

Throughout the year, this column's authors address ideas and strategies that were suggested in the January column—The Future of Oncology Nursing Research: Research Priorities and Professional Development. The following article is the second of a two-part series showcasing a group of oncology nurses who effectively implemented translational research findings on an inpatient oncology surgical unit using an interprofessional team approach.

## Implementing Evidence-Based Practice Using an Interprofessional Team Approach: Part Two

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The complexity inherent in the inpatient oncology population requires effective interprofessional collaboration and integrated evidence-based practice (EBP), drawing from each of the disciplines to achieve desired outcomes. Each member of the team lends a strength and expertise that, when combined, often results in outcomes greater than the sum of its parts (Hall & Weaver, 2001; Petri, 2010; Pullon & Fry, 2005). EBP promotes the use of research to solve issues raised in day-to-day nursing practice. This article provides an overview and summary of an evidence-

based project to increase compliance of sequential compression devices (SCDs) in gynecologic oncology and urology patients on a post-surgical inpatient unit using the Plan, Do, Study, Act (PDSA) model for continuous quality improvement (CQI) (Institute for Innovation and Improvement, 2013).

The "Plan" and "Do" portions of cycle one were described in detail previously (Bohnenkamp, Pelton, Rishel, & Kurtin, 2014). In review, inconsistent use of SCDs was noted during interprofessional patient rounds on a 28-bed surgical oncology unit in the southwestern

United States. Only 59% of at-risk patients were found to have SCDs consistently in place. Nineteen percent of these patients did not have an active order for SCD use in the medical record. A number of other factors noted to be barriers to effective SCD use included the lack of available equipment, patient refusal, and knowledge deficits on the part of staff and patients. Interprofessional planning, staff education, and targeted interventions, including adding SCD orders to the admission order set for all patients, were implemented. The follow-up and continuous use of the PDSA model to affect change and improve patient outcomes will be the focus of this article.

### Cycle One: Study

The study segment of the PDSA cycle includes examination of data collected before and after implementation (Institute for Innovation and Improvement, 2013). Based on the planning process, orders for SCD use were included in the admission order set for all patients admitted to the unit. The clinical nurse specialist (CNS) and unit educator performed random audits on all gynecologic oncology and urology patients admitted during the study period to assess compliance with SCDs following the targeted interprofessional interventions. All of the patients had an

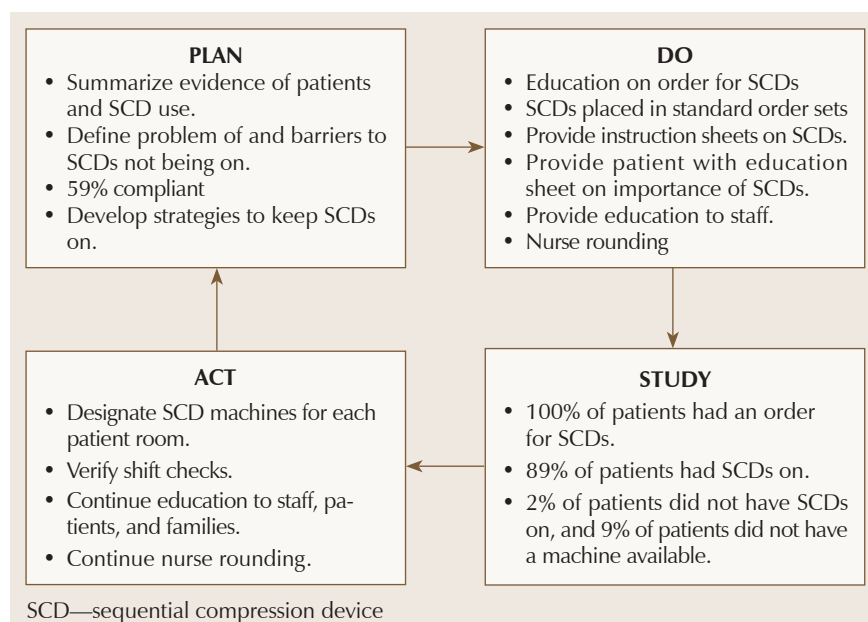
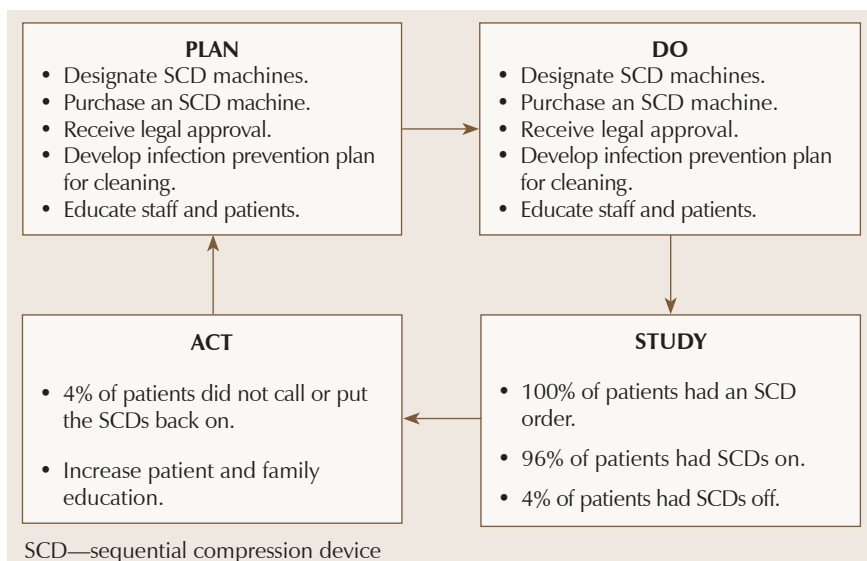


Figure 1. Plan, Do, Study, Act—Cycle One

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**Figure 2. Plan, Do, Study, Act—Cycle Two**

appropriate SCD order in place, and 89% were compliant with SCD use (see Figure 1). Reasons for inconsistent use of SCD in the remaining 11% of patients included the lack of necessary equipment and factors such as patient refusal or staff oversight. Phase one of this project demonstrated a 30% increase in SCD compliance, but did not reach the set goal of 100%, indicating the continued opportunity for improvement.

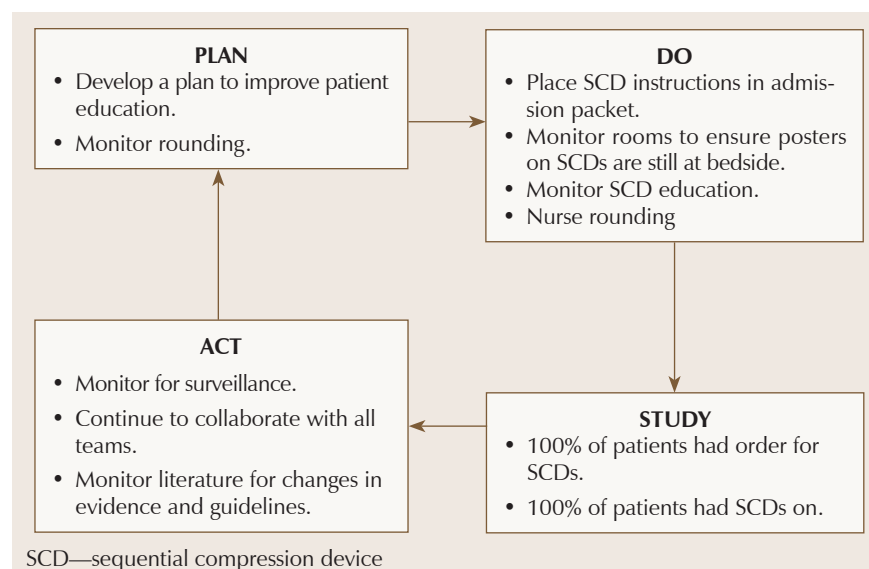
## Cycle One: Act

The final step in each PDSA cycle is “Act,” where planning takes place to either make changes and enter a new cycle, or to determine that the project is ready for full implementation (Institute for Innovation and Improvement, 2013). During that time period, the interprofessional team met, discussed results of the phase one data collection, and possible next steps. The recommendation was to proceed with another PDSA cycle to work toward the goal of 100% compliance with SCD use. All previous interventions would continue, including staff and patient education, as well as charge nurse rounding throughout the shift to remediate as needed.

## Cycle Two: Plan

Lack of equipment was determined to be a barrier to improvement. The team decided to pursue the procurement of a dedicated SCD machine to remain in each patient room on the target unit. The

interprofessional team recruited members from departments critical to effective implementation and maintenance of the SCD program, including purchasing, legal, infection prevention, and housekeeping. Planning began with the CNS and purchasing department contacting the SCD manufacturer and negotiating the procurement of 28 machines. The legal department representative assisted the team with drafting and approving a new purchasing contract to reflect this negotiation. Infection prevention and housekeeping were involved in developing a process to disinfect the machines on the unit, as opposed to using the existing process for cleaning in central supply.



**Figure 3. Plan, Do, Study, Act—Cycle Three**

The unit educator, CNS, and nursing management team developed a process to prevent machine loss and misplacement.

## Cycle Two: Do

Following the delivery of 28 SCD machines, the interprofessional team entered the “Do” segment of cycle two (see Figure 2). A team of unit nurses labeled each machine with a unit identifier for ease of identification and developed an equipment checklist to be completed every shift, accounting for all machines and documenting use. Missing or malfunctioning machines were to be reported to the management team. Infection prevention provided recommendations on proper disinfecting of the equipment and housekeeping supervisors disseminated this information to their staff via inservices and staff meetings. Nursing staff were educated on the new process through inservices, staff meetings, and shift huddles. Education continued as per PDSA cycle one and included educational handouts in admission packets reviewed by an RN with patient and family during admission, signs in every room about SCD importance, and staff education through meetings and one-on-one remediation. During this cycle, the decision was made to pursue institutional review board (IRB) approval and move the study to research status. The CNS and unit educator worked with the IRB to complete this process and approval was granted. No patient consent was needed because interventions provided were congruent with established standards of care.

## Cycle Two: Study and Act

Random audits conducted by the CNS and unit educator during a four-week time frame showed 100% of the patients had an active SCD order in place. Of these patients, 96% were fully compliant with SCD use, and 4% were not compliant, although the needed equipment was available. That was a dramatic improvement from the starting point of 59%, but still short of the stated target to be 100% compliant with SCD use. The interprofessional team decided to enter a third PDSA cycle and investigate the final barriers to goal attainment.

## Cycle Three: Plan, Do, Study

Interviews with patients and staff regarding compliance revealed a need to further educate patients and families on SCD use and importance in cycle three of the PDSA (see Figure 3). Nursing staff were instructed on methods for patient and caregiver education to emphasize the benefit of SCD use and the risks associated with not using the SCDs consistently throughout the hospital stay. Physicians and charge nurses reinforced education during patient rounds and provided feedback to the nursing staff. The CNS, unit educator, and nursing management team also conducted one-on-one education to staff, patients, and families. Following implementation of these initiatives, auditing was repeated by the CNS and unit educator over an additional four-week time frame. One-hundred percent of patients were using SCDs appropriately at the time of the audit.

## Cycle Three: Act

The interprofessional team met to discuss next steps in the process, as the original project goal of 100% compliance with SCD use was met. A six-month sustainability audit was performed by the CNS and unit educator following the completion of the project with 98% compliance for SCD use. Results were disseminated to the unit nursing staff via meetings, emails, and shift huddles. The project was presented to the hospital venous thromboembolism (VTE) task force, to the co-chairs of all the unit-based shared leadership councils, and to the patient care leadership committee. Presentation of findings occurred

locally and nationally at the Academy of Medical-Surgical Nurses National Conference.

The planned next steps are to implement this process hospital-wide, continue to improve ways to increase SCD compliance, and examine outcomes on VTE incidence. The nursing unit's shared leadership council, CNS, and unit educator developed an admission video containing information on the importance of SCDs. This video is now being shown to patients and families during admission to the unit and in the gynecologic oncology and urology clinics prior to admission. Data are being collected to determine if this will increase patient compliance with SCD use and overall satisfaction. The CNS and unit educator are working with the VTE task force to implement this process throughout the hospital. The final step will be to collect data on VTE incidence in this patient population to determine if increased SCD compliance has a positive impact on patient outcomes.

## Conclusion

Interprofessional teams, with expertise in different disciplines, can initiate EBP changes at the bedside, producing best outcomes and improving quality of care for patients with cancer. In this study, the PDSA model using an interprofessional team approach was effective in increasing compliance with SCD use in a high-risk cancer population. Using the PDSA model for CQI, the interprofessional team demonstrated effective practice change by concentrating on improving the system not just the individual. Multiple cycles may be needed to achieve the desired outcome. Oncology nurses must be prepared to integrate EBP at the bedside, participate in and lead CQI projects through collaboration with interprofessional teams, and continuously evaluate patient out-

comes to identify areas for potential improvement.

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## Leadership & Professional Development

This feature provides a platform for oncology nurses to illustrate the many ways that leadership may be realized and professional practice

may transform cancer care. For more information, contact Associate Editor Cindy J. Rishel, PhD, RN, OCN®, at [rishelmom@gmail.com](mailto:rishelmom@gmail.com).