



North Dakota Nursing Research Collaborative

NORTH DAKOTA NURSING RETENTION STUDY: CORRELATIONAL RESULTS

(Web Compliance Version)

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Retention Factor Importance by Respondent Type

Facility administrators and nurses were both asked to respond to the following question while thinking about their most recent or current position, or their current facility (in the case of administrators). "The following are/were influential to remaining at my current/most recent employer". This question was a 5-point Likert scale with highly agree/agree/disagree/highly disagree/NA as options. There were twenty retention factors listed.

Facilities consistently ranked the following retention factors higher in importance than nurses did as suggested by the mean rankings. These differences imply a disconnect between what administrators believe matters for retention and what nurses prioritize or experience. As shown in Table 1, particularly notable are the wide gaps in perception on compensation and workload, which are highly significant ($p < 0.001$) and have large differences in rank.

Table 1. Retention factors demonstrating significant differences in response between nurses and facilities. ($p=0.05$ significance)

| Factor | n | Mean Rank | Mann-Whitney U | Sig. (2-tailed) |
|---|-----|-----------|----------------|-----------------|
| Child Care | | | | |
| <i>Nurses</i> | 115 | 63.32 | 611.5 | <0.001 |
| <i>Facilities</i> | 26 | 104.98 | | |
| Compensation | | | | |
| <i>Nurses</i> | 267 | 149.19 | 4057.00 | <0.001 |
| <i>Facilities</i> | 49 | 209.20 | | |
| Housing Availability | | | | |
| <i>Nurses</i> | 192 | 113.24 | 3215.00 | 0.002 |
| <i>Facilities</i> | 46 | 145.61 | | |
| Recognition | | | | |
| <i>Nurses</i> | 257 | 148.64 | 5048.50 | 0.05 |
| <i>Facilities</i> | 47 | 173.59 | | |
| Spousal Employment Opportunities | | | | |
| <i>Nurses</i> | 169 | 98.93 | 2354.00 | <0.001 |
| <i>Facilities</i> | 42 | 134.44 | | |
| Workload | | | | |
| <i>Nurses</i> | 264 | 150.09 | 4644.50 | <0.001 |
| <i>Facilities</i> | 49 | 194 | | |

Table 2 presents non-significant retention factors—those for which there were no statistically significant differences between how nurses and facility administrators ranked their importance ($p > 0.05$). This suggests alignment between the two groups on these factors, meaning administrators and nurses agree on the importance or non-importance of these factors. The mean rank shows the estimated importance level. As an example, both groups believe that organizational culture is important for retention (mean rank 152.28 for nurses, 160.06 for administrators) while both ranked call schedule as lower importance (mean rank 89.7 for nurses, 93.3 for administrators).

Table 2. Retention factors without significant differences in responses between nurses and facilities. ($p=0.05$ significance)

| Factor | n | Mean Rank | Mann-Whitney U | Sig. (2-tailed) |
|----------------------------------|-----|-----------|----------------|-----------------|
| Advancement Opportunities | | | | |
| <i>Nurses</i> | 261 | 155.13 | 6321.00 | 0.95 |
| <i>Facilities</i> | 48 | 154.31 | | |
| Benefits | | | | |
| <i>Nurses</i> | 259 | 153.72 | 6143.00 | 0.89 |
| <i>Facilities</i> | 48 | 155.52 | | |
| Call Schedule | | | | |
| <i>Nurses</i> | 140 | 89.70 | 2688.00 | 0.68 |
| <i>Facilities</i> | 40 | 93.30 | | |
| Civility | | | | |
| <i>Nurses</i> | 250 | 147.44 | 4514.00 | 0.271 |
| <i>Facilities</i> | 40 | 133.35 | | |
| Work-Life Balance | | | | |
| <i>Nurses</i> | 265 | 156.94 | 6344.00 | 0.77 |
| <i>Facilities</i> | 49 | 160.52 | | |
| Facility Condition | | | | |
| <i>Nurses</i> | 256 | 154.82 | 5549.00 | 0.24 |
| <i>Facilities</i> | 48 | 140.10 | | |
| Continuing Education | | | | |
| <i>Nurses</i> | 265 | 159.37 | 5996.50 | 0.36 |
| <i>Facilities</i> | 49 | 147.38 | | |
| Cultural Activities | | | | |
| <i>Nurses</i> | 235 | 141.24 | 4878.50 | 0.52 |
| <i>Facilities</i> | 44 | 133.38 | | |
| Local Schools | | | | |
| <i>Nurses</i> | 171 | 108.63 | 3870.50 | 0.86 |
| <i>Facilities</i> | 46 | 110.36 | | |
| Location | | | | |

| Factor | n | Mean Rank | Mann-Whitney U | Sig. (2-tailed) |
|-------------------------------|----------|------------------|-----------------------|------------------------|
| <i>Nurses</i> | 237 | 143.14 | 5721.00 | 0.86 |
| <i>Facilities</i> | 49 | 145.24 | | |
| Onsite Food Services | | | | |
| <i>Nurses</i> | 209 | 125.93 | 4373.50 | 0.44 |
| <i>Facilities</i> | 45 | 134.81 | | |
| Organizational Culture | | | | |
| <i>Nurses</i> | 258 | 152.28 | 5877.00 | 0.54 |
| <i>Facilities</i> | 48 | 160.06 | | |
| Shared Governance | | | | |
| <i>Nurses</i> | 250 | 148.55 | 4988.00 | 0.41 |
| <i>Facilities</i> | 43 | 138.00 | | |
| Technology | | | | |
| <i>Nurses</i> | 254 | 153.63 | 5554.00 | 0.27 |
| <i>Facilities</i> | 48 | 140.21 | | |

Retention Factors and Independent Variables from Nurses

There were eight independent variables that were used to correlate with the twenty retention factors. These included: work setting, age, highest degree, license type, specialty, facility designation, metro/non-metro area. Definitions of all variables are listed in Table 3.

Table 3. Definitions of independent variables

| Variable | Definition |
|----------------------|---|
| Work Setting* | Type of healthcare facility/organization that respondents were employed such as a hospital, hospital-based clinic, retail clinic, or hospice, among others. |
| Age* | Respondent age at the time of survey completion. |
| Highest Degree | Indicated the highest degree the respondent had achieved related to nursing career. |
| License Type | Current nursing license type (registered nurse, licensed practical nurse, or advanced practice nurse) for each respondent. |
| Specialty | This variable allowed respondents to classify the clinical area in which they worked. Examples were cardiology, pediatrics, emergency, etc. |
| Facility Designation | This variable allowed respondents to respond if their facility had a federal designation such as: Critical Access Hospital, Veteran's Administration, Federally Qualified Health Center, etc. |
| Metro/non-metro area | Rural-Urban Continuum Codes (RUCC) were used to classify the areas respondents lived. Areas with a RUCC of 1 – 3 were considered metro and areas with a RUCC of 4 – 9 were classified as non-metro areas. |

** variables demonstrating significant differences in response by retention factor*

Only independent variables that demonstrated statistically significant differences in relation to one or more retention factors are included in the following results. The variables not demonstrating

significance were facility designation, specialty, metro/non-metro, license type and highest nursing degree.

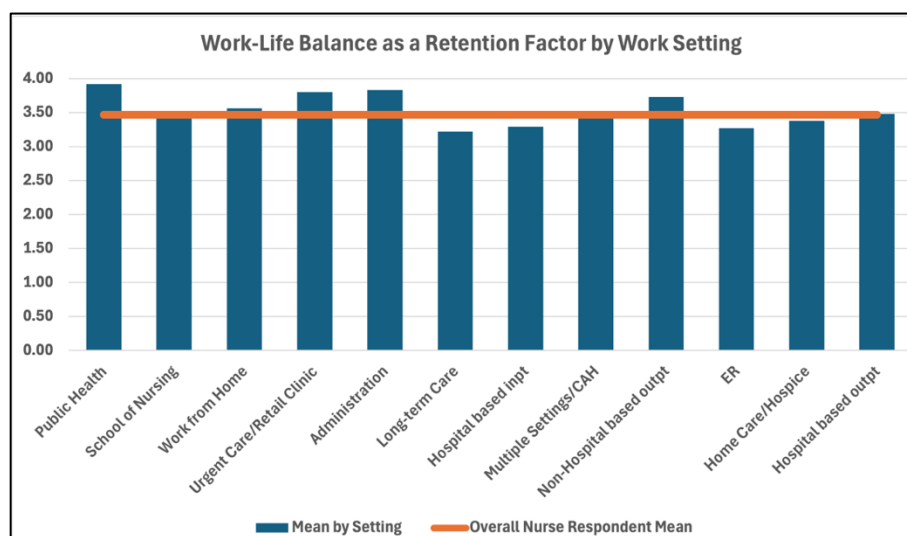
Retention Factors by Work Setting

There were twelve work settings for nurses compared by the twenty retention factors. With an average response rate to work setting questions of 241 nurses, six of the twenty retention factors demonstrated significant results (compatibility with work-life balance, civility, benefits, organizational culture, recognition/awards, and shared governance). This means that responses were different from nurses in different work settings. Each of the six statistically significant retention factor results are outlined below.

Work-Life Balance

The overall mean response from nurses was 3.48, with significant differences by work setting ($p=0.05$). The work setting with the lowest mean was from nurses working in long-term care (3.22), the highest from public health and urgent care, retail, or administrative nurses (Figure 1).

Figure 1.

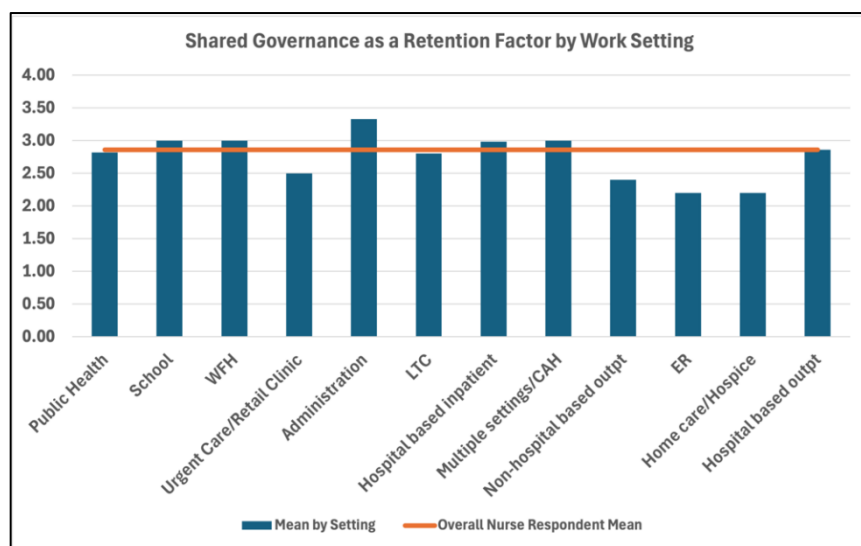


Work-Life Balance as a Retention Factor by work setting (0–4 scale): Public Health – 3.92, School of Nursing – 3.51, Work from Home – 3.56, Urgent Care/Retail Clinic – 3.80, Administration – 3.83, Long-term Care – 3.22, Hospital Based Inpatient – 3.29, Multiple Settings/CAH – 3.50, Non-Hospital Based Outpatient – 3.73, ER – 3.27, Home Care/Hospice – 3.38, Hospital Based Outpatient – 3.48. The overall nurse respondent mean was 3.47.

Shared Governance

Nurses felt their current position did not have shared governance as a means of retention. The overall mean response was 2.86, and there was a statistically significant difference between work settings for this response ($p=0.03$). Nurses in non-hospital outpatient settings, ER, Home care/Hospice, and urgent care/retail were significantly lower than the mean as shown in Figure 2.

Figure 2.

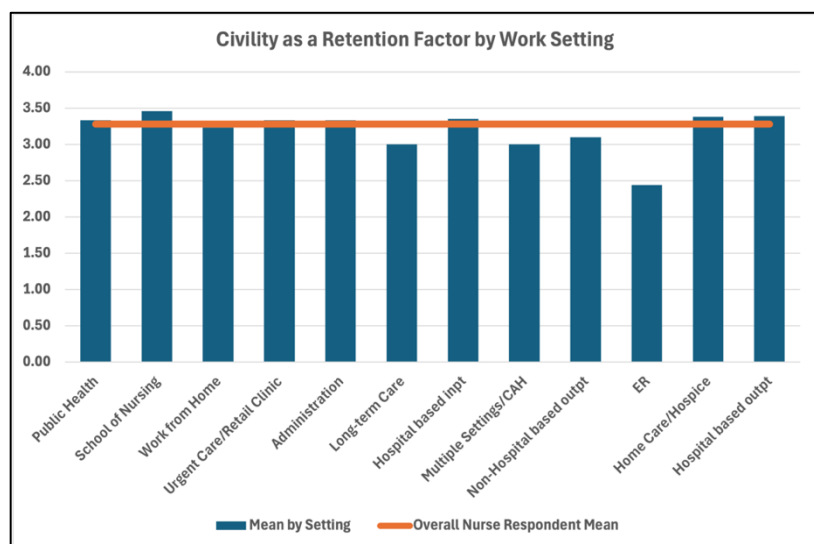


Shared Governance as a Retention Factor by Work Setting (0-4 scale): Mean by Setting values include Public Health - 2.82), School - 3.00, WFH - 3.00, Urgent Care/Retail Clinic - 2.50, Administration - 3.33, LTC - 2.80, Hospital based inpatient - 2.98, Multiple settings/CAH - 3.00, Non-hospital based outpatient - 2.40, ER - 2.20, Home care/Hospice - 2.20, and Hospital based outpatient - 2.86). The overall nurse respondent mean was 2.86.

Civility

Analysis emphasized that civility in the workplace is a leading factor in nurse retention, the mean response being 3.29. However, there were again, statistically significant differences in response by work setting ($p=0.036$). ER nurses reported the lowest mean for civility in their workplace (2.44).

Figure 3.



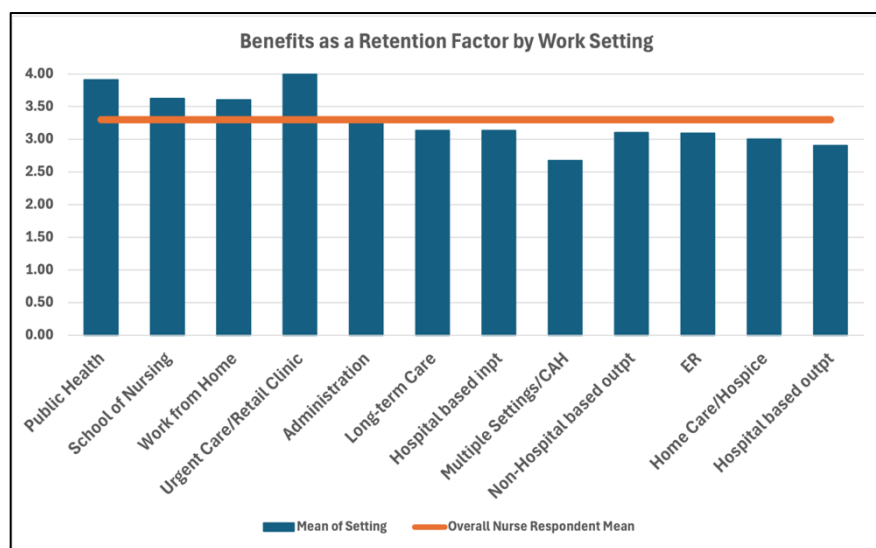
Civility as a Retention Factor by Work Setting (0-4 scale): The Mean by Setting are as follows: Public Health - 3.33, School of Nursing - 3.46), Work from Home - 3.23, Urgent Care/Retail Clinic - 3.33, Administration - 3.33, Long-term Care - 3.00, Hospital based input -

3.35, Multiple Settings/CAH - 3.00, Non-Hospital based output - 3.10, ER - 2.44, Home Care/Hospice - 3.38, and Hospital based output - 3.39. The overall nurse respondent mean was 3.28.

Benefits

The overall mean for responses was 3.3, suggesting nurses feel benefits are a retention factor, however this differed by work setting ($p < 0.001$). Seven of the twelve work settings had average responses lower than the overall mean. Nurses who worked in multiple settings or Critical Access Hospitals demonstrated the lowest mean for benefits at their current employment as a factor of retention.

Figure 4.



Benefits as a Retention Factor by Work Setting (0-4 scale): The Mean by Setting are as follows: Urgent Care/Retail Clinic - 4.00, Public Health - 3.91, School of Nursing - 3.62, Work from Home - 3.60, Administration - 3.33, Long-term Care - 3.13, Hospital based input - 3.13, Non-Hospital based output - 3.10, ER - 3.09, Home Care/Hospice - 3.00, Multiple Settings/CAH - 2.67, and Hospital based output - 2.90. The overall nurse respondent mean is approximately 3.30.

Organizational Culture

Organizational culture had moderate response across work settings with an overall mean of 3.14. About half of the work settings felt organizational culture was not a strong retention factor, with the differences between settings statistically significant ($p = 0.023$). ER nurses reported the lowest mean at 2.4 while nurses working in administration reported a mean of 3.67.

Figure 5.

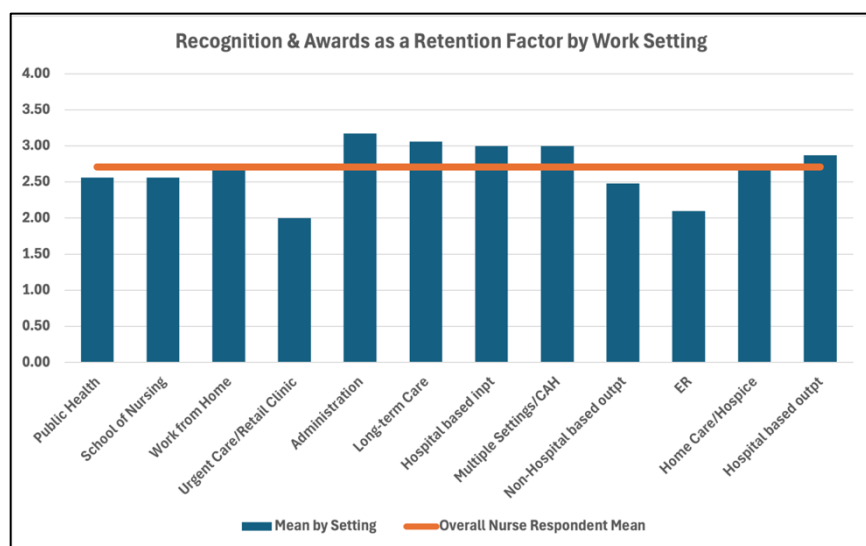


Organizational Culture as a Retention Factor by Work Setting (0-4 scale): The Mean by Setting are as follows: Administration - 3.67, Multiple Settings/CAH - 3.50, School of Nursing - 3.34, Public Health - 3.18, Hospital based inpt - 3.10, Long-term Care - 3.19, Non-Hospital based outpt - 3.05, Hospital based outpt - 3.14, Home Care/Hospice - 3.00, Urgent Care/Retail Clinic - 3.00, Work from Home - 2.94, and ER - 2.40. The overall nurse respondent mean was 3.14

Recognition & Awards

The overall mean response for recognition and awards as a retention factor was low at 2.71. ER and urgent care/retail clinic nurses had significantly lower responses at 2.00 and 2.10 respectively. Administrative nurses, again, had the highest mean response at 3.17 (p=0.031).

Figure 6.



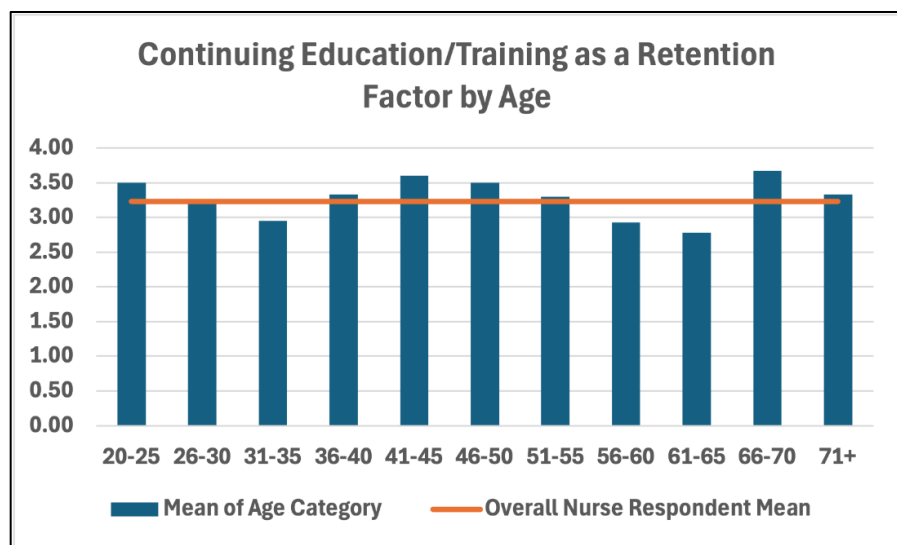
Recognition & Awards as a Retention Factor by Work Setting (0-4 scale): The Mean by Setting are as follows: Public Health - 2.56, School of Nursing - 2.56, Work from Home - 2.69, Urgent Care/Retail Clinic - 2.00, Administration- 3.17, Long-term Care - 3.06, Hospital based inpt - 3.00, Multiple Settings/CAH - 3.00, Non-Hospital based outpt - 2.48, ER - 2.10, Home Care/Hospice - 2.67, and Hospital based outpt - 2.87. The overall nurse respondent mean was 2.71.

Retention Factors by Age

Continuing Education/Training Opportunities

Continuing education and professional development opportunities appear to be equally valued across all age cohorts, suggesting broad appeal and consistent expectations (overall mean 3.3). Three age groups demonstrated a statistically significant difference in response, ages 31-35, 56-60, and 61-65 ($p=0.017$). The two latter age groups may be attributed to lower overall n in these groups. The difference may also be that continuing education/training may not be as important of a retention factor due to either length of time in the career or at the current employer, and/or edging toward retirement.

Figure 7.

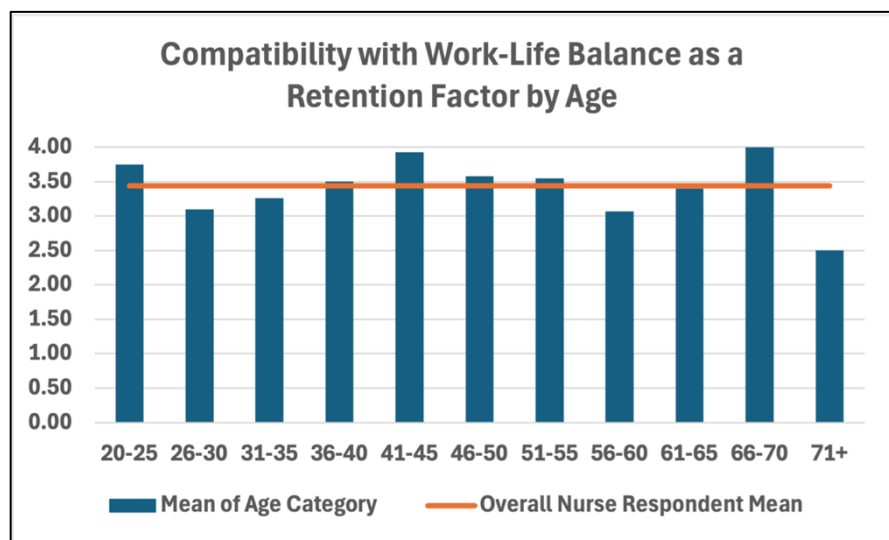


Continuing Education/Training as a Retention Factor by Age (0-4 scale): The Mean of Age Category are as follows: 20-25 - 3.50, 26-30 - 3.20, 31-35 - 2.95, 36-40 - 3.33, 41-45 - 3.60, 46-50 - 3.50, 51-55 - 3.30, 56-60 - 2.93, 61-65 - 2.78, 66-70 - 3.67, and 71+ - 3.33. The overall nurse respondent mean was 3.23.

Work-Life Balance

Nurses aged 26–30 and 56-60 reported significantly lower satisfaction with work-life balance compared to the grand mean of 3.48 ($p=0.029$). This may reflect employment in less flexible or shift-based roles such as hospital settings or moving into the time of life where balance becomes more important with family responsibilities such as children or aging parents.

Figure 8.



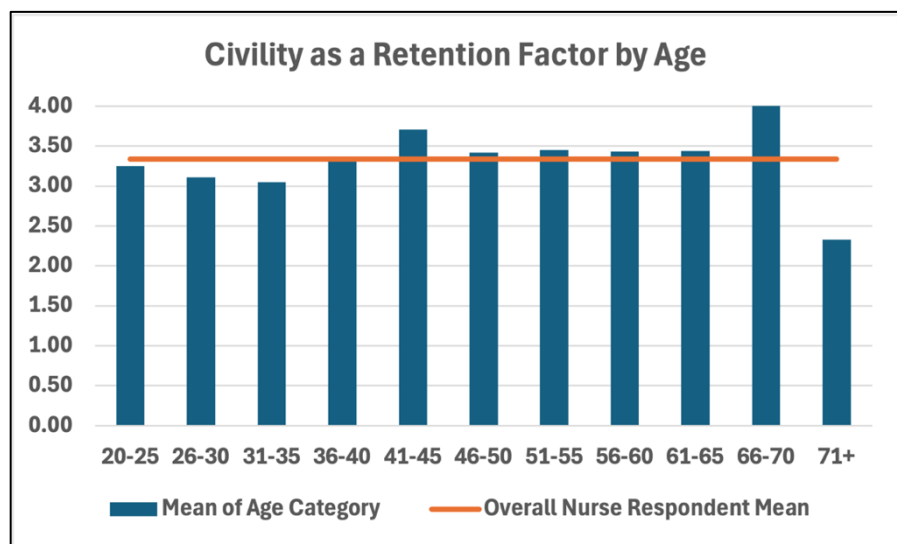
Compatibility with Work-Life Balance as a Retention Factor by Age (0-4 scale): The Mean of Age are as follows: 20-25 - 3.75, 26-30 - 3.10, 31-35 - 3.26, 36-40 - 3.50, 41-45 - 3.93, 46-50 - 3.58, 51-55 - 3.55, 56-60 - 3.07, 61-65 - 3.40, 66-70 - 4.00, and 71+ - 2.50. The overall nurse respondent mean was 3.44.

Civility

Nurses aged 40 and under ranked civility lower than the overall mean, suggesting they perceive the workplace as less civil or do not view civility as a strong retention factor. This differs notably from nurses aged 41 and older, whose perceptions were above the mean. Peer integration or generational disconnects in team dynamics may contribute to this perception.

Literature supports this finding indicating that early-to-mid career nurses may value productivity and advancement more than interpersonal environment or may be more sensitive to incivility due to competing responsibilities (Ejebu et al., 2024).

Figure 9.



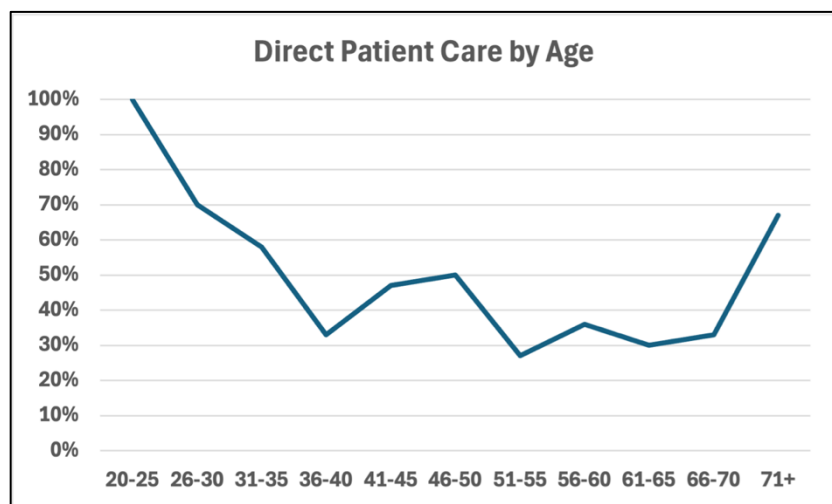
Civility as a Retention Factor by Age (0-4 scale): The Mean of Age Category are as follows: 20-25 - 3.25, 26-30 - 3.11, 31-35 - 3.05, 36-40 - 3.35, 41-45 - 3.71, 46-50 - 3.42, 51-55 - 3.45, 56-60 - 3.43, 61-65 - 3.44, 66-70 - 4.00, and 71+ - 2.33. The overall nurse respondent mean was 3.34.

Emerging Insights – Age Groups

Direct Patient Care

Although age was not a primary variable of interest in the study's original design, thematic analysis around direct patient care and work setting uncovered notable age-related trends, suggesting areas for future focused research. With the shortage of nurses remaining at the bedside, it is notable that by age 40, the number of nurses who remain working in a direct patient care environment dropped below 50% and remained there or below for the rest of the upper age groups (with exception of one outlier).

Figure 10.

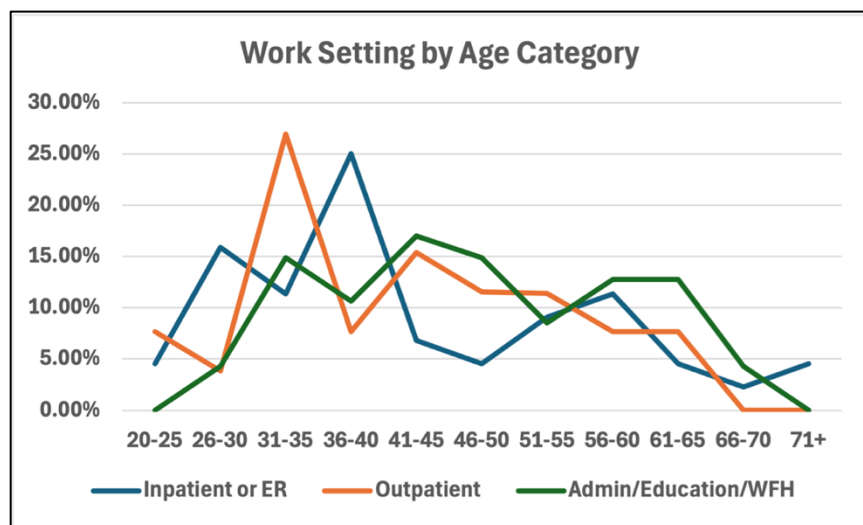


Direct Patient Care by Age: The percentage of nurses providing direct patient care by age group is as follows: 20-25 - 100%, 26-30 - 70%, 31-35 - 58%, 36-40 - 33%, 41-45 - 47%, 46-50 - 50%, 51-55 - 27%, 56-60 - 36%, 61-65 - 30%, 66-70 - 33%, and 71+ - 67%.

Work Setting

Mirroring the shift away from direct patient care in the previous figure, inpatient and outpatient work settings peak between ages 30-40. Inpatient setting drops drastically with increased age of nurses, replaced by administrative, educational, or work-from-home settings. Outpatient demonstrates a more gradual decrease with age of nurses.

Figure 11.



Work Setting by Age Category: The percentage distribution of work settings across different age categories is as follows:

20-25: Inpatient or ER - 4.5%, Outpatient - 7.69%, Admin/Education/WFH - 0%

26-30: Inpatient or ER - 15.91%, Outpatient - 3.85%, Admin/Education/WFH - 4.30%

31-35: Inpatient or ER - 11.36%, Outpatient (approx. 26.92%), Admin/Education/WFH (approx. 14.89%)

36-40: Inpatient or ER - 25.00%, Outpatient - 7.69%, Admin/Education/WFH - 10.64%

41-45: Inpatient or ER - 6.82%, Outpatient - 15.38%, Admin/Education/WFH - 17.02%

46-50: Inpatient or ER - 4.55%, Outpatient - 11.54%, Admin/Education/WFH - 14.89%

51-55: Inpatient or ER - 9.10%, Outpatient - 11.38%, Admin/Education/WFH - 8.51%

56-60: Inpatient or ER - 11.36%, Outpatient - 7.69%, Admin/Education/WFH - 12.77%

61-65: Inpatient or ER - 4.55%, Outpatient - 7.69%, Admin/Education/WFH - 12.77%

66-70: Inpatient or ER - 2.27%, Outpatient - 0%, Admin/Education/WFH - 4.30%

71+: Inpatient or ER - 4.55%, Outpatient - 0%, Admin/Education/WFH - 0%

Conclusions Part 2

This second part of the North Dakota Nursing Retention Study aimed to describe correlation of retention factors with multiple independent variables. The correlational analysis looked to examine the strength and direction of the relationship between the variables. Notable findings include the discrepancies between facility and nurse responses pertaining to the importance of certain retention factors such as: childcare availability, compensation, spousal employment opportunities, housing availability, recognition/awards, and workload. Health care facilities all rated these retention factors as more important than the rating by nurses.

When comparing nurses' responses to retention variables, only work setting, and age group demonstrated significant differences in response. The retention factors that were different by work setting were: benefits, civility, compatibility with work-life balance, organizational culture, recognition/awards, and shared governance. Compatibility with work-life balance demonstrated the highest overall mean response across work settings, suggesting that this factor is important for nursing retention with small differences between settings. Shared governance and recognition/awards had the lowest overall mean in responses from nurses. Over half of the work settings had lower means than the overall for both these retention factors. This may signify that nurses feel their current employer does not utilize shared governance, nor use recognition of nurses as a means of retention. Also of note, ER nurses rated all retention factors significantly lower than the overall mean.

Compatibility with work-life balance, civility, and continuing education/training all demonstrated significant differences in response by age group. Nurses appear to shift away from direct patient care after age 40, favoring administration or educational work settings. However, if nurses do stay in direct patient care after age 40, there is a large transference to the outpatient setting.

It is important to identify that correlation does not imply causation. However, correlational findings can infer reasons for behavior when accompanied with expert analysis from nurses in the field. Inform future research questions and guide the development of interventions by highlighting potentially meaningful associations within the data.

Implications Part 2

Practice

The analysis from this study reveals important implications for nursing workforce retention. Primarily, the discrepancies in responses for important retention factors implies a disconnect between nurses and healthcare facilities. These two entities need to work on communication strategies to benefit the ongoing relationship and move toward approaches to retention that are meaningful and beneficial.

Work-life balance appears to be the most important retention factor for nurses, though this is ranked lower by nurses working ER, inpatient care, long-term care, and homecare/hospice. This also may be linked to the shift away from direct patient care around mid-career. Emphasis on strategies for nurses to maintain work-life balance in these work settings could be beneficial for retention - not only for current employment, but for maintaining older nurses in these settings.

Shared governance is retention factor that emerged as an area in need of focus. It is apparent that most healthcare facilities do not have an investment into shared governance, as noted by the low ranking by nurses. Many decisions in healthcare surround the work of nurses, therefore, nurses should be included in all these decisions, process improvements, policy meetings, etc. A pointed effort by healthcare facilities to install new governance systems including nurses from all levels could, not only, benefit nursing retention, but shed new perspectives on the overall functioning of the facility. Along with shared governance, nurses want to be recognized for their contributions. Combining these two factors will exponentiate retention and improvements to healthcare function.

Research

This study highlights the need for further research in multiple areas. First, the discrepancy between healthcare facilities and nurses regarding factors important for retention should be addressed. Drivers behind healthcare facilities' desire to retain nurses stems from stability of patient care and cost savings, this should be an important impetus to identify and correct these gaps. Special attention

should be paid to shared governance including the conceptual definition, implementation, and retention outcomes.

Research could be conducted to identify potential strategies to improve work-life balance for nurses in shift work settings. Again, a conceptual definition needs to be established, then implementation of new processes can begin to improve outcomes.

Special attention should be given to the environment in the emergency rooms as this area tends to be a magnet for incivility, coupled with lack of shared governance and other concerns. Organizational culture and retention research within ER settings may shed light on areas in highest need of improvement.

Research could be conducted to identify factors important to retaining nurses in direct patient care into older ages. Some of the focus on work-life balance and shared governance may directly affect this retention as well.

Overall, these findings indicate that although core values are generally aligned, focused interventions are necessary to close perception gaps and ensure administration priorities reflect the retention factors nurses genuinely value in their work settings.

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