Creating a Culture of Safety Through Crew Resource Management
VA Pittsburgh Healthcare System Dialysis Program

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Category: Culture of Safety
Type of Facility: Inpatient and Outpatient
Number of Patients: 30-36 in-center hemodialysis
10-20 home dialysis
800-1,000 inpatient hemodialysis treatments/year

Background

It has been widely recognized that communication failure is a leading source of medical errors and adverse events in healthcare settings. Crew resource management (CRM) is a model developed in the airline industry to improve the safety, efficiency and morale of individuals working as a team. As developed in the airline industry, CRM focuses on interpersonal communication, leadership and decision-making in the cockpit. The CRM model has been utilized in healthcare settings, primarily in settings such as operating rooms and emergency departments. During discussions for the planning of the series of patient safety webinars developed by Keeping Kidney Patients Safe during the autumn of 2015 the question was raised whether any of the participants had experience applying the concepts of CRM within their dialysis facilities. None of the participants on the planning calls expressed experience implementing CRM within their dialysis facilities as a means of transforming the culture of safety.

These discussions led to interest in the possibility of implementing CRM in our dialysis program, a hospital-based dialysis unit that provides inpatient services (approximately 800-1000 treatments per year), outpatient in-center hemodialysis (9 stations with 4 shifts per week) and home peritoneal dialysis and home hemodialysis (10 to 20 patients). As an early step in educating ourselves regarding CRM, we contacted the Department of Veterans Affairs National Center for Patient Safety (NCPS). Through these discussions arrangements were made for trainers from the NCPS to train the entire dialysis program staff on the fundamentals of CRM and to use the NCPS as a resource for the implementation of a patient safety...
Implementation

After a 3-month planning process involving the chief of the renal section (Paul M. Palevsky, MD), the medical director of the dialysis program (Mohan Ramkumar, MD) and the nurse manager of the dialysis program (Marlene Van Buskirk, RN) along with staff from the NCPS (Gary Sculli, RN, MSN), Clinical Team Training sessions were held in February 2016.

The concept of CRM and Clinical Team Training was introduced to all Dialysis Program staff over a period of months prior to the actual training sessions. All dialysis program staff members (physicians, nursing staff, patient care technicians, social worker, dietician, program support assistant) participated in one of two full-day Clinical Team Training sessions run by NCPS staff that were held on successive days. Each full-day session consisted of three training modules:

- Module 2: Leadership and Followership
- Module 3: Situational Awareness Countermeasures

While there was some resistance to the required training sessions, comments following the training indicated that the majority of staff felt the training was highly successful with some of the more skeptical staff (including physicians) commenting that the training was the most useful of all the required training in which they are required to participate.

Following the Clinical Team Training sessions, daily safety huddles were implemented. In addition, checklists were developed and deployed for team briefing and debriefing, for routine steps at dialysis initiation (both pre- and post-initiation checklists) and for infrequent occurrences, including air in blood and dialyzer change.

As a pilot project developed in conjunction with the Clinical Team Training program a patient hand-off safety project was developed and implemented. Staff had identified communication issues between the dialysis unit staff and inpatient care teams as particular patient safety vulnerability. The project was initiated to improve communication and ensure that pertinent information required for safe patient care was obtained from the inpatient areas before dialysis and reported to the inpatient areas when dialysis was completed. Pre-dialysis and post-dialysis report checklists were developed. The charge nurse in the dialysis unit uses the pre-dialysis report checklist to obtain report from the inpatient nurse who is assigned to the patient. At the end of treatment, the dialysis nurse assigned to the patient uses the post-dialysis report checklist to give report to the inpatient nurse caring for the patient on the floor. This information is then documented in a templated note in CPRS (the VA’s electronic health record (EHR)) to provide written documentation of dialysis treatment for providers and nurses.

Among the specific tools implemented (see attached) as part of the project were the following:

- Clinical Team Training Resource Pocket Cards:
Effective Followership Algorithm Pocket Card – tools covered during the Clinical Team Training sessions to empower staff to intervene when potential safety issues are observed. This includes the 3Ws tool (What I see; What I’m concerned about; What I want) and the 4-Step tool (Get attention; State concern; Offer solution; Pose question) to improve assertive communication.

Situational Awareness Pocket Card – tools covered during the Clinical Team Training sessions to assist staff as countermeasures when situational awareness may be impaired including the 1-2-3 Rule (1. Step back; 2. Analyze; 3. Use resources) and Red Flags to impaired situational awareness (Failed cross check; Confusion; Not following policy; Failure to meet targets; Not communicating)

Checklists
- Team briefing checklist
- Debriefing checklist
- Dialysis pre-initiation checklist
- Dialysis post-initiation checklist
- Dialyzer change checklist
- Alarms: air in blood checklist

Patient handoff project tools
- Pre-dialysis report checklist
- Post-dialysis report checklist

Follow-up and Sustainability

As there were no baseline data available regarding “near-misses” or actual patient safety events related to interventions implemented, effectiveness has been assessed based on surveys of the patient care staff. Nine (6 RNs and 3 patient care technicians) of 14 staff (64 percent) completed the anonymous survey.

All staff who completed the survey agreed that the morning huddle was valuable:
- 44 percent of respondents stated that they altered care that day as a result of the huddle;
- 67 percent felt that patient safety has improved as a result of the huddle; and
- 44 percent stated that they learned something new about their patients that day as a result of the huddle.

Furthermore, 67 percent of respondents indicated that they used the 3Ws tool (What I see; What I’m concerned about; What I want) in the work area and that the 3W technique has made it easier to deal with uncomfortable situations. Additionally, 67 percent of respondents reported that the use of the Post-Dialysis Initiation Check list had prevented an error.

Eighteen months after implementation we performed an assessment of sustainability of the interventions. Checklists were still being used by staff, however adherence to the daily patient safety huddle was variable.
The patient hand-off project was ongoing with staff reporting that communication between the dialysis unit and patient care floors was more consistent.

In order to reinvigorate the project, a formal retraining session is scheduled for February 2018.