



Significance of Workflow Automation in Nursing Practice

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PURPOSE

The purpose of this research is to investigate the significance of workflow automation amongst clinical nurses and nurse leaders. This research determined how important workflow automation is to nurses and how workflow automation can improve nursing processes and outcomes.

BACKGROUND

- Burnout affects nurses negatively and high workload is one of the most frequently reported job stressors.
- Workflow automation improves work performance and reduce the risk for error, effort, and stress.
- The Office of the National Coordinator for Health Information Technology (ONC), the lead health information technology (IT) policy agency in the United States, published a report in 2021 that emphasized the need to use workflow automation in healthcare.
- The report states that, workflow automation can provide more time to providers yielding better and faster insights on health and healthcare.

METHODOLOGY

Design

- Web-based anonymous survey administered to clinical nurses and nurse leaders across the US
- Request for research participation through American Organization for Nursing Leaders (AONL)

Instruments

- Developed an animated explainer video
- Web-based survey developed through Survey Monkey
- Tasks and Workflow Automation Questionnaire
- Workflow Automation Perception Questionnaire

Data Analysis

- Data sent to a statistician who used SPSS software
- Microsoft Excel used to generate pivot tables and charts

ACKNOWLEDGMENT

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DIGITAL CORNER



Animated Video

An explainer video was produced to explain workflow automation and its impact in nursing practice. Use QR code to watch the video.



Tasks and Workflow Automation Questionnaire

Looked at user satisfaction on use or lack of use of workflow automation on common processes clinical nurses and nurse leaders do in acute care settings. Use QR code to experience this questionnaire.

What are the variables used in this research?

Variables are characteristics or factors used by researchers to measure in a study. Use QR code to know what variables that were used in this study.

Workflow Automation Perception Questionnaire

Looked at the perception of clinical nurses and nurse leaders in using workflow automation. Used a modified Technology Acceptance Model (TAM) to develop the questions. Use QR code to experience this questionnaire.

FINDINGS

Are nurse leaders more familiar with workflow automation than clinical nurses? Majority of the clinical nurses stated that they are unfamiliar of workflow automation. In contrast, more nurse leaders stated being familiar of workflow automation. (figure 1)

Do nurse leaders use workflow automation more than clinical nurses? Fewer clinical nurses compared to nurse leaders stated that they use workflow automation sometimes, usually, or always. (figure 2)

Are there relationships associated with familiarity with and use of workflow automation to personal demographics? Spearman's correlation showed that familiarity with and use of workflow automation at work were significantly correlated with personal demographics (age, nursing experience, and nursing education). This implies that older nurses with longer years of experience and higher nursing education tend to use workflow automation at work.

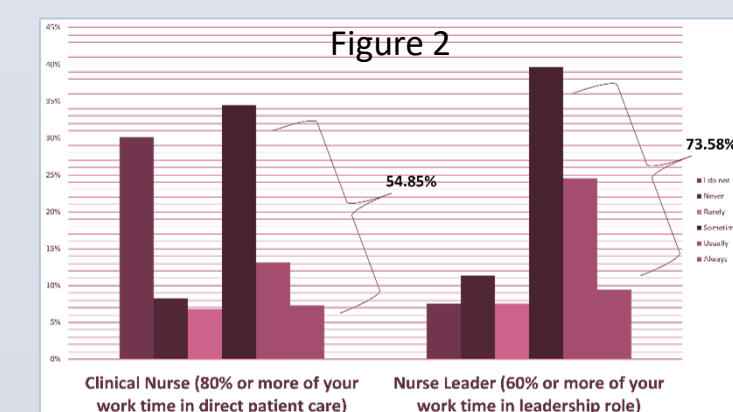
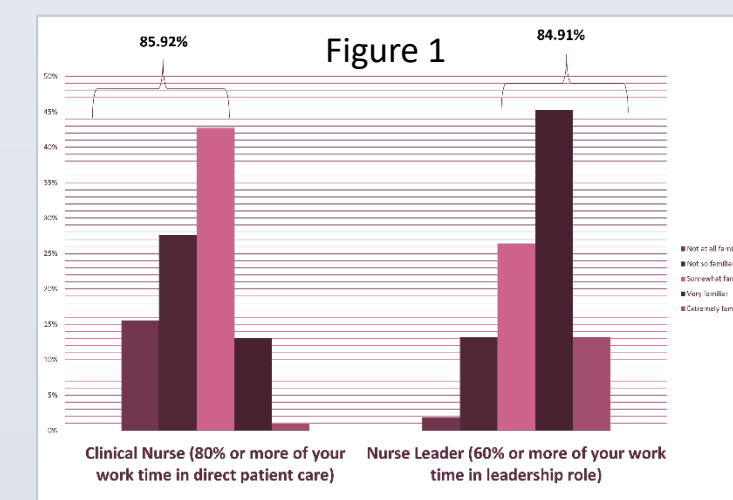
How satisfied are clinical nurses and nurse leaders in their use of workflow automation in practice? Clinical nurses who stated that they use workflow automation are somewhat satisfied (structure 3.22, process 3.32, and outcome 3.39) while nurse leaders' mean scores were slightly lower than clinical nurses where they were mostly dissatisfied under structure (2.54) and somewhat satisfied under process (2.90) and outcome (3.08).

What are significant predictors of satisfaction with the use of workflow automation amongst clinical nurses and nurse leaders?

Partnership between IT and nursing ($\beta = .210, p = .004$) and IT support ($\beta = .167, p = .035$) contributed significantly for clinical nurses while priorities for innovation and efficiency ($\beta = .213, p = .011$) contributed significantly for nurse leaders.

Do nurse leaders have better perception in using workflow automation in practice than clinical nurses?

Workflow Automation Perception	Interpretation
Perceived usefulness ($z = -3.84, p < .001$)	Indicated that nurse leaders have better perception in these areas than clinical nurses in using workflow automation in their practice.
Perceived ease of use ($z = -2.83, p = .005$)	
Attitude ($z = -3.35, p = .001$)	
Compatibility ($z = -3.59, p < .001$)	
Intention ($z = -4.45, p < .001$)	
Facilitators ($z = -3.50, p < .001$)	
Subjective norm ($z = -2.59, p = .01$)	Did not show a significant difference in this area between nurses and nurse leaders.
Habit ($z = -1.50, p = .134$)	



KEY TAKEAWAYS

Clinical Nurses

- Large proportion of respondents to the survey indicated high interest in workflow automation
- Mostly unfamiliar and low users of workflow automation in practice.

Nurse Leaders

- More familiar and better users of workflow automation in their practice
- Indicated more dissatisfaction with the use of workflow automation in their practice

Organizational Priorities

- Partnerships between nursing and IT, and IT support were significant predictors of satisfaction amongst clinical nurses.
- Priority to innovate and find ways to make work more efficient is a predictor for nurse leader's satisfaction.

Technology and Processes

- Tools, applications, and systems must support workflow automation for nurses.
- Processes and workflows of nurse leaders and clinical nurses must be open to automation.

IMPLICATIONS TO PRACTICE



Education and Training

Bring awareness to clinical nurses that technology can reduce burden and workload.



Empower Nurses

Involvement of clinical nurses and nurse leaders in integrating automations to support nursing workflows.



Nursing Advocacy

A call to action for healthcare and nursing organizations to prioritize automation for nurses.



Industry Partnerships

Work with tech industries to optimize application designs to integrate automations that will support nurses.

For more information about the study, you can contact the author via LinkedIn. Use QR code for LinkedIn information.

