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Early results of a surgeon-led, perioperative surgical home

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ABSTRACT

Background: The Perioperative Surgical Home is a novel care model designed to provide patient-centered, high-quality surgical care. In 2013, we implemented POSH, a pilot Peri-Operative Surgical Home at Phoenix Indian Medical Center (PIMC), an Indian Health Service hospital, as a quality improvement project. After 2 y, we sought to quantify the impact of POSH on the quality of surgical care at PIMC.

Materials and methods: We conducted a retrospective review of 33 surgical patients who underwent surgery at PIMC through the POSH process between 2013 and 2015 matched to 64 historical controls with similar operations. Study patients underwent surgery via the POSH treatment process. Primary outcomes were composite measures of (1) care standards and (2) care goals. Success was defined as meeting seven of nine care standards and six of eight care goals.

Results and discussion: The mean number of care standards met was 8.1 ± 1.0 *versus* 4.2 ± 1.4 ($P < 0.001$) and the mean number of care goals met was 6.7 ± 0.8 *versus* 6.1 ± 1.1 ($P = 0.005$) for POSH patients and historical controls, respectively. Patients participating in the POSH model were 8.6 (95% confidence interval: 3.5-22.3) and 1.5 (95% confidence interval: 1.2-1.9) times more likely to meet the minimum number of care standards and goals, respectively. Fourteen of the study patients (42%) would not have been offered surgery at PIMC before POSH due to elevated surgical risk.

Conclusions: POSH may have improved quality of surgical care at PIMC while expanding services to more complex patients. POSH may present an opportunity for improved surgical quality in resource-constrained environments.

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Introduction

Medical and surgical care in the United States have become increasingly fragmented among multiple clinicians and venues.[1] The current quandary in which surgical patients and clinicians find themselves was summarized by a primary care physician (PCP) at Cornell Medical College in a description of the care coordination needed for a patient before a complex biliary operation. In the 80 d before surgery, the PCP communicated 40 times with other physicians and 12 times with the patient while the patient underwent five procedures and saw 11 other physicians. The report ended at the day of surgery and does not detail the ongoing care needed for the operation and postoperative treatment.[2]

In addition to fragmented care, patients of the Indian Health Service (IHS) face further challenges including health disparities and limited funding. For example, mortality rates are higher for American Indian–Alaska Native (AI/AN) patients than other Americans for many causes of death, including cirrhosis, diabetes mellitus, and unintentional injuries.[3] The causes of these disparities include disproportionate poverty and discrimination in the delivery of health services, among others.[3] Limited funding is another major challenge. Per capita expenditure per user for the IHS is markedly lower than other programs. As reported by the IHS in 2015, per capita expenditure per user was $3099 for the IHS, *versus* $8097 for the total US population.[4]

In response to fragmentation of surgical care and concerns about quality and patient satisfaction, the Perioperative Surgical Home (PSH) model has been proposed as a solution. The PSH is designed to provide coordinated, patient-centered, evidence-based care from the time of surgical referral through postoperative discharge and outpatient care.[5-8] Through this reengineering of care, architects of the PSH model aspire to meet all three elements of the Institute for Healthcare Improvement's Triple Aim: improved population health, improved patient experience, and reduced cost.[9]

In 2013, the General Surgery Department at Phoenix Indian Medical Center (PIMC) initiated a pilot PSH as a systematic quality improvement project to which we refer as "POSH." The term "POSH" distinguishes our initiative from other PSH models. PIMC is a federally funded, 127-bed Joint Commission–accredited hospital serving 140,000 AI/AN patients and 40 tribes in Arizona, Nevada, and Utah. PIMC provides essential surgical services including general surgery, obstetrics and gynecology, orthopedics, podiatry, head and neck surgery, ophthalmology, and oral surgery. PIMC has limited inpatient services. There are no dialysis, interventional radiology, gastroenterology, or pulmonary/critical care services; inpatient cardiology services are strictly consultative, without the availability of most standard testing.

POSH at PIMC is a surgeon-led, multidisciplinary project. The goal of POSH is to provide comprehensive, patient-centered, high quality surgical care in a culturally responsive facility. From the time of referral to a surgeon through return of the patient back to the primary care team, POSH coordinates all patient care. The surgeon and the surgical care coordinator are the primary points of contact for the patient. An overview of the process is presented in Figure. The primary intervention is the Assessment and Planning (A&P) process through which the team provides collaborative perioperative health optimization and care plans for complex patients.

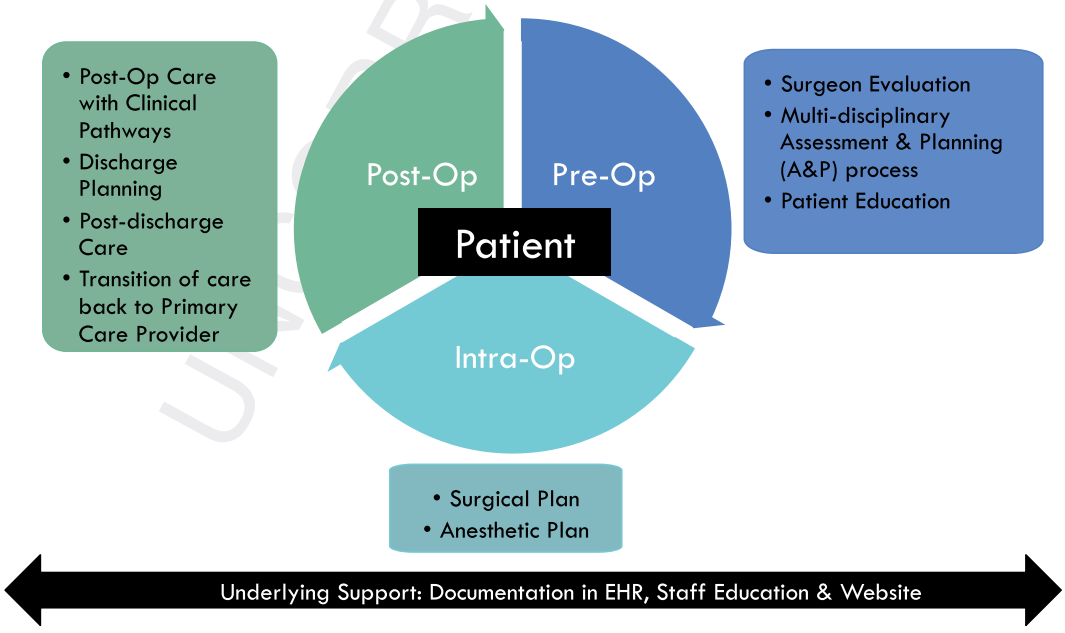

Fig – POSH process cycle at PIMC. Representation of the POSH process cycle from patient referral to the surgeon through return of the patient to primary care. Each phase of the process is supported by POSH-specific documentation in the EHR, which is accessible to all staff caring for the patient, a comprehensive staff education program, and a central Web site. Details of the A&P process are listed in Table 1.