



“Spotlight on Improvement” highlights real stories of current efforts, including: programs being initiated; practices being implemented; and outcomes being targeted and/or achieved. They’re an opportunity for learning from others as well as a spark for further ideas on how we may work together to improve health care quality in the region.”

PeaceHealth Southwest Medical Center:

Improving Care through Glycemic Management

Background

PeaceHealth Southwest Medical Center is a 450 bed hospital with over 1,000 providers and 3,309 employees in Vancouver, Washington.¹

PeaceHealth Southwest serves patients in Clark County, which has a population of over 438,000, is 81% white (Washington 76%), and has a lower poverty rate than Washington State (11.7% to 12.5%).²

Problem

Monitoring blood glucose and preventing hyperglycemia in post-operative cardiac surgery patients has been shown to improve surgical outcomes and reduce infections.³ The Joint Commission and the Centers for Medicare and

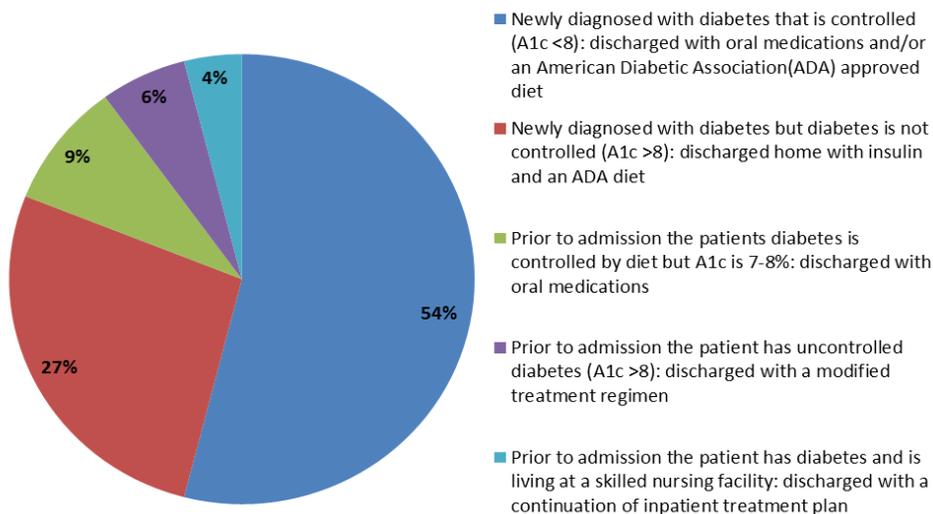
diabetes management can improve patient outcomes, shorten hospital stay, and decrease readmission rates.^{5,6}

In 2006, PeaceHealth Southwest initiated an internal glycemic control task force to review protocol and found that blood glucose targets were not regularly met in cardiac patients. The group also found that the special needs of patients with diabetes were not commonly met before discharge and there was little continuity of care once patients transitioned from the hospital back into the community.

Solution

In 2007, a pharmacist-led, multi-disciplinary team was developed to tackle the challenge of providing better glycemic and diabetic care for patients during and after their hospital stay. In late 2007, the team began by developing an evidence-based standardized approach to proper blood glucose control and to identify ways to engage the patients in their care. The team, which continues to exist today, consists of a certified diabetic educator, endocrinologist, cardiothoracic surgeons and physician assistants, quality care specialists, and nurses from the cardiovascular intensive and progressive care units.

Figure 1: Types of Interventions Made by the Glycemic Control Team, 2008-2011



Medicaid (CMS) support proper blood glucose control in the Surgical Care Improvement Project (SCIP) measures that include a post-operative day 1 and 2 morning glucose of <200mg/dl.⁴ Studies have found that glycemic variability may contribute to diabetic complications and patients who experience episodes of both hypoglycemia and hyperglycemia are at a greater risk of in-hospital mortality, whereas successful

While in the hospital, a pharmacist evaluates each patient’s clinical status to determine appropriate timing for transitioning from IV to subcutaneous insulin. For patients who are also newly diagnosed with diabetes, education is provided by a certified diabetes educator (CDE) on home glucose monitoring, meal planning, recognizing and treating hypoglycemia, weight management, and, when needed, insulin administration, hypoglycemia management, and calorie counting.

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Before discharge, the pharmacist and CDE provide tailored education with the patient and involve the patient into his or her diabetic care, such as administering their own insulin. They also check the patients' blood glucose during the hospital stay to identify any barriers the patient may experience once discharged.

During discharge, the diabetes treatment plan is sent to the patient's primary care provider or, if the patient does not

As seen in figure 2, compliance to the post-operative day 1 and 2 morning glucose of <200mg/dl measurements was 93.5% in 2007. In 2011, compliance improved to 96%, with the national and state average compliance at 95% and 94% respectively. Additionally, 6.3% of patients did not meet post-operative day 2 compliance in 2007; by 2011, this was reduced to 1.9% of patients not meeting post-operative compliance.

Challenges

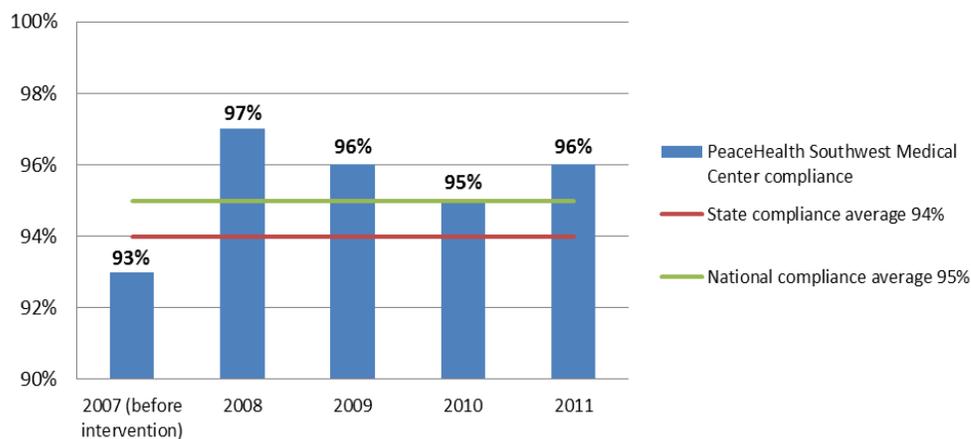
Time commitment for education—

- Participating pharmacists are required to undergo educational requirements and annual glycemic control pharmacist competency testing.
- Ongoing nursing education is needed to increase comfort with the more aggressive treatment algorithms and to increase awareness of the importance of glycemic control.

Keys to Success

- Having a system approach, involving an interdisciplinary task force with a pharmacist as a leader, is key to optimizing medication management for post-operative cardiac patients and ensures organizational accountability for the outcomes of these patients.
- Having a standardized process that may be modified to meet individual circumstances not only provides sustainable achievement in meeting SCIP measures, but also improves continuity of care for patients transitioning from the hospital back into the community.

Figure 2: Morning blood glucose measurements on Post-operative day 1 and 2 <200mg/dl (SCIP Inf-4)



About the Alliance

The Puget Sound Health Alliance, an Aligning Forces for Quality Community, is a non-profit made up of those who provide, pay for and use health care, working to improve quality of care at a price more people can afford. More than 165 organizations have joined the Alliance, including The Boeing Company, Starbucks, Puget Sound Energy, WA State Health Care Authority, King County and many other employers, physician groups, hospitals, consumer organizations, unions, health plans, pharmaceutical companies, associations and others.

A cornerstone of the Alliance work is the Community Checkup, a regional report to the public comparing the performance of clinics and hospitals for basic measures of quality care in the Puget Sound area.

have a provider, patients are referred to a clinic specializing in diabetes. As seen in Figure 1, 81% of surgical patients seen by the glycemic control team were newly diagnosed with diabetes during their hospital stay, among which 27% were diagnosed with uncontrolled diabetes.

Post discharge, the CDE makes a follow-up phone call to patients who may benefit from the extra reminders and support. Between 2008 and 2011, 912 patients were managed by the glycemic control team and 147 patients' diabetic management plans were changed before discharge.

Results

The success of the program has received two Best Practice awards by the American Society of Health System Pharmacists and they have become a learning center for other hospitals interested in implementing similar programs.

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Resources

1. PeaceHealth Southwest Medical Center: www.swmedicalcenter.org
2. Census: <http://quickfacts.census.gov/qfd/states/53/53011.html>
3. Furnary AP, Wu YX. Clinical effects of hyperglycemia in the cardiac surgery population: the Portland diabetic project. *Endocrine Practice* Vol 12 July/August 2006
4. The Joint Commission: http://www.jointcommission.org/surgical_care_improvement_project/
5. Juarez DT, Sentell T, Tokumaru S, Goo R, Davis JW, Mau MM. Factors Associated With Poor Glycemic Control or Wide Glycemic Variability Among Diabetes Patients in Hawaii, 2006–2009. *Prev Chronic Dis* 2013;10. http://www.cdc.gov/pcd/issues/2012/12_0065.htm
6. Medical University of South Carolina: <http://clinicaldepartments.musc.edu/>