

Workload Measurement Tool for an Integrated OR/PACU

By Cynthia A. McLennan

The 1990's and the resulting budgetary downsizing have reinforced the need to have objective data that will reflect both staffing patterns and accurate nursing workload measurement. How to translate case length into potential workload becomes the issue that this article will address. Staffing patterns and quantitative analysis of workload measurement (WLM) makes resource allocation obvious and justifiable.

Our two theatre three (3) bay OR/PACU does not enjoy the benefits of a computerized scheduling system so all WLM is performed manually. As in all operating theatres statistics are maintained and periodically analyzed for workload trends. In this time of fiscal restraint nurse managers must rely on objective statistical analysis to reinforce staffing requirements. Our surgical suite at Renfrew Victoria Hospital incorporates the Post Anaesthetic Care Unit. Therefore, our inclusion of WLMS and for both OR and PACU proved to be a challenge.

Literature available for manual WLMS analysis is minimal. A common reference however, was always made toward the fact that OR/PACU nursing is influenced significantly by other factors and the WLMS must account for support services that influence the surgical procedure. As in every Operating Room the nurse is only one member of the OR team, and most often other team members, and situations influence the nursing WLMS.

Prior to developing this WLMS tool certain objectives were established. The system had to be user friendly, inclusive of all required data, and easily evaluated.

The nurses in the OR/PACU were required to determine the standard nursing care hours for each case. Support care times were also factored. The end result was the determination of standard times for each case passing through the OR/PACU. These times were evaluated and certain case mix groupings based

on time similarity were observed. The length of time a case takes to complete is directly proportional to the amount of nursing care hours necessary to provide the required OR nursing care.

Over one thousand surgical cases were analyzed and case times were assigned accordingly. Case categories progress from level one (1), minor cases, to level five (5) for our most complex procedures. Corresponding average lengths of time are assigned to each category based on the research into average length of time per case through the OR and subsequent PACU recovery periods. All times are calculated by the hour and documented as such.

We arrived at these individual category times by defining certain terms as well as amending the OR record to facilitate easy data collection.

Total Nursing Care (TNC) is the nursing workload per case based on the total time accumulated from when the patient is admitted to the OR hallway, until he/she is discharged from the PACU. At Renfrew Victoria Hospital we are an all RN staff so immediate case clean up is a task that the RN staff absorb.

Support care given by others is defined as time assigned to a case for activities that could be carried out by non-nursing personnel. Our CSS attendants currently reprocess all items used in each surgical case, as well as carrying out the environmental maintenance for the unit.

Our OR nursing record documents patient entrance to the OR hallway, admission to the OR theatre, the time skin was cut by the surgeon, dressing application, and when the patient exited the theatre. Our PACU records indicate time of arrival and discharge. We determined the scrub nurses time as: Case set up until

Author

Cynthia A. McLennan, R.N., is OR/PACU Nurse Manager, Renfrew Victoria Hospital, Renfrew, Ont.

case termination and the dismantling of the surgical case equipment used in that procedure. The circulating nurses time is determined from when the nurse begins the pre-operative checklist in the OR hallway, until the patient is transferred postoperatively into the PACU.

The PACU nurses' times are from patient admittance until discharge from the PACU and transport back to the nursing unit. Post anaesthetic care unit duties also include the pre-admission clinics and the post-operative telephone discharge program. These times are documented separately on the daily record.

To tabulate the PACU nurses total nursing care, the Renfrew Victoria Hospital Tuesday afternoon pre-admission clinic times must also be documented. The average length of time the PACU nurse takes to attend to each patient is 0.75 hours. This time is used to pre-admit the patient in a clinic setting prior to their same day OR admission for major surgery. In addition to discussing the patient information brochure and any other concerns the nurse tries to provide a hospital tour if time permits. The nurse completes the following forms: perioperative patient profile, nursing data base and pre-anaesthetic patient questionnaire. If the nurse has assessed the patient and feels pre-operative treatment intervention is necessary she contacts the anaesthesiologist or surgeon to confirm her diagnosis. For example, a patient scheduled for major surgery may be consuming an anticoagulant and the nurse will inform the patient to discontinue this drug prior to surgery after consultation with the surgeon. It is very surprising to review the number of times the RN has assessed a patient problem and their actions have resulted in a smooth perioperative course for the patient. The WLMS allows for documentation of the clinic under the pre-admit column on the daily record.

The PACU nurse also completes the post-operative telephone follow up of all our clients. This telephone program allows us to keep in touch with our clients so that we may identify and act upon any potential problems at a very early stage. Contacting our clients by telephone at home has proven to be an excellent risk management and continuing quality improvement tool. Our clients genuinely enjoy the contact as does the nursing staff. The post operative telephone program is recorded on the WLM sheet under telephone and .10 hour per client is the average time for each call.

Support care given by the nurses while helping the CSS attendant may also be documented on the WLMS form. As we work as a team in the surgical suite it is difficult at times to categorize daily unit tasks. It is

however, interesting to document the exact extent of total nursing care.

The category number assigned to each case represents the hours of nursing care per patient, thereby reflecting case complexity. The categories are as follows with examples of cases included:

Category	Hours Nursing Care/Pt.	Example
1	0.3	- cysto-local
2	0.7	- cystoscopy-neuro - colonoscopy-neuro - gastroscopy-neuro
3	2.0	- lesion excision - carpal tunnel - haemorrhoidectomy - vasectomy - radical toenail excision - breast biopsy - appendectomy - diagnostic laparoscopy - laparoscopic tubal ligation - D&C - hemorrhoidectomy
4	3.50	- mastectomy - laparoscopic chole cystectomy - caesarian section - reduction mammoplasty - abdominal hysterectomy - open cholecystectomy - laparotomy - panniculectomy
5	4.50	- bowel resection - laparoscopic assisted vaginal hysterectomy - Richards Hip Pinning

Most metropolitan operating surgical suites operate on a WLMS that accounts for 24 hour monitoring. At RVH we concentrate most of our day in an 8 hour block. Our efficiency in this time frame is the most significant to our administration. The integrated OR/PACU charting methodology makes our manual tracking of all data readily available and easily interpreted.

Pure nursing care is defined as direct hands on patient care. Calculation of the pure nursing workload in the OR/PACU can be accomplished by determining

Table 1 - Surgical Suite Workload and Staffing Daily Record - 8 hour

Operation #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Patient Category	Nursing Care Hours/Ptn	Workload Category
Category:																							
One																						0.3	
Two																						0.75	
Three																						2	
Four																						3.5	
Five																						4.5	
PreAdmit																						0.75	
Telephone Support																						0.1	
Other																							
Total																							
																					Census	Workload (1)	

Table 2 - Pure Nsg. Care Hrs = Workload - (Support+Other). Blended Nsg. Care Hrs = Total Workload

Schedule	Required				Reference
Total FTE					High 7
	Management	RN	RNA	css	WL (1) + (RN + RNA) = Tnch /Person (2) Med 5
					Low 3
Tnch/Person + 7.5 hr Day Shift x 100 = _____ % OR/PACU Utilization (2) + 7.5 hr Day Shift x 100 = _____ % OR/PACU Utilization					

the total workload less the time allocated for support care activities (PNC = TW - SC). This figure divided by the staff RN full time equivalent (FTE) will yield the total pure nursing care hours per staff nurse for the eight (8) hour shift.

Calculation of the blended nursing workload can be accomplished by taking the total workload and dividing it by the staff nurse full time equivalent. The resulting figure will be the total blended nursing care hours per person. Blended nursing care encompasses all tasks that the nursing staff perform during their shift. Representative averages for blended nursing care hours are included in the data sheet for reference purposes only. Assessment of the utilization patterns of the OR/PACU is easily performed with this measurement tool. The percentage utilization is achieved by dividing the total nursing care hours per person by the 7.5 hour day shift. The resulting yield is the percentage OR/PACU utilization. This figure in percentage form is easily understood by both management and staff as a quantitative workload measurement tool.

Support service times are easily calculated using this WLMS tool. The total time for support services

would be equal to the workload. This figure divided by the central sterile supply (CSS) FTE will be equal to the total support care hours per staff person. Once again, utilization can be factored by dividing the total support care hours per staff by a 7.5 hour day shift and multiplying this figure by one hundred for a percentage utilization of the central sterile supply personnel.

This data collection tool for measuring operating room and post anaesthesia care unit workload measurement has been simplified and streamlined to be both straight forward and adaptable. It is interesting to observe how the data reflects the activities that have transpired during the analyzed shift. This manual workload measurement tool supplying daily concrete data analysis in both workload measurement and percentage utilization will allow nurse managers in small, integrated OR/PACU settings to objectively justify staffing requirements.

References

Management Information Systems Project, Guide for Management Information Systems in Canadian

Health Care Facilities - Nursing Inpatient Services, 1985.

Friedberg, E., O'Rielly, L. & Theriault, J., Development of an Operating Room Workload Measurement System, *Canadian Operating Room Nursing Journal*, May/June, 1992.

MIS Project Guide to Implementation of the "National Operating Room Workload Measurement System and Staffing Methodology", 1986.

Nursing Information System Saskatchewan. *Health Systems Support Group Inc.*, 1987. ■

\$1800 Study Grant to OR Nurses

The Canadian Nurses Foundation (CNF) is pleased to announce the CNF/Ansell Medical Baccalaureate Award. This award of \$1800 is available to operating room nurses pursuing Baccalaureate studies on a full or part-time basis.

CNF grants approximately \$150,000 per year to nurses pursuing further education and up to \$75,000 per year to nurses pursuing research related to nursing and/or health care. By providing study awards and research grants, CNF encourages nurses to maintain the high standards for which Canadian nurses are so well known.

The deadline for application is 15 April 1994. If you would like to receive an application form or information regarding any of our awards, please contact:

The Canadian Nurses Foundation
 50 Driveway, Ottawa, Ontario K2P 1E2
 Telephone: (613) 237-2133
 Fax: (613) 237-3520

Quebec Conference Workshops

Wednesday, September 28

Safe positioning of the patient in the Operating Room. **Raynald Larouche**
 Care plan in the OR. **Micheline Lamarche**

Thursday, September 20

Accu-pressure and the therapeutic touch. **Ginette Leclerc**
 The nurse and her retirement plan. **La CARA**
 Creativity in the nurse's role. **Francine Filion.**

25th Provincial Conference
Operating Room Nurses of Quebec
"Explosion of Knowledge"
September 28-29-30, 1994

Tuesday, September 27, 1994

Welcome, Preregistration and the Annual General meeting and election of officers.
 20:00h Wine and Cheese party.

Wednesday, September 28, 1994

Opening ceremony and Opening Keynote Speaker 10:00 - 11:00 Round table discussion about the nurse's role as first assistant in the operating room Speakers include: **Louiselle Bouffard**, O.I.I.Q., **Claude Marcil**, a Lawyer, a doctor, a Director of Nursing and a representative of a pilot project. 14:00 - 15:00 Nursing research 15:00 - 16:00 Continuing, quality improve - Speaker - **Jocelyne Beaumier**

Thursday, September 29, 1994

The new civil code and the operating room nurses Speaker - **Alexandrine Cote**
 10:00 - 11:00 Adjustment to changes; Myth or a reality? Working schedule. Resistance to change. Speaker - **Sylvie Vandal**
 14:00 - 15:00 Sterilization: Abolishing the CFC's Speaker - **Helene Julien**
 15:00 - 16:00 Breast cancer Speaker - **Rosemonde Mandeville**

Friday, September 30, 1994

Nursing promotion, individual participation Speaker - **Rita Lussier**
 14:00 - 15:00 Stress management Speaker - **Abel Edmond**

Social Activities

Tuesday night - Wine and Cheese Party
Wednesday night - Ethicon night
Thursday night - Banquet: An explosion of "Rock and Roll" Dress: The sixties.
 Aerobics - Swimming pool
 Registration:
 1 day member \$55.00
 Cocktail and banquet \$45.00
 1 day non member \$70 Exhibit visit \$30
 3 days member \$150 3 days non-member \$165
 Reduced registration rates in effect before June 1st