

# THE Value Initiative

## Members in Action: Improving Quality & Outcomes

### **Parkland Health & Hospital System – Dallas, TX** *Self-Care IV Therapy Program*

In the *Members in Action* series, AHA will highlight how hospitals and health systems are implementing new value-based strategies to improve health care affordability. This includes work to redesign the delivery system, manage risk and new payment models, improve quality and outcomes and implement operational solutions.

#### **Overview**

**When Leaders at Parkland Health & Hospital System, a safety-net hospital in Dallas, launched a program for administering long-term antibiotics to patients, they were seeking to address two problems: disparities in the delivery of health care services and the inappropriate use of health care resources.** Kavita Bhavan, M.D., medical director of Parkland's Infectious Diseases Outpatient Parenteral Antimicrobial Therapy (OPAT) Clinic, worked with a multidisciplinary team to address this issue by creating a new delivery of care model for patients requiring long-term intravenous antimicrobial therapy for the treatment of serious infections stemming from illness or injury.

Historically, insured patients have various options for outpatient IV antibiotic therapy within a number of locations: an infusion center, a physician's office, a skilled nursing facility or, most frequently, at home with support from home health services. Uninsured patients, however, typically cannot access these services so they have been treated as inpatients at Parkland or discharged to another location, such as skilled nursing facility, for example, with the hospital paying for outpatient treatment.

"It wasn't unheard of to be here 42 days getting IV antibiotics," said Bhavan, who also serves as associate professor of internal medicine at the University of Texas Southwestern Medical Center. "And they were medically stable and doing fine with the sole reason for extended hospitalization being administration of IV antibiotic therapy."

That meant inpatient beds were being tied up by patients who could be treated at home, while Parkland was constantly challenged with bed availability for acutely ill patients presenting daily through the emergency department. At the same time, patients receiving long-term antibiotics in the hospital wanted to go home to resume activities of daily living and get back to work, etc. Further, spending weeks as a hospital inpatient comes with the risk of nosocomial infections.

"Instead of asking for more resources, we wanted to find a way to maximize the potential we have in front of us," said Bhavan. That potential: the ability of patients to perform care traditionally provided by medical professionals. Bhavan and her colleagues developed a program to train those patients to self-administer IV antibiotics at home by using a simple wire coat hanger to hang the medication above

#### **Impact**

**In Parkland's fiscal 2015, the direct costs associated with the S-OPAT program were \$957,933, or \$3,574 per patient.** During that year, the program freed up 5,893 inpatient bed days, translating into direct cost avoidance of more than \$7.5 million in unreimbursed care. Bhavan attributes the patients' self-care performance to their personal motivation. While most provider organizations fall short of 100 percent hand-hygiene compliance, an individual patient striving to recover from a life-threatening infection is highly motivated.

"For health care providers, hand hygiene is an essential part of our job to prevent infection, and we should be doing it because it is the right thing to do," said Bhavan. "But patients don't think of it that way. It's not a job – it's their body and they have assumed ownership in their care to help achieve better clinical outcomes."

them and receive treatment by IV drip. Now in its eighth year, Parkland's self-administered OPAT program, or S-OPAT, has shown that low-income patients, including non-English speakers and those with low literacy levels, can provide self-care that is equal to or, in some cases, better than that provided by medical professionals.

"You don't have to have formal education to be able to perform these tasks and we have realized that formal literacy does not equate to health literacy," said Bhavan. "We have seen patients with an elementary school level education do a beautiful job with caring for their long term IV catheter (PICC line) and successfully complete a treatment course, by empowering eligible patients to engage in their own care."

The S-OPAT program is appropriate for patients who meet certain criteria. They include: they are medically stable; not homeless; no history of IV drug use; have access to a refrigerator or telephone; are able to travel to Parkland weekly; and are willing to self-administer drugs or work with a caregiver who is willing to administer these drugs. Eligible patients are referred to a pharmacist to determine whether an appropriate antibiotic can be safely administered at home. Some antibiotics require a level of monitoring that requires inpatient administration. The pharmacist determines the dose, frequency and duration of treatment. A case manager then assesses whether a patient meets the program's criteria. If so, a transitional care nurse trains the patient to administer the drug and care for the peripherally inserted central catheter line at home. Training is provided in English or Spanish, depending on the patient's preference, or by using telephone-based translation services for other languages, when necessary. Regardless of the language, the teach-back method is used to make sure the patient understands all steps associated with the procedure.

"We have them teach back to us on three separate occasions, going through the entire checklist bundle of core elements for safe administration," said Bhavan. "If they perform all of these elements in a satisfactory manner, we discharge them from hospital to home with their first week's supply of antibiotics and follow-up appointment in our dedicated OPAT clinic."

Patients also receive a box of supplies – gloves, IV tubing, alcohol pads, saline flushes – and a reminder card for their next appointment and whom to call if a problem arises. The back of each IV bag includes a QR code, which patients can scan with their phone to upload a YouTube video for real-time education and refresher for steps in the process that may be causing difficulty. Each week, the patient returns to the clinic for routine laboratory blood work, as well as to have a nurse change the PICC line dressing and pick up the next week supply of antibiotics and address any potential problems. They are seen intermittently by a physician to assess clinical progress and resolution of infection as well.

## **Lessons Learned**

**Initially, Parkland's floor nurses were assigned to educate patients about the self-care protocol, which meant the training was not always consistent.** That challenge was addressed by creating a transitional care nurse team dedicated to training the patients. That was the hospital's single biggest investment in the S-OPAT program, and one that has proved well worth the expense, she said. For those nurses, the top priority is spending enough time to make sure the patients know how to succeed at home and developing a relationship that gives patients confidence that they have the support they need.

## **Future Goals**

**Most of Bhavan's patients have one or more chronic comorbidities, such as high blood pressure or diabetes.** Because the program collects data on patients over time, Bhavan can examine whether their health metrics – blood sugar levels, blood pressure, smoking status and others – change during their course of antibiotic therapy. Those findings may help health system leaders think about the return on investment of self-care initiatives in terms of their population health management goals.

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