

# Assessing the Nurse Manager's Span of Control:

## *A Partnership Between Executive Leadership, Nurse Scientists and Clinicians*

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Nurse managers play a vital role within nursing services administration. In order for the nurse manager to provide the level of service defined by their job description, a practical span of control is necessary. The University of Texas medical Branch (UTMB) utilized a comprehensive approach to accurately assess acute care nurse manager's span of control within the organization. Findings indicated that approximately 56% of UTMB nurse managers have an acceptable span of control, whereas 44% had an excessive span of control. Recommendations include the need to evaluate clerical support staff, provide leadership education that includes elements of social/emotional intelligence, and implement best practice initiatives.

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In order to meet the needs of this vital role, a practical span of control (SOC) is necessary. Recent literature suggests that a span of control is a complex phenomenon that is often only assessed via either the total number of workers being supervised by a manager or the total number of full-time equivalent positions being supervised by a manager. Although there are no studies leading to a consensus of what constitutes appropriate SOC, there are suggested components that should be considered when assessing the SOC for nurse managers within an organization.

The purpose of this quality improvement project was to comprehensively assess the acute care nurse manager's span of control within an academic medical center located in Southeast Texas.

### **NURSE MANAGER ROLE: PAST TO PRESENT**

Over the past 3 decades, the role of the nurse manager has continuously evolved in tandem with the redesigning of health care systems. Shirey et al.<sup>1</sup> describe the role as being more complex as increasing demands and broader responsibilities have been added to the job description. The nurse manager role itself is critical when considering entities such as staff satisfaction and retention, safety and quality of care, and the achievement of organizational goals. In 2010, the American Organization of Nurse Executives reported an average of 8% vacancy in nursing management nationwide, a fact compounded by the upcoming retirement intent of a big component of nurse

managers.<sup>2</sup> The nurse manager role includes balancing both leadership and management responsibilities such as staffing, establishing goals and objectives for the unit, formulating standards of care, managing budgets and quality improvement activities, as well as, hiring, orienting, and evaluating staff.<sup>3</sup> Aiken and Harper-Harrison<sup>4</sup> have noted that as health care systems continue to evolve, the expectations of nurse managers will become more expansive and require even newer and enhanced levels of skills. The evolution of the complexity of the nurse manager role has led to the identification of the potential for role overload<sup>5</sup> role stress and burnout.<sup>1,6</sup> Scholars have concluded that the nurse manager role has been understudied, noting that further research is needed to determine strategies for evaluating and supporting nurse managers.<sup>7</sup>

### **THE CASE FOR EVALUATING SPAN OF CONTROL**

The complexity of a clinical nurse manager's role goes beyond scheduling, evaluating, and managing personnel. At any given time, nurse managers are shuffling staff, patients, supplies, hours, and even their personal time in an effort to meet the organization's mission and expectations. Nurse managers traditionally work 40 or more hours per week, in addition to making themselves available and accountable 24 hours a day, 7 days a week. The environment that nurse managers work in is heavily determined by their span of control. In order to meet organizational goals while leading a unit that meets industry expectations for patient and staff satisfaction

and safety, nurse managers must have the resources to create an environment that is conducive to productivity and success. Studies have indicated that an excessive span of control can lead to decreased nurse satisfaction, unfavorable quality outcomes, increased staff turnover, and decreased role satisfaction. Simpson et al.<sup>8</sup> attributed significant negative changes within their organization to administrative changes that resulted in a wider span of control for nurse managers. An increase in both nurse manager and registered nurse staff turnover, a decrease in patient and nurse satisfaction, as well as decreased performance for nurse-sensitive indicators was noted. An exhaustive literature review identified trends that link a wider span of control to negative effects in nursing.

### SPAN OF CONTROL TOOLS AND MEASURES

Historically, organizations determined the nurse manager span of control based on either full-time equivalent or headcount. Recent studies have suggested that other factors such as staff–manager relationships, complexity of the work, capabilities of the manager, acuity of the unit(s), and capabilities of the staff all contribute to the nurse manager span of control. By developing a way to measure span of control for an organization, the results can be evaluated and used by administrative leadership to assess and determine the necessary and appropriate level of resources for each individual nurse manager, and their span of control.

In a review of the literature, a variety of methods were found for evaluating nurse manager span of control. Although many of these tools and studies selected different criteria for the determination, there were common themes found among most.

Kim et al.<sup>9</sup> identified 3 attributes that contribute to nurse manager span of control: the number of employees, stability of the employees (turnover and attendance), and the amount of time to interact with the staff. Simpson et al.<sup>8</sup> cite unit complexity, staff skill and ability, and budget as important criteria to be considered when executive leadership is evaluating span of control for nurse managers. The lack of a consistent and objective tool leaves administrators relying on the number of employees and/or subjective feedback from nurse managers and staff. Some organizations have implemented support personnel roles such as assistant nurse managers, educators, or coordinators in an effort to increase performance indicators, but many times, this addition of personnel is a result of subjective feedback. Additionally, when nurse managers are overwhelmed with a wide span of control, these support positions can begin to have blurred lines as the nurse manager shifts responsibilities and delegates tasks to the support person. Administrators need a tool that will objectively identify the nurse managers that may need support personnel or other job modifications. Throughout the literature review, a study by the Ontario Hospital Association was

commonly referenced and modified to meet the needs of specific organizations as they worked to evaluate and adjust nurse manager span of control.

### THE OTTAWA HOSPITAL SPAN OF CONTROL TOOL

Morash et al.<sup>10</sup> note that the classical management theory from the 1950s defined the term *span of control* in relation to management rather narrowly as the number of people who report to a single manager. As time progressed, it was discovered that this simple measure was not enough to capture the complexity of management across disciplines and settings. It also became clear that adequate assessment of the span of control was necessary, given its impact on service delivery—in the case of clinical nursing, the impact on patient care as well as the satisfaction of patients and health care team members.

Trends in health care, beginning in the 1990s and continuing today, emphasize downsizing and reform. Several authors note that a consequence of downsizing is often a reduction in clinical nurse managers as well as an increase in their span of control.<sup>10</sup> The Canadian Nursing Advisory Committee in 2002 recommended that reasonable and manageable span of control be examined and assessed by employers to ensure that clinical managers are able to complete assigned functions and be present to meet nurses' and patients' needs. However, no comprehensive, consistent guidelines or tools could be found in the literature.

The Ottawa Hospital (TOH), consisting of the largest group of nurses in Canada and comprising 5 campuses, convened a clinical nursing workgroup to determine a best practice to assess clinical manager span of control. Surveys, focus groups, and field testing over several years culminated in the TOH Clinical Management Span of Control Decision-Making Indicator tool.<sup>10</sup> The TOH tool includes 3 decision-making categories encompassing 8 indicators.<sup>10</sup> The 3 categories are unit-, staff-, and program-focused. The unit-focused category includes 2 indicators: complexity of the unit and material management. Complexity of the unit is measured through numerous variables including, but not limited to, hours of operation, unpredictability, and risk of litigation. Some of the material management variables are time spent dealing with specialized equipment and quality monitoring. The staff-focused category includes volumes of staff directly reporting to the clinical manager, skill/autonomy of staff, staffing stability and diversity.<sup>10</sup> The final category, program-focused, has 2 indicators that measure the diversity of the units and accounts for budgetary and statistical responsibilities.

Similar to TOH, the UTMB Health System has 3 (soon to be 4) inpatient campuses and includes dozens of outpatient clinics across the state of Texas. The TOH tool was adapted by the project team to begin the task of systematically, comprehensively assessing nursing

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clinical management span of control at UTMB Health in an effort to improve care and satisfaction while being mindful of fiscal resources.

## PUTTING THE TOH TOOL INTO ACTION

### Project Overview and Design

Nurse scientists within the nursing science & innovation division at UTMB Health partnered with a UTMB intensive care unit (ICU) clinical nurse educator to conduct a limited literature review and design a quality improvement project. The project was endorsed by executive leadership at UTMB and actually became one of the chief nursing officer's and chief executive officer's goals. The aims of the project were to one, use an evidence-based, comprehensive tool to assess UTMB acute care clinical nurse managers span of control; two, develop a visual display map of the manager span of control; and three, provide recommendations to optimize the performance of acute care clinical nurse managers and reduce any negative impact of excessive spans of control on unit, staff, and patient outcomes.

### Project Results

Due to the comprehensive nature of the TOH tool, collaboration across numerous departments was necessary to obtain the level and amount of data needed. Executive leadership ensured that the project team had collaborative partners from major divisions including human resources, informatics, legal services, materials management, and finance. Over the course of a year, the tool was reviewed with division partners to determine how best to acquire the data needed.

The nursing science & innovation division nurse scientists compiled the data using the TOH tool format. The TOH tool scoring ranges from 0 to 130. Zero to 60 indicates a span of control where the manager has capability for growth. Sixty-one to 90 indicates an appropriate span of control. Ninety-one to 130 suggests an excessive span of control requiring assistance in order to avoid negative impacts to patients, staff, and the manager themselves.<sup>10</sup>

Approximately 44% of acute care nurse managers reviewed fall within the range of excessive span of control. The remaining 56% fall within the range of acceptable span of control. No acute care nurse managers were in the below acceptable category. In looking at general relationships between common quality measures and SOC Tool scores, data trends are seen. Common quality measures used in this project include falls, the number of quality indicators met (out of 5) per the National Database of Quality Indicators (NDNQI) parameters, medication errors, and reportable hospital-acquired infections. In comparing averages in quality measures and SOC Tool scores, of most concern were the differences in medication errors and hospital-acquired infections. Notably, over a 1-year period, the average number of

total medication errors made across those units with nurse managers with SOC scores in the acceptable range was 4. By contrast, the units with nurse managers with SOC scores in the high range had an average of 15 total medication errors across all units in a 1-year reporting period. This suggests medication errors are occurring 4 times more often on average in those units where nurse managers have an excessive span of control. Also of note are hospital-acquired infections with an average across all units in a 1-year reporting period of 1.2 for those units where nurse managers were within acceptable spans of control versus 3.1 for those units where nurse managers score in the excessive span of control range, suggesting almost 3 times as many hospital-acquired infections across units where the span of control is excessive. Of interest, however, is that total falls over 1 year were lower on average in those areas with higher span of control scores—10 total falls across the high SOC units versus 11 across those within the acceptable range. There also seems to be no difference in the NDNQI data with those units where nurse manager SOC is excessive, achieving essentially the same ratings as those where the SOC is acceptable. See [Table 1](#) for those in the acceptable range. Refer to [Table 2](#) for those in the excessive range.

### WHAT'S NEXT?

Further recommendations, based on the literature and in light of our environment, are outlined below.<sup>10</sup> These have the support of executive leadership.

- Identify the need for clinical infrastructure support and administrative operations that are not easily delegated nor key elements of management.
  - Evaluate the number of administrative support positions currently supporting acute care clinical nurse managers.
    - Ensure quality of support as well as quantity.
    - Consider implementation of staffing office/clerks particularly in those areas where this may be lacking or where managers are scoring in the excessive category.
- Ensure leadership education (noted as key enabler) including elements of social/emotional intelligence, conflict resolution, coaching, mentoring, and evidence-based leadership styles correlating with patient and staff outcomes.
- Implement the identified best practice initiatives *and* measure the outcomes longitudinally (2+ years).
  - Manager access and availability
  - Meaningful performance appraisals
  - Appreciation and recognition
  - Manager flexibility
  - Routine, effective communication (staff forums/town halls/unit meetings)

**Table 1.** Acceptable Span of Control Scores

UNIT	SOC TOOL SCORE	FALLS	NDNQI	MEDICATION ERROR	HAI
<i>Endoscopy</i>	74	0	4/5	0	0
<i>Med/surg</i>	77	6	0/5	1	0
<i>Cath lab</i>	78	0	3/5	3	0
<i>L&amp;D</i>	80	0	3/5	3	0
<i>Day surgery</i>	81	1	2/5	2	0
<i>Burn unit</i>	81	4	3/5	3	0
<i>TDC day surgery</i>	81	4	3/5	10	0
<i>TDC output</i>	82	3	2/5		
<i>TDC transitional care</i>	84		3/5		
<i>Day surgery</i>	84	1	5/5	4	0
<i>Medicine</i>	84	45	1/5 and 5/5	8	1
<i>Neuro</i>	84	18	0/5	15	7
<i>L&amp;D</i>	84	2	5/5	5	0
<i>Operating room</i>	85		0/5		
<i>Surgical</i>	88	0	5/5	2	0
<i>Med/Surg/tele</i>	89	33	2/5 and 2/5	7	11

Falls, number of falls for the selected year; HAI, number of hospital acquired infections for the selected year; L&D, Labor and Delivery; med/surg, medical surgical; Medication errors, number of medication for the selected year; NDNQI, nurse sensitive indicator scores (5 domains); OR, operating room; SOC, span of control tool score; TDCJ, Texas Department of Criminal Justice; tele, telemetry.

Note: UTMB comprises 3 separate campuses. Data is de-identified for each campus and is represented solely as a unit name.

- Ensure nurses and staff are working to full scope of practice, and managers have clarity in regard to role and expectations.
- In terms of next steps for the team in data collection and analysis, the literature review undertaken also identified significant relationships between increasing span of control (excessive) and negative impacts on the metrics outlined below. These will be collected and analyzed for trends longitudinally.
- Satisfaction metrics (staff, patient)
- Human resource metrics (turnover, absenteeism)

### CONCLUSION

In light of the aforementioned findings, the project team is conducting more sophisticated statistical analysis with the span of control score variable, the common quality measures, and the metrics noted

**Table 2.** Excessive Span of Control Scores

UNIT	SOC TOOL SCORE	FALLS	NDNQI	MEDICATION ERROR	HAI
<i>Medicine</i>	91		5/5 and 5/5		
<i>TDCJ med/surg and women's</i>	91	49	5/5 and 1/5	8	13
<i>Ace/dialysis</i>	94	34	2/5, 3/5 (11D)	19	0
<i>Dialysis/MICU</i>	94	3	5/5 (8B)	19	9
<i>Operating Room</i>	95		1/5		
<i>ED*</i>	95	2	1/5	16	1
<i>ED*</i>	96	14	2/5	4	0
<i>Transplant/onc/ortho</i>	96	26	4/5 and 1/5	19	6
<i>TDCJ ICU</i>	98	0	2/5	7	5
<i>Pedi/PICU</i>	98	0	4/5 and 2/5	3	1
<i>ICU</i>	101	2	1/5	12	0
<i>NICU</i>	104	1	0/5	45	8
<i>SICU/PCU</i>	104	20	5/5 and 4/5	34	7
<i>ED*</i>	105	24	3/5	17	0
<i>Mother-baby</i>	106	7	1/5 (MBU)	10	0
<i>L&amp;D</i>	109	7	1/5 (L&D)	33	0

ACE, acute care of the elderly; ED, emergency department; falls, number of falls for the selected year; HAI, number of hospital acquired infections for the selected year; ICU, intensive care unit; L&D, labor and delivery; medication errors: number of medication for the selected year; MICU, medical intensive care unit; NDNQI, nurse sensitive indicator scores (5 domains); NICU, neonatal intensive care unit; Onc/ortho, oncology/orthopedics; PCU, progressive care unit; PICU, pediatric intensive care unit; SICU, surgical intensive care unit; SOC, span of control tool score; TDCJ, Texas Department of Criminal Justice.

\* UTMB comprises 3 separate campuses. Data is de-identified for each campus and is represented solely as a unit name.

above to include patient and staff satisfaction data to delineate more precise unit differences within the SOC categories and to determine if the trends continue. Work on the leadership education component is slated to begin with nurse managers over the next year. As the literature suggests, periodic reassessment of the data is planned longitudinally. The team also plans to examine components of an adapted leader-

ship model in relationship to clinical nurse managers including unit and organizational culture as well as manager background and education. Limitations for this project include descriptive statistical analysis only without the benefit of a more nuanced unit-to-unit comparison within as well as across SOC categories. As noted, of particular concern is the suggestion from this project that patient safety might be compro-

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mised when there is excessive nurse manager span of control, particularly medication errors and hospital-acquired infection risk.

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