

# A Current State Assessment on Nursing Work Activities

## An Observational Study

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### ABSTRACT

**Background:** Nationwide nursing shortages have led to higher patient-to-nurse ratios, nursing burnout, and decreased quality of care.

**Local Problem:** Staffing challenges and nursing burnout were becoming growing concerns and success was contingent upon efficient use of existing resources.

**Methods:** Direct observation current state assessment was completed on medical-surgical specialty units to better understand work activities of registered nurses (RNs) and unlicensed assistive personnel (UAPs).

**Results:** RNs spent more time performing indirect care (eg, documentation) than direct patient care. Interruptions and problems consumed 17.4% and 5.6% of their time, respectively. UAPs performed more direct patient care but had a higher proportion of downtime. RNs underdelegated nonclinical tasks.

**Conclusions:** Direct observation current state assessment offers a better understanding of workflow and workload inefficiencies. This information is critical to provide informed, evidence-based recommendations to develop future patient care models with more capacity to deliver high-quality care with greater efficiency and lessen nursing burden and burnout during the nursing shortage crisis.

**Keywords:** current state assessment, direct observation, nursing burnout, nursing shortage, team-based care models

Health care facilities are facing critical, nationwide nursing staff shortages, which leads to higher patient-to-nurse ratios. These higher ratios are associated with unfavorable outcomes, such as missed nursing care and decreased patient safety and quality of care.<sup>1</sup> Remarkably, in recent nurse surveys, more than half

of registered nurses (RNs) planned to leave their job within the following year.<sup>2-4</sup> A high percentage of medical-surgical specialty RNs described their workloads as unreasonable, with significant correlations among workload perception, burnout, and intent to leave.<sup>2</sup> The nursing shortage crisis necessitates a thorough examination of hospital work activities to better understand the workloads and workflows of RNs and unlicensed assistive personnel (UAPs).

Improving the work environment in hospitals has the potential to lessen nursing burden thereby improving nurses' well-being and reducing burnout.<sup>5</sup> A major feature of nurses' work environments involves workflow. The nature of nursing workflow is turbulent due to interruptions, problems, and workload burden.<sup>6</sup> Interruptions in patient care can lead to inefficiencies in resources and increase the workload for nurses. Bertolazzi and Perroca<sup>7</sup> observed that 26.4% of RNs' care activities were interrupted, extending the time to complete tasks by approximately 3 times. Long-standing problems with supplies and equipment must be remedied to

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provide high-quality care. Workload distribution can be addressed through delegation of work activities. Delegation strengthens teamwork and has a positive impact on patient outcomes (eg, reduced falls and improved patient satisfaction).<sup>8</sup>

## LOCAL PROBLEM

Our large academic health care system has experienced extensive RN vacancies, closed hospital beds due to staffing shortages, high emergency department (ED) boarding for 24 hours or more due to lack of open hospital beds, and higher patient-to-nurse ratios. Our staffing challenges were not projected to be overcome in the near future. Nursing burnout was a growing concern across our rural, urban, and suburban hospitals. Success was contingent upon efficient use of existing resources. Therefore, the study's primary objective was to conduct a current state assessment to better understand hospital work activities of RNs and UAPs, with emphasis on assessment of work efficiency. Outcomes from the primary objective were used to provide informed guidance on evidence-based recommendations to develop a future patient care model that maximizes resource efficiency and lessens nursing burden and burnout.

## METHODS

### Design and setting

A prospective, observational study design was used to capture hospital work activities of the nursing care team (RNs and UAPs) in their natural setting. There is clear evidence that hospital medical-surgical specialty units, in particular, tend to have high workload burden.<sup>2,9</sup> Thus, the current state assessment was conducted on 4 medical-surgical specialty units across our health care system. To capture a broad spectrum of observations, we utilized 4 high-performing hospitals, of which 3 were American Nursing Credentialing Center Magnet (R) recognized facilities, and represented rural, urban, and suburban settings. Observations were completed over 2 weeks from August 31, 2022, through September 15, 2022. The study underwent formal review and was granted approval by the Quality Improvement Review Committee (Project 4154).

A collaborative work group was established and included the chief quality officer, chief nurse executive, operational vice president, hospital site representatives, quality improvement specialists, quality project managers, and a doctoral

nursing student. The goal of this work group was to create more capacity to provide care by deploying sustainable strategies to deliver high-quality care with greater efficiency. The first step toward achieving this goal was to conduct a current state assessment to examine the work activities of the nursing care team.

Current state assessment clinical observers ( $n = 17$ ), with prior experience in observational data collection, were recruited from the quality, patient safety, and innovation department. Observers received virtual training sessions to review the modified standard observation log and definitions for the observation tasks (see Supplemental Digital Content Table 1, available at: <http://links.lww.com/JNCQ/B139>).

## Measures

The ability to improve health care is limited if real-world data are not taken into account.<sup>10</sup> Direct observation can provide important insights that may be hard to articulate or difficult to pinpoint.<sup>11</sup> For this study, a standardized observation log was adapted for use to document each observed task performed by RNs and UAPs.<sup>12</sup> The observers documented each task or activity and associated start and end times. Observed tasks were sorted into 4 broad categories (Direct Patient Care, Indirect Patient Care, Communication, and Downtime). Direct patient care tasks were defined as interactions that need the patient to be present (eg, physical assessment, medication administration). Indirect patient care was defined as interactions without the need for the patient to be present (eg, medical record review, documentation). Communication was defined as patient care-related discussions with the nursing care team, ancillary staff, providers, and family members. Downtime was defined as time without an associated task (eg, social interactions, meals, bathroom breaks).

Observed tasks were further examined by subcategories that included interruptions, problems, and delegation opportunities. An interruption was defined as an occurrence that pauses the task or activity already in progress, whether productive or unproductive. A problem was defined as an occurrence encountered that prevents the completion of a task or activity already in progress, both directly and indirectly, and leads to wasted time (eg, equipment failure, missing scheduled medications). Delegation opportunities were defined as an observed task being

completed by the RN that could be completed by other unlicensed nursing team members (eg, ambulation assistance, answering patient call light/bell, hunting and gathering supplies or equipment).

In addition, staff interview questions were developed for RNs and UAPs to provide further input on the barriers, challenges, and frustrations encountered during patient care. Questions included the following: (1) How long have you worked at this health facility? (2) What are the barriers, challenges, and frustration you encounter during patient care? (3) What are your suggestions for improvement? and (4) What is great about working on this unit?

### Data collection

The current state assessment clinical observation days were prescheduled, with the medical-surgical specialty unit director at each hospital. Each unit director identified RNs and UAPs who had at least 1 year of experience, were in good standing (eg, no pending disciplinary action), and verbally agreed to be observed for the purpose of understanding work activities of the care team related to work efficiency. Work activities of RNs and UAPs were observed for 24 hours at each of the 4 hospital sites, which was a projected combined total of 96 hours for each role. Each observation shift was planned to include 2 observers, 1 to observe the RN and the other to observe the UAP. The observers self-scheduled their 4-hour shifts, with the option to work up to a 12-hour shift, if desired.

At the beginning of the shift, observers introduced themselves and their roles to their assigned nursing care team members. Throughout the shift, observers unobtrusively followed RNs and UAPs to record tasks, activities, and the start and end times using the adapted standardized observation log, smart phone stopwatch app, and electronic health record to confirm time stamped activities. Before the end of the shift, the observers verbally asked RNs and UAPs (observed and unobserved) staff interview questions and documented their responses.

### Data analysis

The observers transferred the raw data from the observation log to an Excel spreadsheet. Each line item was assigned to 1 of the broad categories (Direct Patient Care, Indirect Patient Care, Communication, and Downtime) and

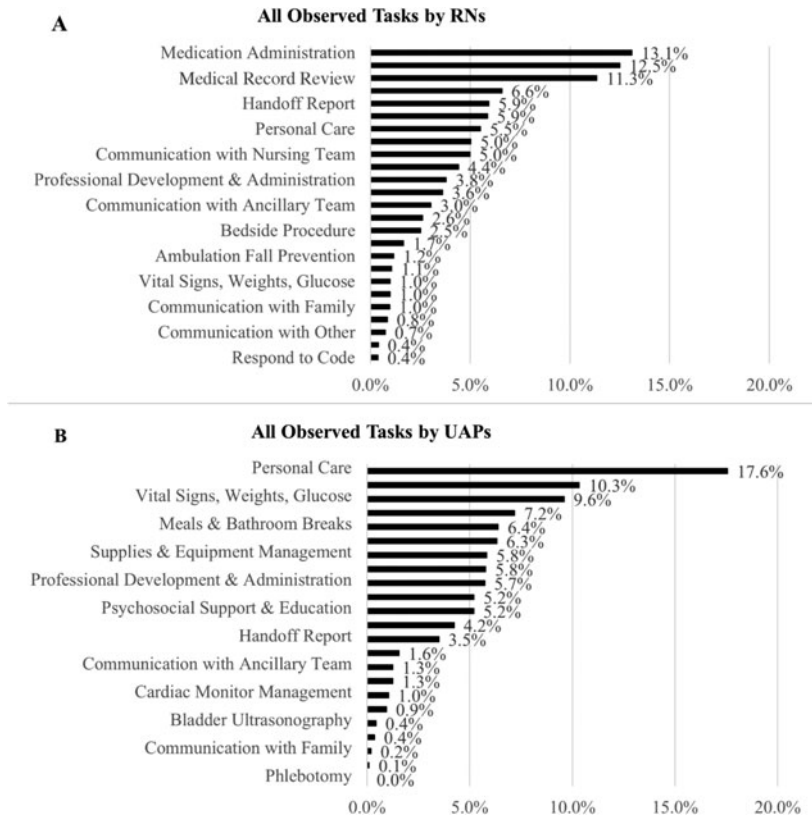
if applicable, associated the line item with a subcategory (Interruptions, Problems, and Delegation Opportunities). During the initial phase of data analysis, a second observer conducted an independent check to validate all category assignments and marked questionable assignments to be further discussed with the patient care model work group to obtain consensus. Data analysis was performed using Excel version 2009 (Microsoft, Redmond, Washington). Descriptive statistics were generated to analyze the frequency of performed tasks, amount of time spent on specific tasks, and proportion of total time spent performing tasks. Observations were stratified by role (RN and UAP). In addition, themes were generated for the responses to staff interview questions. There were 2 independent observers who examined all responses to look for word repetition and conducted a line-by-line analysis to identify emerging patterns.

### RESULTS

Across the 4 hospital sites, RNs ( $n = 8$ ) were observed for a total observation time of 97.1 hours, which was 1 hour more than the 96-hour observation plan due to end-of-shift overtime by RNs. The mean number of years at the academic health system for RNs was 10.9 ( $SD = 12.5$ ). Patient-to-nurse ratios ranged from 5:1 to 7:1. UAPs ( $n = 8$ ) were observed for a total time of 65.4 hours. Because of challenges fulfilling scheduled observation shifts, our total UAP observed time was 30.6 hours less than the 96-hour observation plan. The mean number of years at the academic health system for UAPs was 10 ( $SD = 9$ ). Patient-to-UAP ratios varied greatly, with a range of 5:1 to 32:1. The frequency (expressed as percentages) of all observed tasks, stratified by RNs and UAPs, are presented in the Figure.

### Summary of care tasks

In rank order of frequency, RNs most often performed indirect patient care (37%), direct patient care (35.3%), communication (18.2%), and downtime (9.5%) tasks, as compared with UAPs who most often performed direct patient care (46.9%), indirect patient care (24.2%), downtime (16.7%), and communication (12.2%) tasks. While a minority of total time, the percentage of downtime was nearly double for UAPs compared with RNs. Moreover, indirect patient care tasks often performed by RNs included



**Figure.** Percentage of time for all observed tasks by role. (A) All observed tasks by RNs. (B) All observed tasks by UAPs. Observed tasks in both panels are in rank order of frequency (presented as percentages). UAPs indicates unlicensed assistive personnel; RNs, registered nurses.

time-consuming, nonclinical tasks that could be delegated to others.

### Direct patient care tasks

The percentage of total time that RNs performed direct patient care tasks was 35.3% (aggregate 34.3 hours). During this time, the majority of RNs' direct patient care tasks were medication administration (37.2%), personal care (15.6%), and physical assessment (14.2%). The percentage of total time that UAPs performed direct patient care tasks was 46.9% (aggregate 30.7 hours). During this time, the majority of UAPs' direct patient care tasks were personal care (37.4%), vital signs, weights, and blood glucose testing (20.5%), and dietary needs (13.5%) (see Supplemental Digital Content Table 2, available at: <http://links.lww.com/JNCQ/B140>).

### Indirect patient care tasks

The percentage of total time that RNs performed indirect patient care tasks was 37% (aggregate 35.9 hours). During this time, the ma-

majority of RNs' indirect patient care tasks were documentation (33.8%), medical record review (30.7%), and hunting and gathering (17.8%) (eg, searching for items, information, or people). The percentage of total time that UAPs performed indirect patient care tasks was 24.1% (aggregate 15.7 hours). During this time, the majority of UAPs' indirect patient care tasks were managing supplies and equipment (24.2%) (eg, applying, cleaning, storing, or restocking equipment and supplies), documentation (24%), and hunting and gathering (21.6%) (see Supplemental Digital Content Table 2, available at: <http://links.lww.com/JNCQ/B140>).

### Communication

The percentage of total time that RNs performed communication tasks was 18.2% (aggregate 17.7 hours). Throughout the shift, RNs spent varied proportions of this time communicating patient shift handoff reports (32.5%) and communicating with the nursing care team (27.3%), ancillary team (16.6%), and providers (14.3%).

The percentage of total time UAPs performed communication tasks was 12.2% (aggregate 8.0 hours). UAPs primarily communicated with the nursing care team (58.8%), patient handoff reports (28.6%), and ancillary team (10.2%) (see Supplemental Digital Content Table 2, available at: <http://links.lww.com/JNCQ/B140>).

### Downtime

The percentage of total time that RNs were in downtime was 9.5% (aggregate 9.2 hours). Throughout both the day shift and night shift, the majority of RNs' downtime breaks were less than 5 minutes (57.2%). The percentage of total time that UAPs were in downtime was 16.8% (aggregate 11 hours). During the day shift, the majority of UAPs' downtime was less than 5 minutes (68.4%), while the majority of night shift UAPs' downtime was more than 10 minutes (50%) (see Supplemental Digital Content Table 2, available at: <http://links.lww.com/JNCQ/B140>).

### Interruptions

The percentage of total time that RNs were interrupted and had to pause a task already in progress was 17.4% (aggregate 16.9 hours). The majority of these interruptions were hunting and gathering (18.3%), communication with nursing care team (13.6%), communication with ancillary staff (8.41%), and personal care (8.3%) (eg, toilet and positioning). The percentage of total time that UAPs were interrupted and had to pause a task already in progress was 4.1% (aggregate 2.7 hours). The majority of these interruptions were personal care (23.8%), communication with nursing team (17.5%), and psychosocial support (14.1%) (eg, any verbal interactions, answering patient call light/bell) (see Supplemental Digital Content Figure 1, available at: <http://links.lww.com/JNCQ/B141>).

### Problems

The percentage of total time that RNs were prevented from completing a task already in progress due to encountering a problem was 5.6% (aggregate 5.4 hours). The majority of these problems were unsuccessful hunting and gathering (20.1%) and troubleshooting equipment (15.2%). The percentage of total time that UAPs were prevented from completing a task already in progress due to encountering a problem

was 6.1% (aggregate 4.1 hours). The majority of these problems were unsuccessful hunting and gathering (31.1%) and locating equipment (20%) (see Supplemental Digital Content Figure 2, available at: <http://links.lww.com/JNCQ/B142>).

### Delegation opportunities

The percentage of total time that RNs were performing tasks that could be delegated to others was 17.7% (aggregate 17.2 hours). The majority of these tasks were personal care (25%), hunting and gathering (24.4%), answering patient call light/bell (9.7%), and ambulation assistance (5.3%) (see Supplemental Digital Content Figure 3, available at: <http://links.lww.com/JNCQ/B143>).

### Staff interview themes

The overall themes that emerged when RNs ( $n = 10$ ) and UAPs ( $n = 10$ ) were asked to provide input on the barriers, challenges, and frustrations encountered during patient care included communication, staffing, and technology. Communication theme comments were categorized by 3 topics (contacting individuals, delegation, and admissions or discharges). Comments included constant phone call interruptions and night shift–related needs (eg, administrative support, ability to improve communication with unit directors, and contact information for scheduled providers). Staffing theme comments were categorized by 3 topics (unit comradery and cohesiveness, medication administration, and retention). Comments included concerns about delegating tasks to less experienced nurses, availability of medications on the unit due to low pharmacy staff, administering scheduled medications on time with high patient-to-staff ratios, patient safety due to pulling staff to work on other units, the UAP role converted to a hospital patient sitter role, acuity-based staffing, and high turnover. Technology theme comments were categorized by 2 topics (equipment and supplies). Comments included slow or outdated equipment, synchronizing issues, and difficulty scanning staff identification badges (see Supplemental Digital Content Table 3, available at: <http://links.lww.com/JNCQ/B144>).

## DISCUSSION

The goal of the work group was to create more capacity to provide care by deploying

sustainable strategies to deliver high-quality care with greater efficiency. Consistent with a prior observational analysis, the current state assessment via direct clinical observation was a useful approach to better understand hospital work activities of RNs and UAPs.<sup>12</sup> Exploring the rate of interruptions, problems, and delegation opportunities lends insight into the current state patient care model in the hospital setting during a nationwide nursing shortage crisis. Our current state represents the variety and degree of siloed roles and responsibilities. Based on current state assessment outcomes, we provided informed evidence-based recommendations for a future state patient care model to maximize resource efficiency and lessen nursing burden and burnout. Our future state represents a new team-based patient care model where each team member is equally empowered to work at the fullest scope of practice by licensure and skill set (see Supplemental Digital Content Figure 4, available at: <http://links.lww.com/JNCQ/B145>).

### **Recommendations and nursing implications**

Consistent with current literature, our findings demonstrate that RNs underdelegate nonclinical tasks, which consume 17.7% of their time.<sup>8</sup> The most common reason RNs performed delegable tasks was that UAPs were already occupied with other nonclinical tasks (eg, locating equipment and obtaining supplies), which consumed 11% of UAPs time. Therefore, we recommended to explore adding a new nonclinical support role to complement the existing UAP care support and create more capacity for all members of the care team to deliver high-quality care.

In addition, we recommended reintroducing the licensed practical nurse (LPN) to the new team-based patient care model. In our health system, consistent with findings nationally, LPNs are more commonly employed in long-term care or skilled nursing settings.<sup>13</sup> The reintegration of the LPN into acute care broadens the nursing pipeline and allows for a greater proportion of licensed personnel to care for patients to perform supportive care in collaboration with the RN.<sup>13</sup> In our setting, the LPN and RN will collaborate as an integrated team to perform patient care to their fullest scope of practice based upon their licensure to increase our nursing workforce. A strong, collaborative effort is imperative for the RN-LPN team to foster optimal

outcomes and prevent relational issues among the nursing team. Scope of practice and role clarity with a clearly defined framework is associated to stronger collaboration in these roles.<sup>14,15</sup> Education regarding scope of practice, role clarity, and collaboration is vital to the success of future model integration.<sup>14</sup> Together, the RN, LPN, UAP, and nonclinical support role will form a new team-based patient care model that empowers RNs as leaders.

Based on our findings of UAPs having a higher percentage of downtime than RNs on the night shift, it will be important to structure the UAP workflow to account for both reliable and variable tasks. Shift routines (day, evening, and night) and contingency plans when a member of the care team is missing will be important to the success of the new patient care model. Therefore, we recommended (i) an analysis of career ladders for each role to aid recruitment and retention, (ii) revisions of current nursing care team roles and responsibilities, and (iii) revisions of shift routines to deliver high-quality care with greater efficiency.

Our findings demonstrate that RNs and UAPs spend 12.5% and 5.8% of their total time, respectively, on documentation. For this reason, we recommended streamlining the documentation process by eliminating duplication. Specific targeted interventions to reduce duplicity have demonstrated efficacy in the literature. Karp et al<sup>16</sup> evaluated the impact of workflow improvements to admission patient history documentation, which resulted in a 72% decrease in time to perform the task. An understanding of regulatory requirements and documentation that triggers downstream workflow for other individuals will be important in mapping a successful, streamlined documentation process. Optimization of health information technology has been validated to increase time for nurses to perform direct care activities.<sup>17</sup>

Care delivery models should not be considered universally applicable to all care settings. Quality outcomes related to team-based nursing vary throughout the literature.<sup>15</sup> Specifically, skill mix including the LPN has demonstrated improved quality of care in lower-acuity environments; however, in high-acuity environments, integration of the LPN has been associated with increased adverse events and tasks left undone.<sup>18</sup> These findings further contribute to the notion that skill mix between the RN, LPN, and UAP

must be carefully determined based on acuity of each hospital and nursing unit to determine appropriateness of care model selection. Organizations seeking to improve nursing workforce and provide effective care while assuring quality care delivery must consider skill mix when determining the appropriate care delivery model.<sup>19</sup> Successful implementation of a new patient care model requires extensive planning, appropriate training, rapid pilot testing at hospital sites, and deployment support.

## Limitations

We recognize several limitations in our methods. Although we sought to develop clear and useful categories and subcategories of work activities for the nursing care team, our grouping choices are arbitrary and specific to this study. The consistency of observations could have been strengthened by formal interrater reliability testing. Although findings from this current state assessment cannot be generalized to other settings, our current state assessment clinical observation process and approach to evidence-based recommendations will hopefully provide meaningful insight into the outside community.

## CONCLUSIONS

Direct observation current state assessment offers a better understanding of inefficiencies in workflows and workloads among RNs and UAPs. This information is critical to provide informed, evidence-based recommendations for building new patient care models with more capacity to deliver high-quality care with greater efficiency and lessen nursing burden and burnout during the nursing shortage crisis.

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