

Penn State Milton S. Hershey Medical Center: The Evolution of the Clinical Environment in AMCs

David Ermak, DO, and Craig Mancía, MHA
Interview by Coleen Kivlahan, MD, MSPH

This Q&A is with David Ermak and Craig Mancía. Ermak is an assistant professor of neurology, board certified in neurology with a subspecialty board certification in vascular neurology, and Mancía is a project manager for the Penn State Health System. In this informative exchange from January 2016, Ermak and Mancía discuss how Penn State Hershey established a hub-and-spoke-based telemedicine network to provide stroke care to patients in Central Pennsylvania while engaging in the CMMI BPCI initiative.

You have been in the CMMI bundled payment program since January 2014. You're managing congestive heart failure and stroke for the 90-day episode. What made you select stroke for this program?

Penn State Hershey's stroke program is very strong. The program has very good outcomes and excellent staff and is a Comprehensive Stroke Center accredited by the Joint Commission. We've been recognized for excellence in stroke care by *US News and World Report* and have received the highest award of Target Stroke Honor Roll Gold Plus for six years in a row from "Get with the Guidelines." We're a telestroke hub for 14 partner facilities. The program began in 2012 and has grown both in consult volume and number of partners since then.

Building on these accomplishments, we believed that we had further opportunity to improve cost and quality for our patients. At the organizational level, stroke outcomes have been an integral part of our core measures. We believed that the combination of this highly successful program and the opportunity for further integration of care across the 90-day episode made it ideal for BPCI.

At the outset of this program, what were the most significant risks to success?

The biggest clinical risk is the long-term disability inherent in stroke care. Many patients are permanently disabled as a result. This is a fundamentally different population from patients seeking total joint replacements, for example.

At first, as clinicians, we didn't fully understand what assuming risk for the care of patients for 90 days really meant; we didn't appreciate the impact of managing risk for post-acute facility care. Because of the chronicity

Bundled Payment for Care Improvement: Examples in Practice

The Center for Medicare and Medicaid Innovation (CMMI) created the Bundled Payment for Care Improvement (BPCI) initiative as part of an effort to encourage hospitals, physicians, post-acute facilities, and other providers to work together to improve health outcomes while lowering costs. As of January 2016, the AAMC was supporting the efforts of more than 30 hospitals to implement BPCI through the AAMC Facilitator-Convener Group.

The Examples in Practice Series highlights the challenges faced and strategies used by leaders at five health systems while participating in BPCI. These examples offer potential lessons for other academic medical centers pursuing delivery reform under alternative payment models and for the insurance administrators and policy makers designing alternative payment models.

For more information on bundled payments, go to aamc.org/bundling.

of recovery for a condition such as stroke, a 90-day episode can encompass many adverse events for patients, and managing across this continuum was a fairly new concept to all levels of our organization.

How did establishing a telestroke center impact your work in BPCI?

The CMS [Centers for Medicare and Medicaid Services] data we received for our BPCI baseline period (2009–2012) occurred before the telestroke program was up and running. Thus, our baseline period did not reflect the many changes in stroke care and population that occurred during the performance period for BPCI, as the telestroke program was under development.

Our telestroke program provides real-time remote audiovisual access to a neurological consult with a stroke neurologist or neurosurgeon. When a suspected stroke patient is recognized at a partner facility, the telestroke system is activated, and the referral hospital is connected to a stroke expert in minutes. Using a sophisticated computer system and a webcam, our physicians provide consultation, examine the patient, review scans, and speak to the patient and family in real time. A treatment recommendation is made, and the local physician determines the best course of action.

Stroke is the fourth leading cause of death and the leading cause of serious long-term disability in adults. Access to a stroke neurologist is about 4 neurologists per 100,000 people. Our program began in July 2012, to provide better stroke care to rural patients in Central Pennsylvania. At present, national data suggest that only 5 to 8 percent of qualified patients are receiving tPA [tissue plasminogen activator]. Telestroke allows

us not only to improve access to excellent care and increase the use of tPA, but also to provide support and education for other hospitals to improve their capacity. Furthermore, our partners benefit in the following ways:

- Reducing time to treatment, which has been shown to improve outcomes
- Reducing unnecessary transfer/travel for patients
- Avoiding the bypass phenomenon, allowing patients to be admitted to partner sites and create faster intervention and care

The program grew with time:

- In year one, we completed 162 telestroke consults, 96 of which were believed to be acute ischemic stroke patients; 34 percent were transferred, 32 percent received IV tPA, and 66 percent of patients were able to stay in a facility near their homes.
- In year two, 754 consults were completed, 23 percent transferred, 27 percent had IV tPA, and 77 percent of patients were able to stay near their homes.
- In year three, 1,708 consults were completed, 11 percent transferred, 19 percent had IV tPA, and 89 percent of patients were able to stay near their homes.
- In year four, our current year, 1,269 consults were completed in just the first six months; 8 percent were transferred, 23 percent got tPA, and 92 percent of patients were able to stay near their homes.
- Door-to-needle times have dropped from a median of 92 to 66 minutes.

When we began participating in BPCI, we realized that our population has changed from the baseline period. We didn't recognize the extent of the change until we received our early reconciliation results. While we were learning how to manage prolonged population risk, our consult volume to the telestroke center was rising, and our transfer rate to our facility decreased. Our spoke sites were continuously learning how to manage strokes with our remote consultation, resulting in an increase in complexity of the patients transferred to us. The sophistication in our partner sites increased; many are now delivering tPA and keeping a high percentage of the stroke patients near their homes, reducing the pressure to transfer to the AMC. This is one of several factors that reduced savings in BPCI for the first several performance quarters.

So, one of the lessons learned is that while innovating and providing the right care to our patients and communities, the care environment evolves.

Exactly! This is the mission of the teaching hospital: providing complex, state-of-the-art care, supporting

community hospitals, continuous innovation, and pushing the envelope to achieve optimal outcomes. There were additional factors that we had to address to increase our chance of BPCI savings. We operate in a largely rural area of the state—10 counties and more than 100 miles from end to end—and our patients access many hospitals near home and even a greater number of post-acute care [PAC] facilities during their rehabilitation.

We are currently narrowing our partnerships with high-quality PAC facilities that can improve outcomes for our patients. The field of risk prediction and identification of the best rehab setting for individual stroke patients is still young, and we've used one of our own inpatient rehab facilities for our stroke patients. We have additional opportunities to better identify which patients can thrive in which settings and target our PAC resources where they will be most beneficial.

The primary care doctors in our wide service area are not always aware of our telestroke program or of our work in BPCI, so this has required additional education to effectively partner with local PCPs [primary care providers] to help manage the patient after discharge from a facility.

Given these challenges, what are you doing to better manage this new population of stroke patients?

We believe that we can provide care to patients that they may not have access to locally. In our BPCI stroke episode, we began to evaluate the patients who stayed in their local facility, the patients who came to Penn State and received procedures and advanced services, and a third group of patients who were transferred to us and received tPA locally but did *not* receive any further advanced interventions at our site.

A policy issue became clear with this third group: if patients receive tPA at a remote site and are then transferred, they fall into DRG 64 through 66 rather than DRG 61 through 63. These patients fall into diagnosis-related groups (DRGs) that make it appear as though the patients did not receive thrombolysis and are less complex, thus the DRG is paid at a lower rate. Yet, we provided a higher level care for these patients since they did indeed receive thrombolysis. The enhanced care may involve ICU-level nursing care, involvement of a critical care team, and additional testing that nonthrombolytic patients do not require. We recognized that while we provided additional care, we were not performing surgery or other specialized types of care for the transferred patients who received tPA. We then began to systematically analyze which patients are ideal for transfer to an AMC and which should stay in their local communities.

Our commitment is to continuously add value, so we are rigorous about what added value Hershey can bring to each patient. This conscious evaluation of risk and benefit has driven down our transfer rate, while we continue to increase consults and service to our partner hospitals.

How did engagement in BPCI impact your overall clinical and operational strategies?

A greater percent of telestroke patients were going to rehab than those with direct admission to PSU. There was a 90 percent likelihood of transfer patients admitted to PAC as compared with a 71 percent admission rate for PSU admits. Given our desire to ensure the best care for our patients while we offer the opportunity for admission at our partner PAC facilities, many opt for rehab facilities nearer to their home. In an episode-based payment program, this negatively impacts the ability to effectively manage care over 90-day periods.

We have learned a great deal:

- It's essential to increase data transparency with all partners: PAC, primary care, telestroke spoke hospitals, and patients and families. It will take all of us to ensure that patients have the best outcomes, stay close to home when possible, and pay close attention to cost and quality.
- We all need better data about what sites of care provide individual patients with their best outcomes.
- It is time for a change in the reimbursement policy for patients who have tPA close to home but are transferred for more complex care at teaching hospitals.
- We need better strategies for optimizing care in and partnerships with PAC facilities and a much closer relationship with primary care doctors who care for these special patients and their families on a daily basis.