

MESH/Cooperative Nursing Staff Sampling Project 2003

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Background

In the fall of 2002, nurse leaders from the Rural Wisconsin Healthcare Cooperative hospitals were struggling to recruit and retain RNs. They also were interested in redesigning the role of LPN's and CNA's to maximize their contributions. The nurse managers brought their concerns to the UW Hospital MESH consulting group, and together they planned a project to gather extensive data on the actual activities performed by nursing staff on the Medical Surgical Units at their hospitals.

An invitation went out in early 2003 and ten Cooperative hospitals chose to participate. The MESH group coordinated the study design, data collection, data analysis and summary reporting.

Data Collection

The data collection process was modeled after a process used first at San Joaquin Hospital in California in the 1970's and repeated several times by the MESH group at many hospitals around Wisconsin and the Midwest. The process involves trained nurse observers logging activity information on all nursing staff employees working on the Med/Surg unit of the hospital. These data collectors are trained to categorize each activity the patient care staff are performing into one of 37 observed tasks. The data is collected by way of instantaneous observation at a specific clock time, with 6 collection cycles per hour. So the observers collect 6 "snapshot" views of all unit staff during each hour.

The 37 activities are divided into four main activity groups:

1. Direct Care – these activities take place in the presence of the patient or patient family and represent "hands-on" nursing time. They include activities such as medications, hygiene, feeding, teaching, counseling and other types of communication, transfer and transporting, treatments, procedures, assessments, rounds, and chart documentation in the presence of the patient.
2. Indirect Care – these activities are done on behalf of a specific patient but are not done in the patient's presence. They include charting done away from the patient, patient related communication, medication preparation and writing/transcribing orders.
3. Unit Related – these activities are done to benefit the unit but are not really focused on a particular patient's care. Examples include unit cleaning, clerical tasks, unit related communication, shift report, restocking supplies, staffing and HR coordination issues and other meetings and education time.

4. Personal – Includes lunch, breaks, and other personal activities.

During this study the ten participating hospitals could choose whether they wished to provide their own staff as data collectors or would rely on MESH to recruit the collectors. Four chose to use their own data collectors and in 6 hospitals MESH hired the data collectors. MESH provided the same training program for all data collectors.

Data collectors were pre-screened for their level of experience on a hospital nursing unit and their ability to organize their work and work quite independently. All data collectors completed the same training program which included classroom training, a written test of comprehension with discussion of the right answers, an on-the-unit training exercise to get acquainted with the data sheets, staff types and titles, shift changes and to refocus on the activity definitions.

On each person's first data collection shift, an experienced data collector was available to answer any questions and assure that the new collectors were working accurately and effectively.

We collected data between May 2003 and September 2003. The data collection schedule at each facility included eight shifts of 8.5 hours each (3 day, 3 evening and 2 night shifts). Participants were interested in several outcomes, including assessing relative workload on the three shifts. We scheduled the 8 data shifts over a 15 to 30 calendar day period to minimize the idiosyncrasies of any specific week or high or low census period. Shifts were scheduled on multiple days of the week with one or two weekend shifts included. Each patient unit staff person was assigned into one of 6 categories: Charge Nurse, Staff RN, LPN, CNA, Health Unit Clerk and Other. "Other" was used infrequently for a specific staff group defined by a few hospitals.

The hospitals in the study were all quite similar in services and size, with each being the only hospital in a smaller sized Wisconsin town and the Med Surg units ranged from 5 to 25 occupied beds. All ten of the hospitals have an ICU unit and eight have birthing units separate from the Med Surg area. Several of the hospitals also participate in an ongoing MESH patient classification system. That system provides semi-annual comparison data on patient acuity, staff hours per patient, staff mix, and staffing quality measures.

The sum total of data collected at the ten hospital med/surg units was 4566 staff hours observed and 27,400 specific observations. Participants were given detailed data about staff time spent in the various activities on each shift and about the type of staff activity performed throughout the 24-hour day.

Findings

Since a primary purpose of the study was to assist with RN recruiting and retention, we did extensive analysis of the RN activities. Prior to the study, we met with the nurse executives from the 10 facilities to try to understand what they wanted to look for. The executives identified 16 of the 37 activities that should not be the first priority for their RN staff to perform (basic ADLs, clerical, errands off the unit, bathing and basic hygiene, etc). The data shows that RNs spent 18.4% of their time in these activities.

Other major time-consuming activities for RNs included Charting (22%), preparing and administering medication (16%) and shift report (8%). Although these are activities that managers would expect RNs to perform, they are viewed as candidates for efficiency and streamlining. A small change in time required to complete these functions could have a major impact on the RN activity and the staff cost to operate a patient care unit.

We collected data and provided reports on activities preformed each hour of the day. It is noteworthy that a major share of the Direct Care work occurs early in the shift and then tapers off throughout the rest of the shift. This phenomenon essentially holds true for each of the three shifts. Work style, work priorities and work organization all contribute to this. This routine has implications for patient scheduling and patient safety.

Conclusions

1. Nurses working directly with patients in “direct care” activities is generally a very good thing. The range of RN time in direct care varied among the ten hospitals from 35% to 49% with an average of 42%. The group set a benchmark target of 50% of RN time in direct care. The challenge was to find other activities for RNs to eliminate or delegate to other staff, and redirect them to direct care activities. Specific objectives included increasing time RN’s spend in patient teaching and patient communication and reducing time assisting with Activities of Daily Living.
2. Nurses spend an average of 8% (40 minutes per shift) in formal shift-change report – with a range of 4 to 12%. The group goal is to move to a more efficient report that would require only 4% (20 minutes) of RN staff time. In most facilities, the shift change report is given behind closed doors and thus staff is not available to patients during this time. Reducing this block of shift report time and allocating it back to patient care is the group objective.
3. The two largest time consuming activities are charting (22%) and medication preparation and administration (16%). The fact that these are mostly Direct Care activities is a good thing, but the safety, efficiency and technology implications of both activities are enormous. The 10 hospitals are reviewing this data and where appropriate, they are planning changes in process to streamline these functions.
4. Personal time averaged 9% for all staff (6.8% for staff RNs). 9% represents 45 minutes per shift. Since the data collection process ran right through any lunch period or break time, the 45 minutes in reality translates to a 30-minute lunch and one 15-minute break each shift. The nurse executives were concerned that this was low and may not provide enough “time away” for their staff. All agreed that in hospital nursing work, staff are least likely to get scheduled lunches or breaks during times of high workload stress – the times that they need them the most. Their conclusion was that 9% to 12% personal (including lunch) is a minimum, and the lack of rest and break periods appeared to be a larger problem than any abuse of personal time that may have occurred.

5. The proportion of staff time spent in “Direct Care” activities was quite consistent from day to evening shift. This reflects the increasing numbers of PM shift admissions and late surgical cases returning to the unit.
6. Charge nurse roles fell into two distinct categories: Some who were very “supervisory” and provided less than 10% of their time in direct care; and those who spent more than 30% time in direct care and worked much more like a staff nurse.
7. Items that were pre-screened by nurse executives as tasks that should be lower priority for RNs ended up consuming 18.4% of staff RN time. Many hospitals are building their work improvement plans around reducing or delegating these activities.

The nursing activity sampling data described, in some significant detail, the activities that patient care staff perform at each hospital. The average activity profile provides a “group average” reference point for each hospital to measure itself against. It also provides an improvement target, usually based on the best performing hospital on any particular measure.

Each hospital is preparing and beginning to implement its own operations improvement plan based on the opportunities shown in the data summary reports. Elements of those plans include redesigning and rescheduling activities to improve patient service and to provide a more stimulating and satisfying work environment for hospital nurses. The hospital group is planning a follow-up study to measure the impact of changes they have implemented and will be pursuing grant funding to help cover the costs. Staff satisfaction, patient satisfaction and overall labor cost per patient are measures that can also help assess the impact of the improvement plan.

MESH is currently talking to other hospitals that wish to conduct a similar work sampling study in their facilities. MESH is also beginning to schedule follow-up visits with the original 10 participants to describe the process and outcomes to staff and managers, and to assist with implementation of the hospital improvement plan.