A PILOT STUDY ON NURSE-LED ROUNDS: PRELIMINARY DATA ON PATIENT CONTACT TIME

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Abstract- IMPORTANCE OF THE STUDY. Ward rounding has been a historical clinical method of inter-professional collaboration to support inpatient care through the sharing of mental models by exchanging information and discussing plans of care, treatment goals, and discharge plans for the patient. The extant literature reports that rounds are frequently led by doctors with infrequent nurse-physician collaboration and patients' interactions with doctors during ward rounds tend to be brief. OBJECTIVE. To explore the effects of nurse-led morning ward rounds on patient contact time. DESIGN. An ethnographic prospective observational study comparing nurse-led and physician-led rounds. SETTING. A General Medicine ward at the National University Hospital in Singapore. INTERVENTION. A pilot intervention of nurse-led ward rounds for one week in June 2014. In the pilot intervention, nurses used the SPICES mnemonic to present their patients' conditions to the clinical teams during morning rounds. MEASURES AND ANALYSES. Two observers shadowed the clinical teams for 57 patients. The amount of time that the clinical teams spent at the bedside of each patient was recorded. RESULTS. The results showed that the average time spent with patients at the bedside was significantly longer for nurse-led rounds compared to physician-led rounds. Also, the average time spent with patients at the bedside trended down toward the end of the 2-hour morning round time for resident-led ward rounds but it remained relatively consistent with an upward trend near the end of the 2-hour morning round for nurse-led rounds. CONCLUSION. The preliminary data suggests that quality time spent with patients at the bedside during morning rounds may be improved by nurse-led rounds.

Key Words: morning rounds, nurse-led, patient bedside contact time

I. Background

Ward rounding has been a historical clinical method of inter-professional collaboration to support inpatient care through the sharing of mental models by exchanging information and discussing plans of care, treatment goals, and discharge plans for the patient[1]. The U.S. Institute of Medicine endorses the value of inter-professional collaboration as a paradigm of providing healthcare that assures patient safety[2]. Internationally, the World Health Organization called for policy-makers, educators, health workers, and community leaders to imbed inter-professional collaborative practices in all services delivered[3]. Research has shown that improved collaboration among healthcare providers can increase service delivery efficiencies,[4] and lower lengths of stay and total hospital charges[5]. In hospital-based medical units, mutual relationships, collaboration, and shared decision-making among physicians, nurses, and patients during ward rounds have led to better care, enhanced patients' knowledge of their conditions and treatment plans, increased patient satisfaction, and improved teamwork among clinical staff[6].

Although it is important to have inter-professional staff for successful patient management, nurse-physician collaboration during rounds occur infrequently[7]. Stickrath et al.[7] found that attending teams communicated with nurses 12% of the time. Zwarenstein et al.[8] found that non-physician inputs were often overlooked by physicians, whose deliberative interactions were almost entirely with other physicians. Among patient safety experts, the lack of inter-professional collaboration is a cause for concern because nurses and doctors possess different information sets of their patients. For example, nurses generally spend more time at the bedside of patients and their families, and therefore observe behaviors that doctors do not see at first hand during their brief rounds. Proper discharge planning, for example, requires clinical and non-clinical information such as family dynamics of the patient that nurses are more likely to know. Hence, the inclusion of nurses in ward rounds can align professional priorities and facilitate a shared understanding of the patient's needs.

Although ward rounds offer the opportunity for doctors to spend quality time with patients[9], reports indicate the experience to be brief for patients, with little opportunity to ask questions, and marred by the annoyance of being seen by up to a half-dozen bored-looking strangers who appear to be in a hurry[10]. Therefore, we believe that improvements in the conduct of ward rounds may lead to better patient-centered care. In this study, we deploy a pilot intervention to introduce nurse-led ward rounds. Accordingly, nurses present their patients prior to the clinical discussion by physicians. The purpose is to prioritize the input of nurses so that the information is formally included in the patients' plan of care and to increase the exposure of the doctors to their patients. We hypothesize that patient contact time in nurse-led ward rounds would be longer and more consistent compared to physician-led rounds.

II.   Methods

A.   Setting, Design, and Participants

The setting for this study is the General Medicine ward of a tertiary academic center in Singapore. The facility has about 1100 inpatient beds. Administratively, the intervention was introduced as part of a continuous improvement process to create a multi-disciplinary structure for morning rounds aimed at improving communication and relationships, ensuring continuity of care for patients, and improving clinical staff's experience. The pilot ward comprised 44 beds sectioned into six cubicles that included isolation beds. Data was collected primarily for patients on beds in five cubicles, cubicles B to F, each with six beds. Data was collected in June 2014 for three days during the first week of the pilot intervention. In total, 57 bedside rounds were observed, of which 31 were nurse-led.

Prior to the intervention, a typical morning round of about 2 hours that occurs between 0900-1200hr comprised one consultant (attending physician), one senior resident (fellow or PGY4), one resident (PGY2 or PGY3), and one housestaff (PGY1). On an ad hoc basis, up to two medical students, a nurse, a nurse trainee, a physical or occupational therapist, care coordinator or a social worker may join the rounding teams. Interactions within each clinical team during morning rounds were largely among the physicians, with occasional input from patients, patient families, and nurses when they were able to answer questions.

A senior consultant, working with a nurse, developed the intervention and championed it with their peers. The nurse champion worked with the senior consultant for a week to develop a protocol for presenting patients using the SPICES (**S**leep, **P**roblems with eating/feeding, **I**ncontinence, **C**ognition, **E**vidence of fall, and **S**kin condition) mnemonic. The nurse champion then recruited other nurses for the intervention and together, practiced and fine-tuned the presentation of patient information during morning rounds. The protocol for a nurse-led round is shown in Figure 1.

In order to compare the effects of nurse-led and physician-led rounds, two cubicles were assigned to the implementation condition while three others were left unassigned. On the first day of the pilot intervention, the morning rounds began with nurse-led rounds. The rounds in the unassigned cubicles were led by residents. On the second day, the residents presented first, followed by the nurses. This ensured that fatigue could not be a factor that explains any differences we found. On the last day of the week, all the presentations we observed were made by the nurses, who had by that time been trained in the protocol.

B.   Measures and Analyses

Two observers shadowed the clinical teams and noted the amount of time spent at the bedside of each patient. Comparisons were made for contact time with patients between clinical teams that were led by nurses and those led by the residents. At the end of the week, the observers informally interviewed members in each clinical team to obtain their reactions toward the nurse-led rounds vis-à-vis the resident-led rounds.

III.   Results

The average contact time per patient was 6.5 minutes. The average contact time per patient for nurse-led rounds was 7.2 minutes, whereas that of the resident-led rounds was significantly lower at 5.7 minutes from the Mann-Whitney U test (p=0.68). The comparative results between nurse-led vis-à-vis physician-led rounds are depicted in Figures 2 and 3. Figure 2 shows that the average time spent with patients at the bedside trended down toward the end of the 2-hour morning round for resident-led rounds but it remained relatively consistent with an upward trend near the end of the 2-hour round for nurse-led rounds. Figure 3 shows that the average time spent with patients toward the end of the 2-hour round on Day 1 for resident-led rounds was 4.92 minutes, which was significantly lower than the average time of 6.78 minutes and 6.92 minutes spent with patients at the end of the 2-hour ward rounds for nurse-led rounds in Days 2 and 3 respectively (p = 0.64).

The observers noticed that nurses actively organized clinical tasks and interactions with patients, family members, and other care providers prior to the morning presentation. A nurse commented, "I now have to know my patients better [to make the presentation]". Nurses contributed patient information during rounds that was otherwise discovered by physicians by chance in an ad hoc manner. A senior resident remarked that, "we have less things to do [information search or answer nurse queries] after the rounds". Hence, the interviews revealed that physicians were cooperative and supportive of the practice.

Overall, nurses reported that they understood their patients' treatment plans better and could better explain the need for tests or procedures to their patients and their family members. Other nurses commented that they felt more empowered as they had a voice in the care of their patients, which improved their morale. While the nurses remarked that it was 'scary' for them to take on such a leadership role, they also acknowledged that with practice, their confidence increased. To accelerate adoption, they suggested shadowing

model nurses to better prepare for the first time they make a bedside presentation to the clinical team.

Discussion, Implications of Results & Conclusion

Although the nurse-led rounds took 30 minutes longer on average to complete, the overall sentiment from the participants was that the protocol produced better teamwork and a reduction in inquiries later in the shift by either the physicians or the nurses. The protocol was perceived to create more engagement and help facilitate better decision making among the primary caregivers as they were present to share information and hear the presentation of the patient's condition and plan of care from different perspectives. In particular, information about the patient's overnight condition and family concerns raised during visiting hours the night before helped senior doctors make more informed decisions regarding discharge plans.

Since this was a pilot project about continuous process improvement, the bedside time contact was drawn from a small number of patients in one ward over three observational periods. This limitation reduces the generalizability of the results. Future research should measure the impact from nurse-led rounds in a pre-post study with another ward serving as a control. The dependent variables in such a study would include patient satisfaction with the ward round experience, operational efficiencies such as fewer redundant calls to verify plans of care, and provider outcomes such as empowerment, job satisfaction, or on-time departure from shifts.

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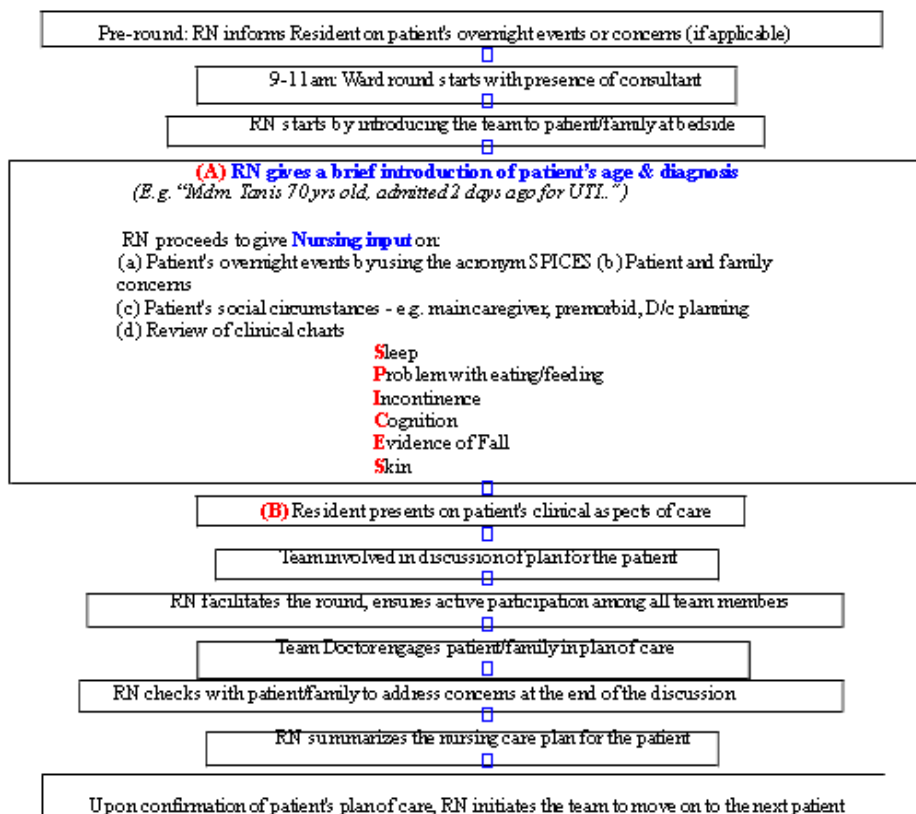[10] Launer J. What's wrong with ward rounds? *Postgrad Med J*. 2013;89:733-734.

Figure 1: Workflow of Nurse-led Ward Round

To note:

For new patients or when there is a change of consultant coverage, presentation proceeds with (B) before (A) in the above workflow.
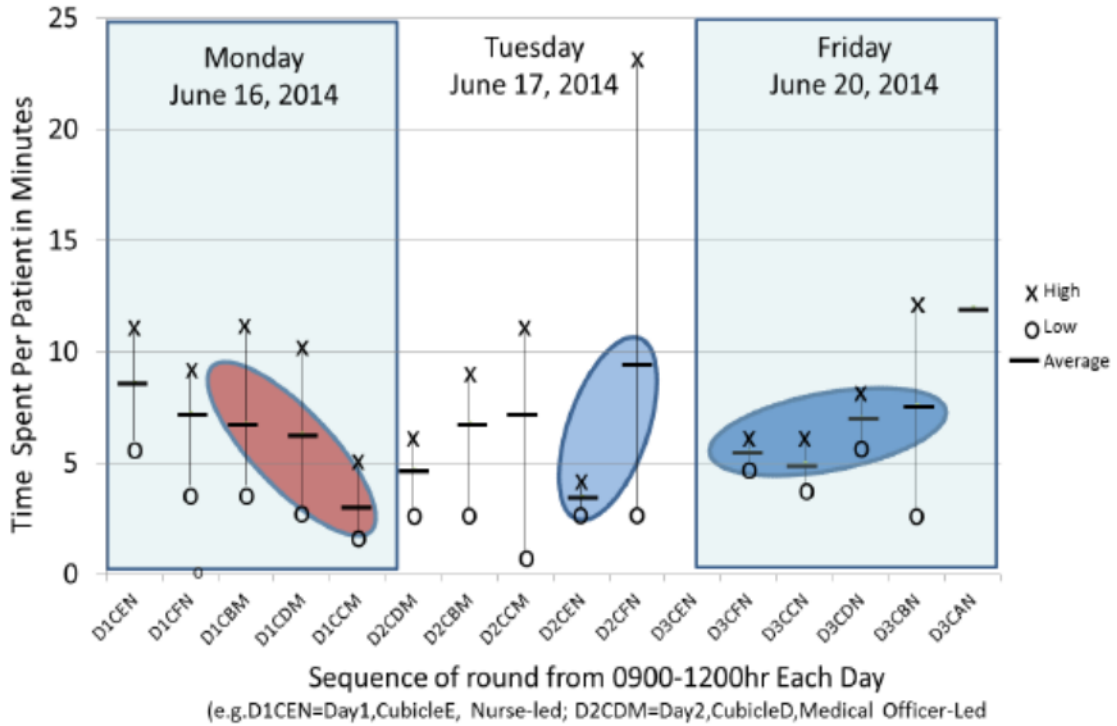

Figure 2: Comparative Results

X High = longest bedside patient time at a specific cubicle
O Low = shortest bedside patient time at a specific cubicle
– Average = average bedside patient time at a specific cubicle
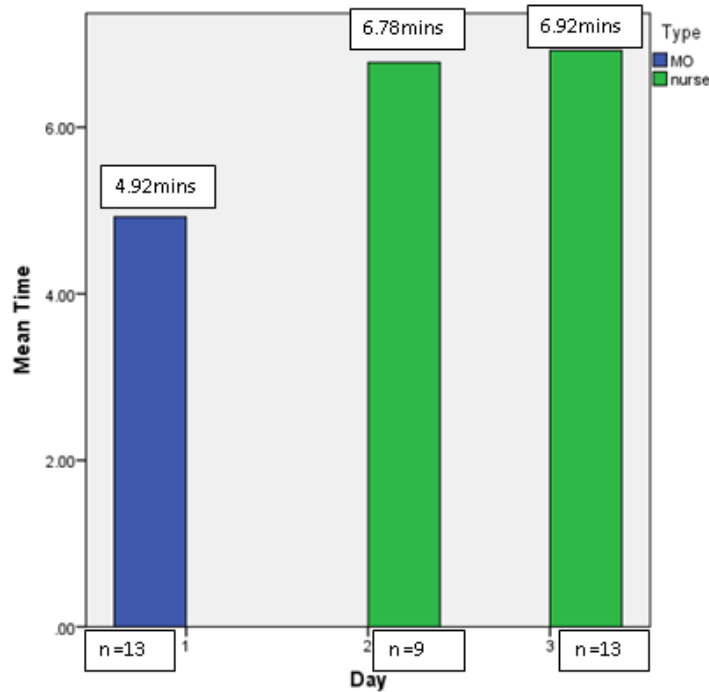Medical Officer = resident

Figure 3: Average Time Spent by Residents and Nurses near the end of the 2-hr Ward Round

MO=resident