ORIGINAL RESEARCH

Optimizing delegation to maximize nurses' time: Results of a time study in an acute care setting

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ABSTRACT

Nurses are asked to respond to numerous demands that affect their ability to provide efficient and effective patient care. Many activities can be safely delegated to unlicensed assistive personnel. Nurse leaders from an acute care unit identified nurse and unlicensed assistive personnel activities that could be observed over four 24-hour periods in a week. Results from the time study demonstrated that many opportunities exist to optimize delegation practices. While nurses spend time on patient care, time is also spent on activities that can be delegated. These activities can be more appropriately aligned with unlicensed assistive personnel workflows which can help alleviate increased nursing workloads and allow nurses to maximize time spent on patient care.

Key Words: Delegation, Nursing workload, Unlicensed assistive personnel

1. INTRODUCTION

1.1 Background

The evolving healthcare landscape has forced organizations to evaluate the use of nursing staff and time to provide more effective and efficient patient care while maintaining fiscal responsibility. Patient care needs have become increasingly complex, putting additional pressure on nurses to fulfill numerous patient and non-patient care responsibilities. As nursing workloads continue to increase, nurses are expected to prioritize and utilize time spent providing patient care as efficiently and effectively as possible.[1,2] Many healthcare organizations face an unprecedented nursing shortage further exacerbated by the novel coronavirus pandemic.[2–5] The realities of the current nursing shortage and increased patient acuity are forcing organizations to explore new ways to support the nursing workforce in making nursing work and time more efficient while still maintaining high-quality, safe patient care.[2,5–7]

Healthcare organizations can understand how nurses spend their time by evaluating time spent on nursing activities and identifying opportunities where nursing work can be delegated. The scope of practice for Unlicensed Assistive Personnel (UAPs), who function under the nurse's direction, must also be understood so nurses can optimize how and when they delegate patient care activities. These evaluations should inform organizational decisions that impact staffing, work organization, and allocation of resources to ensure high-quality, cost-effective patient care that produces the best outcomes.[1] This article summarizes the results of a pilot study using a time study methodology performed in an acute care unit to understand how nurses spend their time and how to optimize delegation.

1.2 Significance of the problem

Nurses must often respond to numerous organizational, unit, and patient care demands simultaneously and are often un-

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able to provide the full range of patient care for which they are responsible.[8,9] Numerous studies demonstrate that nurses spend 37% to 50% of nursing time engaged in direct patient care, with most of the rest of their time spent performing work considered non-essential to the nurses' role.[8,10,11] These work demands, combined with staffing shortages, patient acuity, and ineffective delegation, can lead to missed nursing care.[11–15] The effects of missed nursing care include increased patient falls, serious adverse events, medication errors, hospital-associated conditions, high readmission rates, and patient mortality.[12,13,16–22]

Nurses are responsible for all patient care.[23–25] However, not all patient care activities must be performed by a registered nurse. Many patient care activities can be delegated to UAPs, who can safely and efficiently assist with certain patient care activities within their scope of practice.[9,26–29] Delegating to UAPs can ensure that patient care activities are completed promptly, consistently, and efficiently, allowing the nurse to focus on nurse-specific patient care.

1.3 Literature review

The American Nurses Association (ANA) and National Council of State Boards of Nursing (NCSBN) jointly defined delegation as the process of a registered nurse assigning the performance of patient care tasks and activities to another person, such as the UAP.[30–32] The purpose of delegation is to improve the efficiency of nursing work.[2] Nurses cannot delegate activities that are related to the nursing process, require nursing judgment, or specifically require a registered nurse license per their state's nursing practice act. Nurses are responsible and accountable for the supervision, completion, and outcomes of appropriately delegated activities.[30–33] The scope of delegation practices is defined by each state's board of nursing and nurse practice act.[30,31,33]

Nurses must use assessment, knowledge, critical thinking, and judgment when appropriately delegating activities.[30–34] Additionally, nurses must assess the delegatee's skills, knowledge, resources, and competency to ensure the delegated activity is completed and the expected outcomes are achieved.[2,30,34] Inappropriately and ineffectively delegated activities can negatively impact the patient and cause decreased satisfaction among the nursing team. Therefore, nurses must have a firm and clear understanding of their roles and responsibilities as delegators.

Despite receiving delegation education, most nurses feel unprepared to practice delegation.[34,35] Nurses express confusion, discomfort, and lack of confidence in delegating and supervising UAPs in completing patient care activities, with some failing to delegate activities altogether.[14,28,34–36] Nurses continue to spend a significant amount of time performing non-value-added activities that could be delegated to other healthcare team members instead of performing patient care, demonstrating a continued need to find alternative solutions to reduce the nurses' workload and have a better understanding of nursing time.[37] While the tasks nurses perform have not changed, additional workload burdens, such as EHR documentation, are highlighting a shift in opportunities to identify how UAPs and other healthcare personnel support could be best utilized to support nurses working at the top of their license.[38]

Nurses also lack clarity on what activities can be delegated, the UAP's scope of practice, and organizational policies surrounding delegation.[14,28,34,37] Nurses understanding of and ability to delegate is instrumental in providing role clarity and expectations for the nursing team. Role clarity reduces job ambiguity and allows all members of the team to understand their duties and responsibilities.[23,39] This disconnect has implications for the efficiency of patient care, as some care inevitably does not get completed.[23,28,40] Furthermore, a lack of understanding and unclear roles and expectations between nurses and UAPs leads to ineffective delegation, duplicative work, unbalanced workloads, poor teamwork, variability in practice, missed nursing care, and adverse patient outcomes.[2,19,36,37,41–43] These outcomes highlight the importance of optimizing delegation to maximize the nurses' time to complete nurse-only patient care.

1.4 Project objectives

In this quaternary care academic medical center, organization leaders identified opportunities to evaluate new care and staffing models in the medical-surgical units. Specifically, leaders wanted to identify ways to support nurses in performing nurse-only patient care. This led to discussions surrounding nursing work and which activities could be delegated to other individuals to help decrease the nursing workload. A decision to conduct a time study using time study methodology was made to allow nursing and organization leaders to evaluate nursing activities and determine where additional support could be provided.

2. METHOD

2.1 Setting & sample

This study utilized time study methodology and was conducted on a single 28-bed medical unit that admits hepatology and general medicine patients at a quaternary care academic medical center in the Southwest region of the United States. Over seven days, four nurses were observed on the day shift (7 AM-7 PM), and four were observed on the night shift (7 PM-7 AM). Additionally, four UAPs from the day

shift and four UAPs from the night shift were observed. Staff were observed for four 24-hour periods over a week, from Monday 7 AM to Tuesday 7 AM, Wednesday 7 AM through Friday 7 AM, and Saturday 7 AM through Sunday 7 AM. These days represented the typical busiest and slowest days of the week.

The study team also asked other nurses and UAPs from the study unit to self-report their time during the observation period. Twenty-seven RNs and eleven UAPs turned in self-reported time reports during the same week the study team was observing staff. The Revised Standards for Quality Improvement Reporting Excellence 2.0 (SQUIRE 2.0) guidelines were used as a framework for this project. This framework allowed the study team to identify opportunities where systematic interventions could be implemented to improve the quality of nursing care and provide additional resources to support the nursing staff in their work.

2.2 Theoretical framework for nurse and UAP activities

Role clarity means that individuals have sufficient information and understanding of their roles and responsibilities.[23] According to the role clarity theory, staff experience high role clarity when they have a clear understanding of their duties and responsibilities.[29] As a result of clearly defined responsibilities, instrumental resources and support can be appropriately allocated to help nurses complete patient tasks.[29] Role ambiguity results from a lack of role clarity, in which antecedents such as lack of clear role definitions, duties, responsibilities, and communication are commonly experienced.[23] Organizations and leaders must understand the specific activities that nurses and UAPs are expected to do in order to create role clarity. Using the concepts from this framework, nurse leaders identified sixty nurse activities and forty-five UAP activities for the study team to observe. These activities were then condensed into forty-three nurse activities and thirty-three UAP activities after duplicate activities were removed and placed into ten categories. Table 1 describes the nurse and UAP activity categories used for the analysis. The study team further determined sixteen of the sixty nursing activities could be delegated to other staff, including UAPs, unit administrative staff, or ancillary care team members.

2.3 Data collection tool

The study team developed the data collection tool on a paper form with the identified nurse and UAP activities listed in rows and columns indicating five-minute intervals over an hour. As the data collectors observed staff, they would place tally marks in the row of the activity observed and in the corresponding time column. When the staff performed more than one activity in five minutes, they would use multiple tally marks in multiple rows for that column.

2.4 Data collection team

The time study team recruited nurse leaders, nurse educators, nurse scientists, and administrative staff to collect data. Due to the nursing-specific knowledge needed when observing nurses, nurses on the time study team observed nursing staff. Administrative staff observed UAPs.

Prior to the time study, all data collectors participated in practice observations. They spent one hour in the nursing unit observing either a nurse or UAP and practiced using the data collection tool. These practice observations enabled the study team to ensure that all data collectors understood their role and how to use the data collection tool. The study team also used this opportunity to ensure that no activities were left off the data collection tool.

2.5 Data analysis

All data collection forms were entered into Microsoft Excel (2008). Descriptive statistics were used to summarize nursing and UAP activities each hour. Descriptive statistics were utilized as the primary goal of this study was to identify the amount of time nurses and UAPs spent on a variety of activities. Comparisons between shifts and RN activities versus UAP activities were also completed. Lastly, an analysis of nursing activities that could be delegated compared to UAP idle time was completed.

3. RESULTS

3.1 Statistics and data analysis

The analysis of the time study data showed that nurses spent 33% of their time providing direct patient care, including assessing patients, admissions, discharges, communicating with patients and families, and educating patients. Approximately 20% of their time was spent preparing and administering medications. Lastly, 34% of the time was spent documenting. Figure 1 summarizes how the nurses spent their time while being observed.

UAPs spent 63% of their time providing patient care, including direct patient care, such as mobility, hygiene, ADLs, nutrition support (37%), collecting vital signs (16%), and hourly rounds (10%). UAPs spent only 6% of their time documenting, largely because vital signs are automatically uploaded into the electronic health record (EHR). Figure 2 illustrates the UAP's time. The study team also found that UAPs spent approximately 13% of their time idle; on average, they were idle 8 minutes per hour. This idle time varied widely during a 24-hour period, with up to 16 minutes per hour between 9 PM and 6 AM and down to zero minutes idle between 7 AM and 9 AM.

Table 1. Categories of nurse & UAP activities observed during the time study

Activity Categories	Nurse Activities	UAP Activities
Assessments	Patient Assessments Vital Signs Blood Glucose Monitoring	Vital Signs Skin Assessments
Documentation	Documentation	Documentation
Medication Administration	Medication Preparation Medication Administration	
Patient Care	Ambulation* Activities of Daily Living & Hygiene* Bathroom Assistance* Blood Transfusions Blood Glucose Monitoring* Electrocardiograms* Emergencies Environmental Rounds* Dressing Changes Indwelling Urinary Catheter Care* Hourly Rounds* Patient Fall Prevention IV Maintenance Nutrition Assistance* Patient Assistance* Patient Transportation* Ostomy Care Positioning* Procedure or Test Prep Respiratory Care or Oxygen Therapy* Specimen Collection* Telemetry Monitor Setup/ Adjustment Tubes & Drains Wound Care	Ambulation Activities of Daily Living & Hygiene Bathroom Assistance Blood Transfusion Pick Up Blood Glucose Monitoring Electrocardiograms Emergencies Environmental Rounds Dressing Changes Patient Fall Prevention Hourly Rounds Nutrition Assistance Hygiene Ostomy Care Patient Transportation Patient Assistance Positioning Procedure or Test Prep Specimen Collection Telemetry Monitor Setup/Adjustment Skin Care Wound Care
Patient Throughput	Admissions Transfers Discharges Care Planning Care Coordination Rounds	Admissions Discharges
Patient & Family Communication	Patient Education Family Updates Patient & Family Communication Service Recovery White Board Updates	Family Updates Family Assistance Patient Assistance Service Recovery White Board Updates
Communication	Copies/Faxes* Phone Calls Handoff Communication	
Precepting	Precepting new employees or students	
Gathering Supplies	Searching for supplies* Gathering or delivering supplies*	
Non-Patient Care Activities	Idle Time Breaks In-Services	

*Activity that can be delegated to UAP or other team member

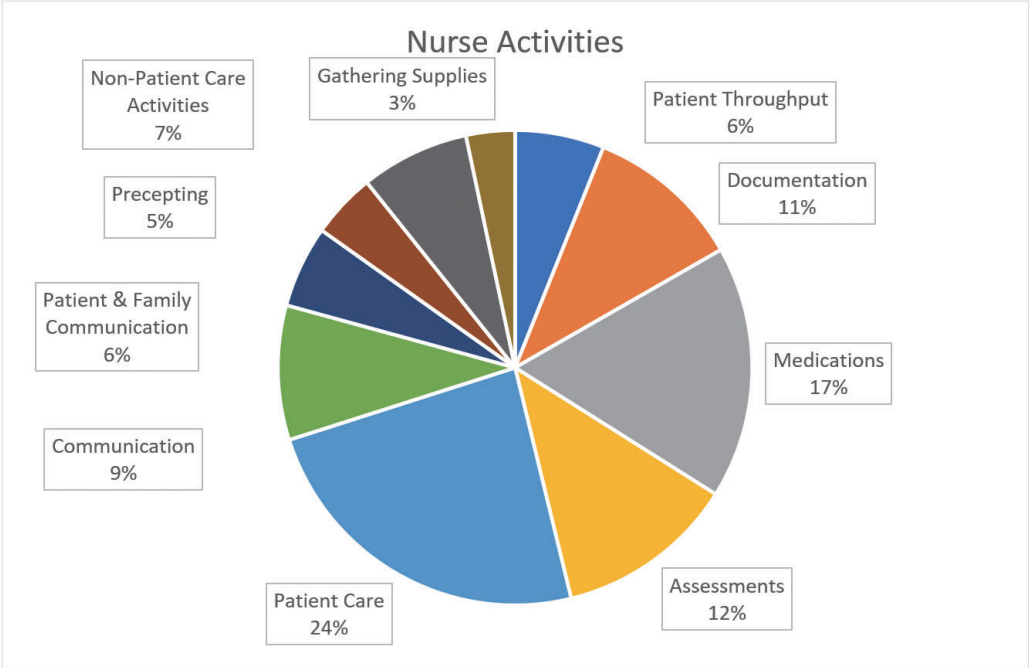

Figure 1. Summary of nurse activities observed during the time study

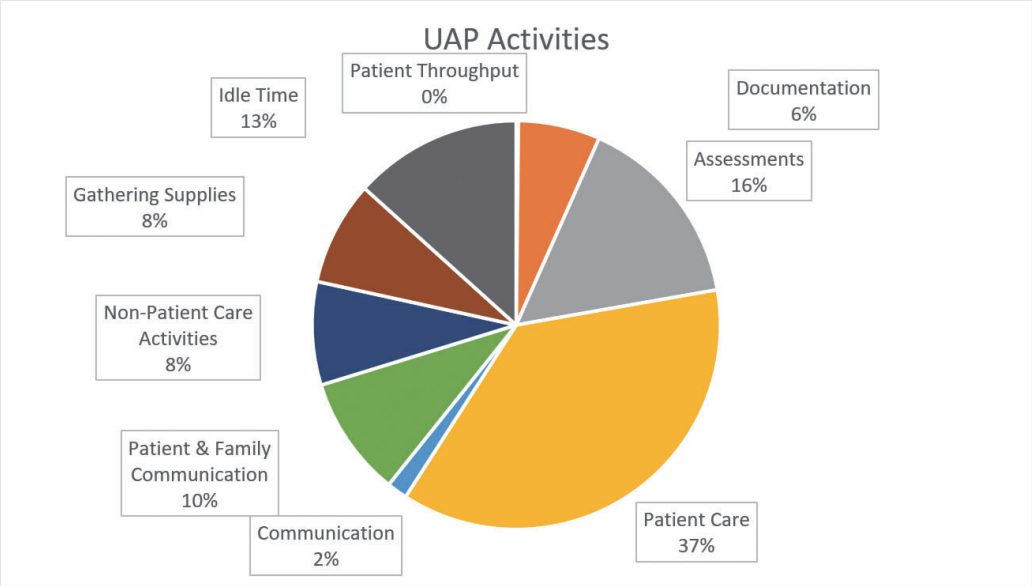

Figure 2. Summary of nurse activities observed during the time study

3.2 Shift differences

Data were collected for both the day shift and night shift. Day shift nurses spent more time preparing and administering medications, 24.1%, compared to 17.5% for the night shift. They also spent more time making calls and performing other administrative tasks (8.4%). Night shift staff spent 7.1% of their time addressing patient throughput and communicating with family members, including admissions and discharges, compared to 10.4% on the day shift. The night shift spent more time documenting and assessing, 28.7% compared to 22.7% on the day shift. These differences occurred because more admissions occurred on the night shift therefore, the burden of admission documentation and assessment fell to the night shift nurses. Beyond that, the nurses' activities around mobilizing patients, providing hygiene, and doing rounds were similar. Table 2 shows a comparison of RN activities by shift.

Table 2. Comparison of RN percentage of time spent per activity category, by shift

Activity Category	Day Shift (%)	Night Shift (%)
Assessments	4.02	19.27
Communication	10.17	8.29
Documentation	18.74	9.41
Gathering Supplies	3.69	3.03
Medications	20.45	14.45
Non-Patient Care Activities	8.44	6.56
Patient & Family Communication	6.53	4.76
Patient Care	24.04	23.76
Patient Throughput	3.87	2.30
Precepting	0.05	8.17

3.3 Nurses perform activities that could be delegated

Analysis of the time study data also showed that nurses spent 14% of their time doing activities that could be delegated to UAPs. These include hygiene and nutrition activities, ambulation, looking for equipment or supplies, specimen collection, patient transportation, and more.

3.4 Nurse activities and UAP idle time

The study team compared the RN time data with the UAP idle time. On some hours when the nurses were performing activities that could be delegated, UAP idle time was very low. This mainly occurred during mealtimes and when vital signs and blood glucose checks were routinely measured. The assumption is that UAPs were busy completing their assigned duties, so they were not available for RNs to delegate to them. Conversely, there were times when the RNs were doing activities that they could have delegated while the UAPs were idle. This was most significantly seen between 3 and 6 AM when the UAPs had 10-30 minutes of idle time per hour while the RNs spent 15-20 minutes performing blood specimen collection per hour. Figure 3 compares nurse activities that could be delegated with UAP idle time.

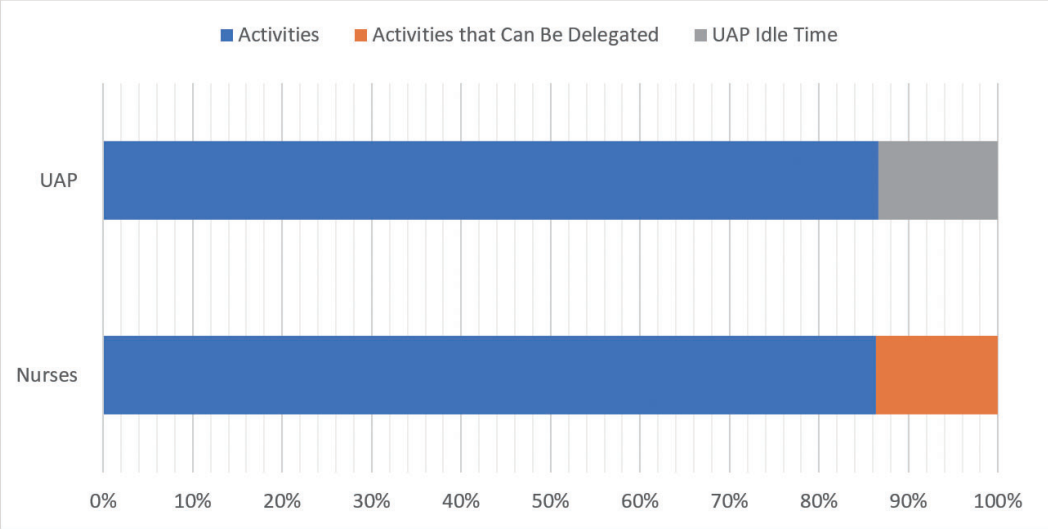

Figure 3. Nurse activities that could be delegated compared to UAP idle time

3.5 Self-reported time data

While the study team collected self-reported time data from 27 RNs and 11 UAPs, the data collection sheets were incomplete, with many hours left blank. Therefore, the team decided to exclude that data from their analysis.

4. Discussion

This study demonstrated that nurses in a single acute care setting engaged in activities that could otherwise be delegated to UAPs. Specifically, this study showed that 14% of nursing activities could be delegated to UAPs while 13% of the UAP time was classified as idle time. This highlights an opportunity to enhance RN delegation, improve UAP staffing ratios, and ensure UAPs are available when RNs are doing activities they could delegate.

4.1 Delegation practices and education

Delegation practices are essential to help nurses improve efficiency and maximize the time spent providing patient care. Nurses should receive more robust education surrounding delegation practices, including communication training, and developing interpersonal relationships.[2,26,28,34,36,44,45] Many nurses obtain delegation skills on the job and are not adequately prepared to delegate and supervise UAPs.[2,34,41,42,45] Education and training on delegation should begin much earlier in undergraduate nursing curriculum.[2,34,45] Early exposure and continuous practice

of delegation skills may help nurses feel more prepared to delegate when they transition to independent practice.[2,45] Innovative methods for delegation and supervision should be employed, including simulation, hands-on clinical practice, role-playing, communication training, and team building.[34,45] The study unit has developed education for their nursing staff around delegation, teamwork, and communication, as well as a tip sheet has been distributed to clearly delineate the duties and responsibilities of nurses and UAPs.

4.2 UAP staffing ratios & UAP skills

Despite the increase in patient volume and acuity, the types of activities nurses spend time on have not changed.[38] Nurses still spend a significant portion of their time doing activities that can be delegated while simultaneously experiencing an increase in time spent on nurse-only activities. This suggests that organizations are not effectively utilizing UAPs. Since the time study, this unit made changes to optimize UAP staffing. First, more UAPs are scheduled during the week. Next, one UAP is trained to collect laboratory specimens, and they are scheduled to work from 3:30 AM to 12:00 PM, making them available to help nurses during the busiest hours. Lastly, additional UAPs will be trained to collect specimens to further support nurses any time of the day.

4.3 Documentation & technology

This study also demonstrated that nurses continue to spend much of their time documenting care in the EHR. This aligns with other studies that show EHR documentation is time-consuming and takes nurses away from patient care.[8,9,38,44,46,47] Since documentation is a significant portion of nurses' work, methods to reduce the documentation burden on nurses must be explored.[26,46–48] These include strategies that enhance available technology and practices such as voice-to-text software, streamlining required documentation fields, charting by exception, and implementing nursing scribes. The study unit will be implementing telenursing which allows virtual nurses to engage in certain activities that require documentation time, such as admissions or discharge education. This will allow the unit nurses to focus on patient care.

4.4 Medication preparations & supplies

Nurses engaged in medication administration on their shift 17% of the time. Several factors can affect the time nurses allocate to completing this important and high-risk activity. The study unit is collaborating with the pharmacy department to ensure that all automated medication dispensing units have the same layout and are stocked with the same medications to streamline medication preparation.

Another frequently observed activity during the time study was nurses and UAPs searching for and gathering supplies and equipment. The study unit leaders are evaluating how to reorganize supplies to decrease search times. They have also provided UAPs with new equipment to expedite certain activities, dirty linen removal.

4.5 Study limitations

This time study had several limitations. This study only observed time, not motion. Observing motion could have added more context to the study findings. Additionally, to ease the process of observing nurses and UAPs across many shifts, the study team assumed that each observed activity was done one at a time. Nurses spend much of their time multitasking,[27,44,49] but this study did not analyze this. Another limitation of this time study was the sample size and unit type; further studies with more nurses and other patient care environments are needed. Lastly, study participants may have altered their normal behavior because they knew they were being observed; there is no way for the study team to know if the sixteen staff observed would have worked more or less efficiently if they did not know they were being observed. Utilizing technology, such as cameras and telenursing, might be one way to observe how staff spend their time and eliminate this observational bias.

5. Conclusion

The findings from this time study in one acute care nursing unit demonstrate that nurses spend much of their time engaged in activities that can be delegated to UAPs. This study identified a need for nurses to engage in better delegation practices. Methods to engage in delegation practices, such as mock simulations and role play, should be introduced and reinforced throughout the undergraduate nursing program experience. This would allow nurses to have multiple opportunities to practice this essential skill, so they are fully prepared when they transition to practice. Novel staffing solutions and technology must be implemented to help alleviate the growing nursing workload, particularly the documentation burden, and align idle and productive times between nurses and UAPs. Furthermore, UAPs should be appropriately trained to perform nurse-delegated activities safely and proficiently. Nurses must be supported in optimizing their time to provide efficient and effective patient care. In doing so, healthcare organizations and leaders will further champion the ongoing practice and professional role of the nurse.

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AUTHORS CONTRIBUTIONS

Sara Loewy, Aria Jelks, Teresa Greene, Dr. Gail Vozzella, and Dr. Nicole Fontenot were responsible for study design and data collection. Dr. Nicole Fontenot and Dr. Joanne Muyco drafted and revised the manuscript. All authors read and approved the final manuscript.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

INFORMED CONSENT

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT

No additional data are available.

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