care providers, business community members, insurance companies, the Delaware Valley Healthcare Council of HAP, and other provider organizations to ensure their efforts impact multiple facets of care. By working with groups of providers and payers that voluntarily participate in projects to improve specific areas of care, HCIF has served as an example of how large-scale, regional collaboration can help achieve advances in quality of care with a broad and lasting impact.
The HCIF Clinical Advisory Committee, which is comprised of health care providers and partners from organizations across SEPA, identifies initiatives compatible with the region’s quality and safety priorities and provides clinical guidance to HCIF project leaders.

Figure 2:

PPC Initiatives
PPC’s initiatives have included programs aimed at improving specialty care and reducing the number of readmissions, hospital-acquired infections (HAIs), and medical errors. Additional programs also addressed topics such as emergency preparedness and promoting patient health literacy throughout hospitals and health care facilities in the SEPA region.

**PRIDE**

PHCQA identified four areas of focus that HCIF has used across its programs that have contributed significantly to their overall success: **Promoting partnerships**, **Reducing harm**, **Increasing Delivery efficiency**, and **Engaging patients**.

**Promoting partnerships** refers to enhancing collaboration across all organizations in the health care industry to improve the overall quality of health care. Promoting partnerships places an emphasis on working as a team of providers and caregivers. Clear communication among nurses, doctors, pharmacists, and other hospital staff is crucial to safe and effective care for patients.

**Reducing harm** in the hospital starts with building a culture of safety. A concerted focus on the reduction and prevention of hospital-acquired conditions such as infections, and unintended injuries by implementing protocols and best practices is necessary to improve the safety of a hospital as well as the overall patient experience. The main objective for providers is, and must continue to be, ensuring that patients leave the hospital healthier than when they were admitted.

Health care professionals, patients, and policy makers all agree that **increasing delivery efficiency** in the health care system is imperative. An efficient health care system is capable of providing high quality services at a lower cost. Providers can employ various strategies to increase delivery efficiency including minimizing unnecessary tests, treatments, and procedures that provide little or no value to the patient, providing equitable care to all patients with varied culture, customs, and needs, and improving the coordination of care.

Finally, **engaging patients** represents the opportunity to empower patients to participate in decisions about their own care and treatment options, improve health literacy, and enhance communication between patients and providers. Informed patients are better able to carry out provider recommendations, understand the purpose of their medications, and identify symptoms that may signal a worsening condition. The emphasis on patient engagement is evidence of the current shift from physician-centered care to patient-centered care. Ultimately, this shift results in better overall patient experiences and better outcomes.
**PROMOTING PARTNERSHIPS**

Partnerships in today’s dynamic health care environment are important in effectively responding to unpredictable and unprecedented change. PPC is a unique partnership between providers and payers that, with the help of HCIF as a neutral convening organization, encourages providers who are frequently in direct competition to work together. Funded by Independence Blue Cross and SEPA hospitals, PPC is a large-scale regional initiative that strives to improve health care delivery by encouraging the use of evidence-based best practices. Over 50 health care facilities in the SEPA region have participated in at least one HCIF quality improvement project. Promoting effective regional partnerships has been a hallmark of HCIF’s approach to quality improvement.

“Our community’s quality of care and patient safety have benefited from Holy Redeemer Health System’s participation in the HCIF and PPC programs over the past 10 years. The combination of identification of need, common definitions, and shared resources, including best practices, cooperative efforts, and sharing of results has been powerful in bringing about these improvements.”

-Dr. Charles Wagner, Holy Redeemer Hospital

**Creating a Better Environment for Seriously Ill Patients**

Seriously ill patients often require support to prepare them for the worst. Palliative care refers to the delivery of specialized medical care for patients with serious and often terminal illnesses. Providers focus on managing pain, assisting patients to cope with the stress of their illnesses, and improving the quality of life for patients and their families. Experts have advocated for a conceptual change in the way providers and patients view palliative care. In the past, palliative care was primarily reserved for dying elderly patients. The growth of the elderly population, coupled with wide dissatisfaction and confusion about the medical care system for individuals with serious illnesses, resulted in pressure to improve palliative care services in the region.

In July 2012, HCIF implemented CARE 4 Us, a PPC project, to raise awareness of palliative care as well as to increase the number of and improve the quality of palliative care programs in the SEPA region. In this 18-month collaborative, HCIF partnered with hospitals to assist in the development and enhancement of these hospitals’ palliative care programs.

CARE 4 Us hospital participants were placed into one of two tracks: Track 1 for hospitals with a developed palliative care program, Track 2 for hospitals with no existing palliative care program. As part of the collaborative, hospitals in Track 1 received assistance in obtaining the Joint Commission’s Advanced Certification for their palliative care programs. Initiated in September 2011, this certification recognizes hospital inpatient programs that demonstrate exceptional care in optimizing the quality of life for adult and pediatric patients suffering from serious illnesses.
In addition to usual collaborative programming, Track 1 hospitals received technical assistance from a consultant with the Center to Advance Palliative Care to facilitate the certification application and review process. Three Track 1 hospitals received Joint Commission Certification for their palliative care programs.

Five Track 2 hospitals received assistance in the development of their palliative care programs. A key component of programming for Track 2 hospitals was the completion of Palliative Care Leadership Center (PCLC) training offered by the Center to Advance Palliative Care. This 12-month training provides intensive operational instruction and mentorship for palliative care programs during each stage of development. All five of the Track 2 hospitals successfully completed the PCLC training. Following the CARE 4 Us Collaborative, four hospitals have initiated palliative care services.

A CARE 4 Us Success Story – Crozer-Keystone Health System

Through CARE 4 Us Track 2, the Crozer-Keystone Health System team received mentorship from the Palliative Care Leadership Center site at VCU Massey Cancer Center in Richmond, Virginia. Terry Sandman, RN-BC, CHPN, Palliative Care Practice Administrator at Crozer, participated in the site visit to VCU Massey that launched the mentorship. “The visit was very valuable to help us with our next steps with our program. Even those with established palliative care programs can benefit from this to make sure they’re taking the right steps. VCU Massey provided helpful resources and were great with follow up afterwards,” explained Sandman.

Among the most important things that the Crozer team learned as part of the mentorship was about building the financial case and sustainability for the palliative care program. According to Sandman, “Our priority is to prove our worth in terms of cost avoidance. We’re also learning that there’s a steep learning curve to ensure that we’re billing and coding in an effective way.”

Once a one-person enterprise, the palliative care team at Crozer has grown through participation in CARE 4 Us. A full-time medical director, Cheryl Denick, MD, JD, FAAEM, FCLM, was recruited from VCU Massey and has been part of the team since August 2014. In addition to Palliative Care Practice Administrator Terry Sandman, the team also now includes a full-time physician assistant and a part-time coding specialist. The growth of the team has enabled the number of consults to steadily grow, as providers increasingly seek the team’s support for symptom management, especially in the ICU. “The other day we had a patient with a small bowel obstruction, an elderly woman, and Dr. Denick was able to prescribe her Octreotide, which made a significant difference in relief of her nausea and vomiting from a small bowel obstruction. This prevented her from having to go to surgery, and we were able to buy her some comfortable time at home with her family,” shared Sandman.

Looking ahead, the team is planning to expand the palliative care program from Crozer-Chester Medical Center and Springfield Hospital to the other hospitals in the Crozer-Keystone system. In the coming year, Crozer-Keystone will focus on educating providers throughout the system about palliative care.
Keeping Patients Healthy and Out of the Hospital

The primary objective of providers is to deliver high quality care that keeps patients out of the hospital. Hospital personnel have been under increasing pressure to develop strategies to ensure patients leave the hospital with all the necessary information to manage their own conditions. It is very difficult to do so, however, without partners and partnerships.

In May 2010, HCIF launched its “Preventing Avoidable Episodes: Smoothing the Way for Better Transitions” (PAVE), a PPC initiative aimed at reducing readmissions by 10% over 18 months and working to improve care transitions for patients discharged from hospitals who are transitioning between medical providers. This project involved over 53 organizations including hospitals and health systems, skilled nursing facilities, long-term acute care facilities, health plans, pharmaceutical companies, physician offices, and community organizations. HCIF facilitated educational webinars and interactive meetings to provide participants with educational support and to showcase innovative solutions.

By the end of the PAVE project, participants adopted and implemented several strategies encouraged by HCIF. These strategies included utilizing a screening tool to target patients considered high-risk for readmission, devoting special attention to patient and caregiver education, scheduling follow-up appointments prior to discharge, and calling patients after discharge in order to answer questions and inquire about patient health status. Since implementing these strategies, readmission rates for several conditions treated at SEPA hospitals have experienced a considerable decrease.

Figure 3: Overall Hospital Readmission Rate

*Data not released in 2010*
The PHC4 Overall Readmission Rate measure depicted in Figure 3 is a composite rate calculated by PHCQA based on 11 PHC4 readmission measures. Prior to the PAVE project launch in 2010, readmission rates for hospitals participating in PAVE had been steadily increasing. Since the implementation of PAVE, the readmission rate for participating hospitals has steadily decreased.

Among the several conditions included in the PHC4 Overall Readmission Rate, two conditions in particular have shown substantial improvement since the start of the PAVE project. PAVE participating hospitals have decreased their readmission rate for patients treated with kidney and urinary tract infections by 15%, which is nearly twice the reduction achieved by non-participants. According to CMS, PAVE participating hospitals have also decreased their readmission rate for patients with congestive heart failure by 10.6% compared to a reduction of 8.7% improvement seen in non-participating hospitals. In a region plagued by high readmission rates, HCIF has helped SEPA hospitals improve care delivery and patient outcomes by reducing avoidable readmissions.
REDUCING HARM

Truly effective care needs to be delivered in a safe environment where patients feel comfortable trusting their hospitals, doctors, and nurses. Unfortunately, patients sometimes experience errors in their medical treatment due to poor communication, diagnostic errors, and mistakes in care delivery. Hospitals nationwide are improving patient safety and implementing strategies to reduce the likelihood of harm during hospital stays. HCIF has developed and implemented several projects to reduce the number of HAIs and instances of medical errors in order to improve safety in SEPA hospitals.

The Road to a Safer Health Care System

As recently as 15 years ago, few organizations had patient safety officers or safety teams. Today, hospital safety has become a top priority for all hospitals in order to avoid patient safety events and costly mistakes. A medical error is a complication of care directly resulting from hospital action or an avoidable incident that the hospital failed to prevent. These events can include hospital-related injuries, HAIs, medication errors, and wrong-site surgeries. In 2013, hospital errors were estimated to have resulted in the death of about 440,000 people annually.\(^1\) If correct, that would make medical errors the third-leading cause of death in America, behind only heart disease and cancer.\(^2\) HCIF has implemented several initiatives to promote a culture of safety and reduce the occurrence of medical errors in southeastern Pennsylvania.

Improving Surgical Safety

In 2008, HCIF partnered with the ECRI Institute to implement a cohesive and strategic PPC program to reduce the number of wrong-site surgeries and provide participating hospitals with the basis for continued improvement. According to the Pennsylvania Patient Safety Authority, 37 wrong-site surgeries were reported in Philadelphia-area hospitals between June 2004 and October 2007. This translates into one wrong-site surgery every 33 days. After 18 months, the 25 hospitals participating in this initiative achieved a 73% reduction in reported wrong-site surgeries, a rate that exceeds the 32% decrease among non-participating Pennsylvania hospitals.

Avoiding complications and HAIs requires strict adherence to proper prophylactic protocols. The Surgical Care Improvement Project (SCIP) is a national quality partnership of organizations focused on improving surgical care by significantly reducing surgical complications. The process measures included in the SCIP program measure set specifically aim to reduce surgical site infections, perioperative cardiac events, deep vein thrombosis, and postoperative ventilator-associated pneumonia. Given the importance of these measures as a collective group, results

\(^1\) James, “A New, Evidence-Based Estimate of Patient Harms Associated with Hospital Care.”
\(^2\) “Hospital Errors Are the Third Leading Cause of Death in U.S., and New Hospital Safety Scores Show Improvements Are Too Slow.”
are often examined as an ‘all-or-none’ composite score which represents the percentage of surgical patients that received all the necessary prophylactic steps that were appropriate for their surgery. This composite score is called the Appropriate Care Measures – SCIP (ACM-SCIP).

SEPA hospitals have exhibited consistently high ACM-SCIP performance since 2009, suggesting that SEPA hospitals are taking the appropriate steps to ensure patient safety for surgical procedures. SEPA hospital rates for ACM-SCIP have consistently increased since 2009. These hospitals are outperforming the rest of Pennsylvania and the nation. While HCIF has not spearheaded any projects that directly relate to the ACM-SCIP measure specifically, its overall efforts aimed at education and process improvement in patient safety and infection prevention can have a trickle-down effect on overall compliance with evidence-based guidelines. When looking at the individual SCIP measures, SEPA hospitals perform as well as or better than the rest of Pennsylvania and national rates.

Reducing Hospital-Acquired Infections

Reducing harm also means avoiding potential complications from HAIs. Since the start of Partnership for Patient Care in 2006, the occurrence of preventable HAIs in SEPA has decreased.
Figure 5 shows that SEPA’s total HAI rate per 1,000 patient days has fallen by almost 27% since 2008. While the HAI rate for the rest of Pennsylvania is lower than the SEPA region, it has remained relatively flat over the same time period. The total infection rate comprises all HAIs, including Catheter-Associated Urinary Tract Infections (CAUTIs), Central Line-Associated Bloodstream Infection Infections (CLABSI), and Surgical Site Infections (SSI).

Figure 6: CLABSI Rate/1,000 Central Line Days

Source: PA DOH

Figure 5: Total HAI Rate/1,000 Patient Days

Source: PA DOH

SEPA, Rest of PA
SEPA hospitals have improved the most in reducing CLABSI. In 2008, SEPA’s CLABSI rate per 1,000 central line days was nearly double the average rate of all other hospitals in Pennsylvania. By 2012, SEPA hospitals had closed the gap to a nearly identical rate to the rest of the state. As shown in Figure 6, SEPA hospitals reduced their CLABSI rate per 1,000 central line days by nearly 58% from 2008 to 2012.

Another PPC initiative, the C. difficile Prevention Collaborative, was launched in 2009 to promote and accelerate the adoption of evidence-based interventions aimed at reducing C. difficile infections (CDIs). The collaborative included 23 hospitals, 1 long-term acute care facility, and 5 nursing homes. In addition to attending presentations by leading experts, members of this collaborative participated in interactive, information-sharing calls and webinars. At the end of the 18-month collaborative, CDI rates per 10,000 patient days among participants had dropped to nearly half the national average of 7 per 10,000 patient days.

Despite positive results, feedback surveys from the C. difficile Prevention Collaborative participants indicated that the greatest challenge facing providers was antimicrobial stewardship. In response, HCIF launched the Regional Antimicrobial Stewardship Collaborative in 2012. This initiative aimed at reducing CDIs with a particular focus on improving antimicrobial stewardship. HCIF provided improvement teams with information and support to implement proven antimicrobial stewardship strategies through several activities, including a webinar series, a networking call series, and individualized site visits with a program pharmacist consultant. The Antimicrobial Stewardship Collaborative has helped to sustain SEPA’s strong performance even after the end of the C. difficile Prevention Collaborative. As illustrated in Figure 7, SEPA hospitals outperformed both the state and the nation in CDIs as measured by the facility-level standardized infection ratio (SIR).

![Figure 7: C. Difficile SIR](image.png)

Source: CMS
An important factor in minimizing the risk of infection is regular hand washing and keeping rooms clean. By the end of the antimicrobial stewardship collaborative, nearly 50% of participating organizations instituted a hand hygiene campaign, switched to the use of soap and water rather than less effective hand sanitizers upon exiting a CDI isolation room, and started hand hygiene observations. In addition to improving hand hygiene, 75% of participants changed their cleaning protocol of rooms occupied by patients infected with C. difficile. These changes included improved processes for communicating isolation status to environmental services, adopting bleach products for the daily and terminal cleaning of CDI rooms, objectively monitoring the effectiveness of cleaning, and establishing accountability for the cleaning of commodes.

![Figure 8: Hospital Cleanliness](image)

Patient experience surveys over the past 6 years have shown that perceptions of hospital cleanliness have gone up. Although the results in Figure 8 show that patient reported SEPA rates have been consistently lower than state and national rates, there has been rapid improvement in the SEPA region since 2009.

“Our participation in the antimicrobial stewardship collaborative was an extremely positive experience. We were able to analyze our current stewardship practices and implement several of the recommendations from the collaborative. We anticipate that we will reduce the amount of inappropriate antibiotic use in the hospital as a result of these changes. The interaction and knowledge sharing with other local stewardship professionals was invaluable.”

-James A. Curtis, Pharm.D., BCPS, Chester County Hospital
Scoring Hospital Safety

The Leapfrog Hospital Safety Score is another useful resource when attempting to understand the impact of HCIF’s hospital safety programs on the SEPA region. Leapfrog analyzes numerous process and outcome measures related to patient safety from several data sources and assigns a letter grade to hospitals across the nation.

The most recent Leapfrog data from 2014 shows 63% of SEPA hospitals had achieved either an A or B, compared to only 52% of the hospitals across the rest of the state. In addition, while nearly 5% of Pennsylvania hospitals scored either a D or F, no hospitals in SEPA scored below a C.

HCIF’s regional collaboratives under the Partnership for Patient Care, such as the Regional Antimicrobial Stewardship and the C. difficile Prevention Collaboratives, have helped to build the foundation for a culture of safety in SEPA hospitals and health care facilities.

Ensuring Safety During Pregnancy

In late 2011, CMS launched the Partnership for Patients (PfP) program, a public-private initiative that aims to make hospital care safer, more reliable, and less costly through the achievement of two goals: lower the number of avoidable readmissions by 20% and reduce the number of preventable hospital-acquired conditions by 40%. The partnership included physicians,
employers, patients, patient advocates, federal and state government organizations, and more than 3,700 hospitals nationwide.

CMS contracted with 26 organizations to become Hospital Engagement Networks (HENs) in order to assist hospitals with improvement efforts. The Hospital & Healthsystem Association of Pennsylvania (HAP) and its partners—the Pennsylvania Patient Safety Authority, Health Care Improvement Foundation, and Quality Insights of Pennsylvania — comprised the Pennsylvania Hospital Engagement Network (PA-HEN). HCIF was tasked with leading the efforts to reduce obstetrical adverse events on behalf of the PA-HEN program and implemented the OB Adverse Events Collaborative to improve obstetric care in Pennsylvania.

One of the priorities of the PfP program and the PA-HEN was the reduction of early elective deliveries (EED). According to CMS, approximately 10% to 15% of all births in the United States are performed early without a medical reason, which put both the mother and child at a higher risk for complications. The PA-HEN’s OB Adverse Events collaborative, which ran for nearly three years from 2012 to 2014, included 37 participating hospitals. The specific goals for the first year included reducing EED rates to less than 5%, improving the rate of safe administration of oxytocin with inductions and labor augmentation, as well as promoting prompt and effective management of post-partum hemorrhage. In the third year, the OB collaborative upgraded its goals to reduce the incidence of non-medically indicated EED to less than 2%, lower overall massive transfusion by early recognition and treatment of hemorrhage, and promote timely and safe management of preeclamptic mothers. Collaborative members, which included some hospitals outside the PA-HEN, collected and submitted monthly data in order to track and measure progress over time.

Although final results are still being validated by CMS, HAP has shared preliminary results which show that the PA-HENs OB Adverse Events Collaborative successfully reduced the rate of non-medically indicated EEDs by 94% from the baseline rate at the start of the program. In addition, there was a 25% reduction in severe morbidity of mothers with severe hypertension, preeclampsia, and severe preeclampsia³.

By helping to ensure the delivery of high quality obstetric care, HCIF serves an important role in improving the overall quality of our health care system and reducing harm to maternal patients and their babies.

INCREASING DELIVERY EFFICIENCY

While it is important to ensure the delivery of high quality care, it is also important to make sure treatment is administered efficiently. Increasing delivery efficiency in our health care system benefits our patients because it reduces their time in the hospital and lowers overall health care related expenditures. Balancing quality and efficiency is a difficult task for any hospital, but with the assistance of organizations such as HCIF, this objective has become achievable.

Getting It Right the First Time

Getting care right means helping patients heal and recover quickly so that they can return to their everyday lives. Readmissions to hospitals represent additional burdens for patients and for health care payers. From 2003 to 2009, SEPA hospitals had higher readmission rates than the rest of Pennsylvania and higher rates than the national average for almost all conditions based on publicly reported data. In fact, according to PHC4, SEPA readmission rates for some conditions including chest pain, congestive heart failure, and diabetes steadily increased from 2003 to 2009.

It is important to delineate that there are several potential factors that might explain these elevated readmission rates. First, patients with complex, chronic conditions often seek care from large hospitals with strong reputations because they believe the hospitals have the resources and the industry leading physicians to adequately diagnose, treat, and manage their conditions. Philadelphia and its surrounding suburbs have several of these large hospitals with strong reputations. Second, many SEPA hospitals are located in urban communities with significant socioeconomic challenges. Poorer patients living in urban neighborhoods tend to have less access to primary care physicians, and consequently, these patients tend to rely more on hospitals for their care. Finally, hospitals with higher admission rates also tend to have higher readmission rates.

According to a recent article published in Health Services Research, the characteristics of the county where a hospital is located accounts for 58% of the total variation in hospital readmission rates. Access to care factors, such as fewer general practitioners, more specialists, and a higher ratio of hospital beds per capita, were associated with higher readmission rates. Similarly, demographic and socioeconomic factors, such as a higher proportion of the population never married, more Medicare beneficiaries per capita, and more poorly educated individuals were all associated with higher readmission rates.\footnote{Herrin et al., “Community Factors and Hospital Readmission Rates.”}

Readmission rates are a unique measure in that they reflect a multitude of process, outcome, and patient experience measures. Over the past decade, the public has increasingly associated high readmission rates with poor hospital performance. While external factors can influence readmission rates, higher rates are often associated with a lack of post-discharge coordinated
care with other providers and a failure to ensure that patients understand their discharge instructions or medications. 

By 2010, increased transparency of hospital-level readmission rates and new financial incentives established by CMS encouraged hospitals to establish strategies to reduce their readmission rates. To support this increased interest in new approaches, HCIF’s PAVE project aimed to improve coordinated care by strengthening communication among all health care providers, including physicians, nursing homes, home health agencies, and insurers. For example, PAVE leaders encouraged hospitals to send discharge summaries to the patient’s primary care physician to assist with follow up care. All hospitals that participated in the PAVE project now have a policy requiring nurse-to-nurse handoffs when discharged patients transition to nursing homes or other care settings. Previously, nearly 30% of these hospitals did not have such a policy. Although many hospitals are still implementing a system of more coordinated care, the PAVE project provided the necessary educational foundation to create a more coordinated health care system in southeast Pennsylvania.

During the final three months alone of the PAVE project, an estimated 400 patients had avoided a readmission, amounting to an estimated $3.8 million in savings from unnecessary health care spending. Furthermore, SEPA hospitals avoided an estimated $7 million in Medicare penalties for higher-than-expected readmission rates. Recent data trends suggest that readmission rates will decline even further, producing even more savings from unnecessary health expenditures.

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ENGAGING PATIENTS

Since the passage of the Affordable Care Act, patient satisfaction has become an increasingly important variable in health care payment programs. From value-based purchasing to private pay-for-performance programs, health care has been migrating towards more patient-centered care. Patients and their families have expressed a desire to “remove the mystery” from medical care and understand the services they are receiving so that they are empowered to manage and engage in their own care-making decisions. In addition, a growing number of patients have to pay a larger share of the costs of that care, so they’re financially vested in understanding how much their care costs. As a result, there is a growing need for physicians to understand and respond to their patients’ needs. HCIF’s engagement projects have strived to improve provider communication during the hospital stay and at discharge, thereby improving patient engagement in the SEPA region.

Helping Patients Understand Their Cardiovascular Care

HCIF appreciates the important role patients can play in spurring improvements in quality of care. Properly educating patients about their conditions improves outcomes and pays dividends for all stakeholders. The Southeastern Pennsylvania Regional Enhancements Addressing Disconnects in Cardiovascular Health Communication (SEPA-READS) and PAVE projects both began in 2010 with the joint goal to further educate patients about their care.

SEPA-READS, funded by a Centers for Disease Control and Prevention grant awarded to the Pennsylvania Department of Health, specifically targeted improving cardiovascular health literacy and encouraging better patient-provider communication. Health literacy is a stronger predictor of an individual’s health status than age, income, employment, education level, or ethnicity. HCIF, with the help of expert professionals from Thomas Jefferson University and Thomas Jefferson University Hospital, offered provider train-the-trainer sessions that focused on topics such as communicating effectively with patients and creating written materials and websites that are easy to understand. These trainings emphasized replacing medical jargon with plain language during interactions between providers and patients using a peer educator model. SEPA-READS also educated community members to inform them how they can get the most out of their visit to the doctor. These trainings encourage patients to ask three questions: What is my problem? What do I need to do? Why is it important for me to do this?

Since the launch of SEPA-READS, over 5,000 providers have been trained either by their peers or at HCIF sponsored trainings. Over 90 peer educators from 10 community organizations have also been trained. These peer educators have trained nearly 500 community members. Hospitals have implemented several changes to improve provider-patient communication, such as revising patient education materials and websites, developing videos and tools for staff and patient engagement, and including “Teach Back” in orientation trainings.
Successful patient engagement also requires effective communication. One of the ways that HCIF specifically targeted improved communication was through the PAVE project. Participating hospitals improved communication between health care providers and patients and families with the specific goal of ensuring that all patients had an understanding of their health condition before discharge, what symptoms may indicate a worsening of their condition, and how to appropriately manage their conditions at home in order to avoid returning to the hospital. At the conclusion of PAVE, nearly all participating hospitals employed the “Teach Back” method of patient education to ensure patient comprehension. In order to promote health self-management, 82% of participating hospitals provided reminder tools or checklists for patients at discharge, an increase from just 46% using this strategy prior to 2010. After 18 months, all participating hospitals provided patients with a detailed written discharge plan that included reminders such as follow up appointments or tests, medication schedule, and physician contact information.

**SEPA-READS Success Story — Hahnemann University Hospital**

“In my new role as the Readmissions RN Navigator, I have the pleasure of meeting with patients at the bedside to begin teaching them about congestive heart failure. In addition, I continue the teaching process with them at home during weekly phone calls. I would like to share a story about a gentleman who was discharged to his home with a Life Vest. This life-saving device should be worn 24 hours a day and will deliver a therapeutic shock to the patient if they experience a dangerous dysthymia.

The patient was waiting for a special device, an internal cardio-defibrillator (ICD), to be placed in August 2013. During our phone conversation he explained to me that he had an episode of acute onset, severe chest pain. He was extremely afraid, and he did not understand why his Life Vest did not shock him. He stopped wearing the device because he thought it wasn’t working. Using Teach-back, I was able to respectfully get an understanding of why he thought he needed to wear the Life Vest. I explained the Life Vest’s purpose in simple terms. Then, the patient described to me what he now understood to be the importance of the Life Vest. He agreed to continue wearing the Life Vest until he received his ICD in August, and he thanked me.

I feel that using Teach-back helps me gain a patient’s trust, which in turn makes them more comfortable and open to learning about their disease management. The SEPA-READS project was instrumental in the development of the Heart Failure Readmissions program at our hospital. We have developed many valuable initiatives and tools in collaboration with the SEPA-READS team. I am very excited to build on the great work that has already been done here, and I am inspired by the achievements of the SEPA-READS partner organizations.”
Publicly available data suggests that among relevant patient experience measures, SEPA hospitals have closely tracked with (and occasionally outperformed) Pennsylvania hospitals overall. For example, Figure 11 depicts how often patients reported that staff explained their medications. In 2009, SEPA hospitals performed worse than both the national and state averages. By 2012, however, SEPA hospitals improved patient-reported communication on medications and outperformed the Pennsylvania average. In the second quarter of 2013, SEPA hospitals were marginally outperforming both the Pennsylvania and national averages.

Ensuring that patients understand their discharge instructions is essential to preventing unnecessary readmissions. In 2009, a year prior to PAVE and SEPA-READS, SEPA hospitals scored 2% lower than both the Pennsylvania state and national averages on the HCAHPS patient satisfaction survey question related to discharge instructions. During the 18-month overlap of the two projects, however, SEPA hospitals closed the gap by improving their scores by 3.6%. In comparison, Pennsylvania hospitals experienced a percent change of only 1.0%, and the national rate changed by 1.2%.

SEPA hospitals continued to improve communication at a faster rate than the Pennsylvania and national averages through 2013. From 2010 to 2013, the percentage of SEPA patients responding that they were given discharge instructions increased from 78.6% to 84.5%, a percent change of 7.5%. In contrast, the Pennsylvania and national rates increased by 5% to reach 86% in 2013. While hospitals in Pennsylvania and around the country generally outperform SEPA hospitals, recent trends following the success of the projects suggest that SEPA hospitals will soon surpass the state and national benchmark rates, resulting in fewer readmissions.
Figure 12 compares the performance of SEPA-READS hospitals to the performance of all other Pennsylvania hospitals and the national average for HF-1.

The SEPA-READS project, which at its core encourages hospitals to provide and explain discharge instructions related to patients’ cardiovascular conditions, has allowed hospitals to maintain their high performance over time. CMS publishes data on the frequency with which hospitals provide discharged heart failure patients with written instructions or educational material that informs patients about their recommended activity level, proper diet, medications, follow-up appointments, weight monitoring, and what to do if symptoms worsen (HF-1). SEPA-READS participating hospitals have outperformed their peers in providing comprehensive discharge instructions to heart failure patients since 2007 and every year since the start of the SEPA-READS project.

Hospital patients constantly interact with nurses while receiving care. Project participants of PAVE, SEPA-READS, and CARE 4 Us made efforts to improve communication between hospital staff and patients and families. In 2009, SEPA hospital patients responded that nurses always communicated well about 73% of the time, which was 2% less often than both the Pennsylvania state and national averages. During the 18-month overlap of the two projects, SEPA hospitals saw modest improvement in survey results, likely indicating a transition period. In 2013, however, nurse communication scores increased considerably to 78.25%, which was just shy of the state and national averages of 79%. During this 2009 to 2013 period, SEPA hospitals closed the gap with a percent change of 7.3% compared to about a 5.5% percent change from both the state and national averages. These numbers suggest that SEPA hospitals will likely meet if not surpass the state and national averages during the next several years.

In order for the U.S. health care system to deliver reliable, high quality, and consistent care, patients must be included in every step of their treatment. HCIF’s dedication to patient
engagement is an important step in making the United States health care system increasingly patient-centered and therefore more effective.

**Leading the Way in Cardiovascular Care**

The focus on cardiovascular care has not been limited to improving communication with patients. Over the last ten years, compliance with evidence-based guidelines for cardiovascular care has improved across the country. According to data from CMS, heart attack process measure scores have consistently been among the top performing measures. Strong performance nationwide for heart attack and heart failure measures has resulted in the discontinuation of several measures due to “topping out,” indicating that almost all hospitals have achieved a 100% rate of adherence to these measures. Among these retired measures are the percentage of heart attack patients who received aspirin within 24 hours before or after hospital arrival (AMI-1); the percentage of heart attack patients with left ventricular systolic dysfunction who receive either an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker (AMI-3); and the percentage of heart attack patients prescribed a beta blocker medication at hospital discharge (AMI-5). “Topped out” measures are significant because they provide measurable proof that improved practices have become “hard-wired” into hospital processes such that there is very little opportunity for variation and performance is consistently at or near the highest performance levels.

![Figure 13: Appropriate Care Measure - AMI](image)

With the help of cardiovascular specific performance improvement programs, such as SEPA-READS, SEPA hospitals have been outperforming hospitals located in other regions in Pennsylvania and the U.S. for almost every publicly available cardiovascular measure. In measures that have not yet topped out, SEPA hospitals are leading the way and setting the pace.
for other hospitals around the country. SEPA hospitals have particularly high scores for the Appropriate Care Measure Acute Myocardial Infarction (ACM-AMI). The Appropriate Care Measure is a patient-centered composite score that summarizes whether patients received all recommended treatments based on their specific conditions. Since Appropriate Care Measures are “all or nothing” measures, only patients who have received all of the recommended care count towards the score. Since 2010, SEPA hospitals have outperformed the rest of Pennsylvania as well as national hospital averages for ACM-AMI.

SEPA hospitals have exhibited similar performance trends for the Heart Failure Appropriate Care Measure (ACM-HF). Thus, the data for both ACM-AMI and ACM-HF suggest that SEPA hospitals are providing high quality cardiovascular care.
LOOKING AHEAD

As HCIF looks forward to the next 10 years, it is well positioned to continue developing and leading effective quality improvement programs in SEPA and beyond. While it is not possible to definitively prove cause and effect, there is little doubt that HCIF’s collaboration with area hospitals and Independence Blue Cross has positioned hospitals to accelerate their improvement efforts by leveraging the power of working together.

The success of HCIF’s efforts has largely been due to the collaborative nature of its programs and the relationships it has forged with participants and partners. In combination with other common factors across HCIF programs that are part of its success – open sharing of lessons learned; the consistent use of a web platform for data sharing and regional benchmarking; and the focus on broad multi-stakeholder / multidisciplinary input – HCIF’s regional collaboration has enhanced the effectiveness of its programs over the years.

In a highly competitive and provider-heavy region, HCIF has successfully managed to facilitate knowledge and the sharing of best practices across institutions that frequently have billboards on opposite sides of the highway. HCIF should take pride in its accomplishments and its overall impact on the SEPA region.
REFERENCES


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ACRONYMS

ACM-AMI  Appropriate Care Measure – Acute Myocardial Infarction
ACM-HF   Appropriate Care Measure – Heart Failure
ACM-SCIP Appropriate Care Measure – Surgical Care Improvement Project
AF4Q    Aligning Forces for Quality
CARE 4 Us Compassion Advocacy Respect Empowerment for Us
CAUTI   Catheter-Associated Urinary Tract Infection
CDI     Clostridium Difficile Infection
CLABSI  Central Line-Associated Bloodstream Infection
CMS     Centers for Medicare & Medicaid Services
DOH     Department of Health
DVT     Deep Vein Thrombosis
ED      Emergency Department
EED     Early Elective Delivery
EMS     Emergency Medical Services
HAI     Hospital-Acquired Infection
HCAHPS  Hospital Consumer Assessment of Healthcare Providers and Systems
HCIF    Health Care Improvement Foundation
HEN     Hospital Engagement Network
IOM     Institute of Medicine
IPPIP   Integrated Provider Performance Incentive Plan
MCARE   Medical Care Availability and Reduction of Error
MRSA    Methicillin-Resistant Staphylococcus Aureus
OB      Obstetrics
PAVE    Preventing Avoidable Episodes
PCLC    Palliative Care Leadership Center
PHC4    Pennsylvania Health Care Cost Containment Council
PHCQA   Pennsylvania Health Care Quality Alliance
PPC     Partnership for Patient Care
PRIDE   Promoting Partnerships, Reducing Harm, Increasing Delivery Efficiency, Engaging Patients
PURC    Pennsylvania Urology Regional Collaborative
SCIP    Surgical Care Improvement Project
SEPA    Southeastern Pennsylvania
SEPA-READS Southeastern Pennsylvania Regional Enhancements Addressing Disconnects in Cardiovascular Health Communication
SEPA SMRT Southeastern Pennsylvania Specialized Medical Response Team
SIR     Standardized Infection Ratio
SSI     Surgical Site Infection
VTE     Venous Thromboembolism
### MEASURE APPENDIX

<table>
<thead>
<tr>
<th>Measure ID</th>
<th>Measure Name</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM-AMI</td>
<td>Heart Attack Appropriate Care Measure</td>
<td>The Appropriate Care Measure (ACM) is a patient-centered composite score that summarizes whether patients received all of the recommended treatments based on their specific conditions. Since each patient is unique and may not be eligible for every type of care for a condition, the ACM scores account for individuality by examining each patient’s care one episode at a time. Only patients who received all of the appropriate and recommended care count toward the score.</td>
</tr>
<tr>
<td>ACM-HF</td>
<td>Heart Failure Appropriate Care Measure</td>
<td></td>
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<tr>
<td>ACM-SCIP</td>
<td>Surgical Care Improvement Project Appropriate Care Measure</td>
<td></td>
</tr>
<tr>
<td>AMI-1</td>
<td>Heart Attack Patients Given Aspirin at Arrival</td>
<td>Early treatment of a heart attack with aspirin greatly reduces the risk of mortality.</td>
</tr>
<tr>
<td>AMI-3</td>
<td>Angiotensin Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) Prescribed for Patients with Left Ventricular Systolic Dysfunction (LVSD)</td>
<td>ACEI and ARB reduce mortality and the likelihood of a future heart attack in LVSD patients.</td>
</tr>
<tr>
<td>AMI-5</td>
<td>Heart Attack Patients Prescribed a Beta Blocker at Discharge</td>
<td>Using a beta blocker following a heart attack reduces the risk of long-term morbidity and mortality.</td>
</tr>
<tr>
<td>HAI-6-SIR</td>
<td>Clostridium Difficile Standardized Infection Ratio</td>
<td>Clostridium difficile is an infection with severe symptoms and can lead to sepsis or death. The standardized infection ratio (SIR) is a risk-adjusted ratio of the number of infections reported to the number of infections predicted. The SIR allows for easy comparison across all hospitals.</td>
</tr>
<tr>
<td>H-CLEAN-HSP</td>
<td>Patients Who Reported that Their Room and Bathroom were Always Clean</td>
<td>Clean hospital rooms and bathrooms reduce the spread of germs and bacteria that can cause serious infections, particularly if a patient has a compromised immune system.</td>
</tr>
<tr>
<td>H-COMP-1</td>
<td>Patients Responding that Nurses Always Communicated Well</td>
<td>Patients interact with nurses more than any other health care provider. Patients learn much of the information regarding their health from nurses. Good communication improves the quality of care provided to a patient.</td>
</tr>
<tr>
<td>H-COMP-5</td>
<td>Hospital Staff Always Explained Medicines to Patients</td>
<td>Patients who understand their medications are more likely to take them in the appropriate manner, resulting in better outcomes.</td>
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<tr>
<td>HF-1</td>
<td>Heart Failure Patients Discharged Home with Written Instructions or Educational Material</td>
<td>Patients who don’t understand their medications, dietary restrictions, recommended activity level, or signs of worsening symptoms will have trouble managing their condition. Comprehensive discharge instructions, however, are rarely provided to heart failure patients.</td>
</tr>
<tr>
<td>PC-01</td>
<td>Early Elective Delivery Rate</td>
<td>Established guidelines recommend 39 completed weeks gestation prior to elective delivery in order to improve outcomes and reduce the risk of neonatal morbidity.</td>
</tr>
<tr>
<td></td>
<td>CLABSI Rate per 1,000 Patient Days</td>
<td>CLABSI are a serious preventable HAI, resulting in a prolonged hospital stay and an increased risk of mortality. Over 30,000 CLABSI occur each year in acute care facilities.</td>
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<td>Congestive Heart Failure Readmission Rate</td>
<td>This readmission measure is specific to congestive heart failure patients.</td>
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<tr>
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<td>Leapfrog Hospital Safety Score</td>
<td>Hospital safety varies greatly among hospitals across the United States. The Hospital Safety Score grades hospitals based on 28 process and outcome measures.</td>
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<tr>
<td></td>
<td>Kidney &amp; Urinary Tract Infections Readmission Rate</td>
<td>This readmission measure is specific to patients with kidney and urinary tract infections.</td>
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<td></td>
<td>PHC4 Overall Readmission Rate</td>
<td>This measure is a composite measure of 11 PHC4 readmission measures. Its yearly timeframe allows for easier trend analyses than the 3-year roll-up CMS readmission measures.</td>
</tr>
<tr>
<td></td>
<td>Total Infection Rate per 1,000 Patient Days</td>
<td>This measure is useful in examining HAI trends over time. The measure includes all HAIs, including CAUTI, CLABSI, and SSI.</td>
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</tbody>
</table>
CONTRIBUTING HOSPITALS & HEALTH SYSTEMS

In addition to funding from Independence Blue Cross through the Partnership for Patient Care program, HCIF has received generous contributions from the following Delaware Valley health care organizations to help advance and sustain our progress in improving health care delivery in the region.

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<td>Crozer-Keystone Health System</td>
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<tr>
<td>Doylestown Hospital</td>
<td>Eagleville Hospital</td>
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<tr>
<td>Fox Chase Cancer Center</td>
<td>Grand View Hospital</td>
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<td>Hahnemann University Hospital</td>
<td>Holy Redeemer Health System</td>
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Jeanes Hospital
Magee Rehabilitation Hospital
Main Line Health System
Mercy Health System of Southeastern Pennsylvania
St. Mary Medical Center
Temple University Hospital
Thomas Jefferson University Hospitals
Penn Medicine