



NK6EO- Nurses are involved in the design and implementation of work flow improvements and space design to enhance nursing practice.

Provide one example, with supporting evidence, of nurse involvement in the design and implementation of work flow that resulted in operational improvement, waste reduction, or clinical efficiency. Supporting evidence must be submitted in the form of a graph with a data table that clearly displays the data.

Or

Provide one example, with supporting evidence, of nurse involvement in the design and implementation of work space that resulted in operational improvement, waste reduction, or clinical efficiency. Supporting evidence must be submitted in the form of a graph with a data table that clearly displays the data.

Example 1: Work Flow: Orthopedic Surgery First Start Cases

Background/Problem:

Delayed Operating Room starts are stressful on patients and families and costly to health care institutions. Surgery Compass, an organization with an aggregate benchmarking database, provides a 75th percentile target for all first case on-time starts of 61%. In early 2012, orthopedic surgery cases in the Main Operating Room at UVA Health System had a percentage of first-case elective-surgery on-time starts below the 61% benchmark.

In an effort to identify gaps in the current process that contribute to delayed start times, a flow diagram of the current patient progression process was mapped out. The diagram included a map of the work flow that followed patient care from the Orthopedic Clinic through the Surgical Admission Suite (SAS) and into the OR. The diagram showcased 15 opportunities for improvement within SAS that could improve the percentage of first-case elective surgery on-time starts.

Goal Statement:

To improve the percentage of on-time orthopedic first-start elective-surgery cases and exceed the benchmark of 61% by eliminating non-value added steps and enhancing work flow.

Description of Activity:

An interprofessional team, including clinical nurses in the Surgical Admission Suite (SAS), evaluated the list of improvement opportunities, discussed likely root causes and considered strategies to resolve patient flow difficulties. Identifying the need for



improvement and subsequent discussion about patient flow heightened awareness prior to formal intervention resulting in a slight improvement. However, many of the patient progression flow issues were related to lack of role clarity and delays in communication among team members on the day of surgery and required a structured plan. The interprofessional team began designing a work flow plan inclusive of a six-flag, color-coded system which hung outside the patient's room in the SAS. The system was designed to clarify roles and streamline patient progression to the operating room. Clara Winfield, BSN, RN, CAPA, Clinician IV, collaborated with Karen Thomas, the nurse manager, to include the role of a SAS "Start Time Matrix Facilitator" RN in the work flow. Together, they introduced the concept of a SAS RN as a leader in the day-to-day flow management of the new work flow plan. The interprofessional team approved the plan and the new work flow process rolled out with a designated Registered Nurse from the Surgical Admissions Suite (SAS), as the facilitator for the gate flag system.



Beth Bradley, RN, CAPA, Clinician III and Kathy Sullivan, RN, Clinician II with the gate flag system (top left).

The gate flag system work flow process was implemented on May 3, 2012 and included the following components:

1. The white flag was posted by the assigned SAS nurse within 30 minutes of arrival to the unit signaling that the initial intake and assessment was completed.



2. The black flag was hung within 30 minutes of patient arrival to signal that the IV was inserted. If IV could not be inserted during this time frame, the Anesthesia Block Team was consulted for assistance.
3. The yellow flag was posted within 40 minutes of arrival to note that the Orthopedic Resident/Physician's Assistant had met with the patient, reviewed the plan and marked the surgical site. If this could not occur, the Attending was called.
4. The green flag was raised no later than 70 minutes after arrival to signal that the Anesthesia Block Team had completed the procedure. This flag was not used if the patient did not require an Anesthesia block.
5. The blue flag was posted within 80 minutes of patient arrival to designate that the Anesthesia team had met the patient, assessed the airway and developed a plan. If this was not conducted as planned, the Certified Nurse Anesthetist and Attending Anesthesiologist were paged.
6. The red flag was posted within 95 minutes of the patient arrival by the Circulating Nurse as notification that the patient was met and the final step in the process was complete.

After all of the required flags are hung, the final steps of completing the Surgical Admission Ticket are performed: notifying the entire team and transporting the patient to the Operating Room.

Participants:

NK6EO Table 1: Participants, Orthopedic Surgery First Case Timely Start

Name	Discipline	Title	Department
Jeff Ciucias	Nursing	RN Administrative Coordinator	Perioperative
Clara Winfield	Nursing	RN Clinician IV	Surgical Admission Suite
Karen Thomas	Nursing	Nurse Manager	Perioperative
David Bogdonoff	Medicine	Professor	Anesthesia
Bobby Chhabra	Medicine	Chair and Professor	Orthopedics
Gary Cuccia	Nursing	Chief Certified Registered Nurse Anesthetist	Anesthesia
Cesar Musngi	Nursing	Anesthesia Technician	Perioperative
Tony Singleton	Nursing	RN, OR Unit-Based Pool	Perioperative



Steve Oikonomides	Patient Care Technician	Patient Care Technician	Perioperative
Keith Smith	Supply Chain	Manager, Surgical Supply	Perioperative
Diana Wood	Patient Care Technician	Supervisor, OR Patient Care Technicians	Operating Room
Ruth Early	Nursing	RN Clinician II	Surgical Admission Suite
Crockett Stanley	Quality	Performance Improvement Project Management Coordinator	Performance Improvement
Glenn Fielding	Information Systems	Director of Clinical Information Services	Surgical Services IT
Christine Kelly	Quality	Report Writer and Data Analytics	Performance Improvement

Outcome:

The gate flag work flow system was successful. The percentage of Orthopedic first-case start times for elective surgeries improved and are now above the 61% benchmark provided by Surgery Compass. The flag gate system initiated in SAS improved work flow and led to a sustainable increase in the frequency of on-time start times.



NK6EO Figure 1. First Case On-Time Starts - Elective Orthopedic Cases, 1/2012-12/2012

