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Academic Electronic Health Records (SimChart): The Impact on Student Nurse Training

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ABSTRACT: *This research report explored the background and significance of integrating an academic EHR system into nursing education to enhance the learning experience and prepare future nurses for real-life clinical practice. Additionally, secondary data was analyzed from researchers who surveyed junior and senior nursing students who had piloted an academic EHR system. The secondary data was categorized into a pre- and post- survey format and then compared via graphs, tables, and written discussion. To understand the need for this study, it is essential to know that in 2009, there was a legislative push for more universal electronic health records and systems within healthcare settings (Williams et al., 2021). This legislative decision led to more and more healthcare systems converting to an electronic system for record-keeping and documentation. This shift would naturally make its way into the nursing curriculum, as it is noted that nurses make up a vast majority of individuals who provide healthcare services (Williams et al., 2021). The need for research within nursing curricula using EHR systems was not only inevitable but of great significance. The times change, and the future of healthcare needs to stay current. The research emphasized the significant benefits of incorporating EHR systems into nursing education. By providing students with hands-on experience using EHR systems, nursing programs can better prepare students for the realities of modern healthcare settings. EHR systems in nursing education help students develop essential skills in documentation, information retrieval, and critical thinking, which are crucial to delivering safe and effective patient care. (Kleib et al., 2021). In addition to highlighting the benefits, the study highlighted several challenges in implementing academic EHR systems into nursing programs. These challenges include faculty training, technical support, and infrastructure for integrating EHR systems into the curriculum (Ellis et al., 2020). Moreover, ensuring EHR systems align with nursing program objectives and accreditation standards was identified as a critical consideration for successful implementation. These limitations within the study yield reasoning for the need for further research while not taking away the grave benefits discovered in the reviewed research and secondary datasets. This study underscores the importance of integrating EHR systems into nursing education to better prepare students for their future roles as healthcare professionals. By addressing the challenges and maximizing the benefits of academic EHR systems in nursing programs, institutions can enhance the quality of nursing education and ultimately improve patient outcomes.*

Key words*: Academic EHR, health informatics, healthcare, nursing curriculum, patient care.*

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1. Introduction

There is no coincidence that in addition to learning clinical skills in nursing school, there is also a spoken nervousness around nursing documentation and its associated technologies. This direct correlation to concern about electronic health record systems is rooted in the profoundness of what our nursing documentation means to our livelihood, licenses, and careers. With this being said, literature has been compounded and researched to express the significance of academic electronic health systems as more than an asset but a necessity to the future of nursing and patient care (Raghunathan et al., 2021). This study examines the role of academic electronic health records (EHRs) in matriculating nursing programs and their significance to the healthcare system.

2. Background

Over the years, technological advancements have transformed healthcare, and there has been an increased dependence on electronic health systems (Raghunathan et al., 2021). This ongoing desire for healthcare coordination and integrated services has proven to incite a widespread transgression toward cohesive health information systems, such as electronic health records (EHRs) (Raghunathan et al., 2021). In 2009, legislation promoted the wide use of electronic health systems (EHRs) among healthcare clinicians (Williams et al., 2021). Newly passed laws and government financial assistance have increased the use of electronic health records (Williams et al., 2021). This legislative push showed its effectiveness, as the Centre for Medicare and Medicaid Services reported that 97% of hospitals in the United States utilize electronic health record systems (Williams et al., 2021).

This desire for ongoing improvements in patient safety and overall health cohesion continues to push electronic health records (EHRs) to the forefront as the gold standard within healthcare. To provide background, EHRs can be defined as digitized records that hold health data, usually on a computer system, and are seen as the dominant tool for health informatics (Raghunathan et al., 2021). In addition to the need for safety, historically, it has been known that the typical training style for most nursing programs is via didactic training with as much clinical exposure as possible. This exposure is often variable, and most programs before the legislation did not need to emphasize providing electronic health system training. It has been reported that many programs still need to begin incorporating academic EHR training (Ellis et al., 2020). A pilot study of similar research showed that students had greater perceived proficiency post-utilization (Ellis et al., 2020).

3. Significance

Knowing that EHRs are becoming the preferred health data system, the need for simulated systems within nursing programs is becoming more common. A simulated electronic health system can be a learning tool for experiencing practical clinical situations (Kleib et al., 2021). This form of simulation allows nursing students space to learn health informatic skills and practice real-life scenarios using electronic records before performing patient care. In addition to creating a safe environment for nursing students to gain health informatic skills, simulated EHRs allow nursing programs to face the challenge of unpredictable learning opportunities in clinical practice (Kleib et al., 2021). While it is customary for students to do clinical rotations within different hospital subspecialties, only sometimes do the students get the opportunity to have hands-on experience within the actual charting system. The reasons for this can vary from legal reasons to a simple time constraint.

According to a systematic review written by Brooks College of Health at the University of North Florida, a lack of adequate EHR training can lead to decreased confidence among nurses, which can then lead to more time worrying about the navigation of an EHR system and, therefore less time focused on patient care and safety (Williams et al., 2021). Within the healthcare system, it has been reported that “Nurses are the largest providers of healthcare services,” equalling around 3.8 million individuals, 84% of whom are registered nurses (Williams et al., 2021). This level of involvement by the nursing sector continues to demonstrate the impact their educational foundation can have on the healthcare system. Understanding these numbers and their impact allows one to realize that academic EHR systems have the power to improve clinical practice, communication, and quality of care (Williams et al., 2021). This increment of improvement is evident by the fact that nurses spend up to 35% of their time at work doing electronic documentation. However, many need to gain previous EHR experience before working, and only 25% report receiving formal training specific to the utilized EHR system they are working with (Williams et al., 2021).

4. Methods and Analysis

The SimChart study was performed to investigate the validity of the need for an academic EHR system to be implemented into nursing programs. This study analysed the perspectives of Junior and Senior nursing students before and after using an academic EHR system as a learning tool for class. This survey obtained pre- and post-test data with the approval of the appropriate Institutional Review Board (IRB). This was done to ensure regulation adherence, ethical standards, policies, and participant safety were upheld during the research survey (2021).

Starting the study on an equitable foundation yields more reliable and accurate results. Laying this foundation for a research project also allows for a more concise analysis. The more specific the research, the

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better the chances of the data being analyzed and interpreted for current impact and future research. It also provides insight into possible gaps that can be addressed in further research. Once the analysis within the Survey Monkey tool was done, the results were formatted and used to provide foundation for the outcomes. The graphs below visually compare the pre-and post-test results, with table descriptions and written analysis to follow. Assumptions could be made based on the perceived knowledge of what an academic EHR system can do for a nursing program. Still, it was interesting to analyze the data and see that in certain areas, an assumption of benefit or lack thereof was either identified or debunked on the outcomes review. This data analysis powerfully represents the need to gather significant background research while dissecting secondary data. It helps to identify where analysis of data and facts found in research may only partially align. Therefore, it aids in creating improvements within the subject matter. This combined secondary data analysis and background research aids in a cohesive report on integrating academic EHR systems into nursing curricula.

5. Results

Demographically and based on the location of study for the electronic EHR, it would be appropriate to infer that most of the students in the dataset are of college age and similar ethnicities. Both pre and post-tests have greater than 90 percentiles in the age range 18-24 and participants identifying as black or African American.

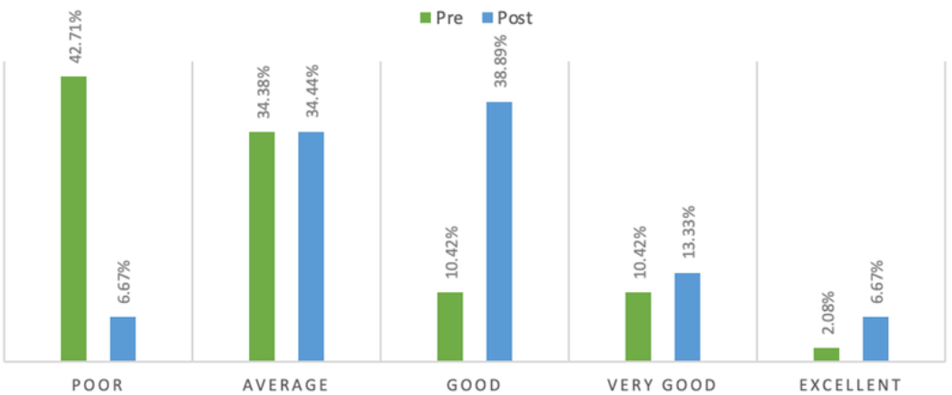


Figure 1. Perceived level of SimChart or any similar instructional tool skills.

Responses	Pre	Post
Poor	41 (42.71%)	6(6.67%)
Average	33 (34.38%)	31 (34.44%)
Good	10 (10.42%)	35 (38.89%)
Very Good	10 (10.42%)	12 (13.33%)
Excellent	2 (2.08%)	6 (6.67%)

Figure 1 showed that the highest number of responses in the pre-test is in the “poor” category. This response is potentially a direct reflection of the reasoning behind these surveys. 41 (42.71%) of the responses stated a poor perception of simulation charting skills, which shows the gap in knowledge within this subject matter. The second most response was that of the 35(38.89%) participants reporting a “good” perception of simulation charting skills in the post-test survey. This increase in the data could represent the effectiveness of simulation charting in improving the student's overall skill level.

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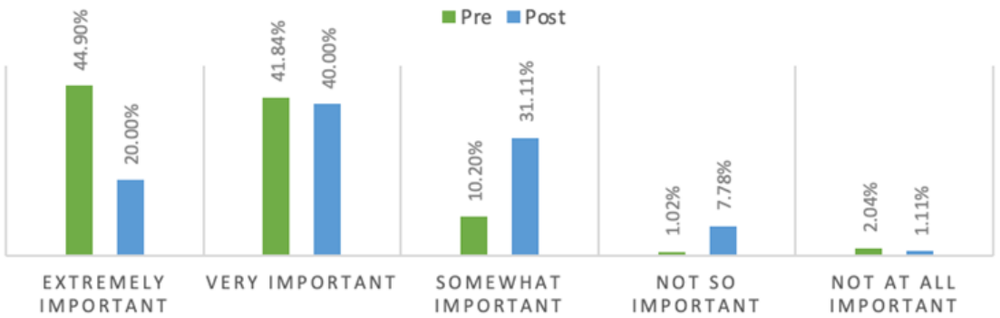


Figure 2. Perceived importance of SimChart usage in case study, simulation, or clinical arena.

Responses	Pre	Post
Extremely important	44 (44.9%)	18 (20%)
Very important	41 (41.84%)	36 (40%)
Somewhat important	10 (10.2%)	28 (31.11%)
Not so important	1 (1.02%)	7 (7.78%)
Not at all important	2 (2.04%)	1 (1.11%)

The most significant response was viewing simulation charting as “extremely important” (fig. 2). In contrast, the post-test results yielded only a 20% percentile response of only 18 participants compared to 44 (44.9%) in the pre-test. It is inferred that the perceived reality of the simulation charting benefits was not as high as expected, but it was still of benefit. Additionally, the “somewhat important” option showed an increase in responses from 10 (10.2%) to 28 (31.11%) responses. This shift in perception can represent the possible benefits of simulation charting for the student. Compared to the decrease in the “extremely important" category, this increase in the somewhat important category could indicate the participants' perceived importance of simulation charting versus their experience with the used charting system.

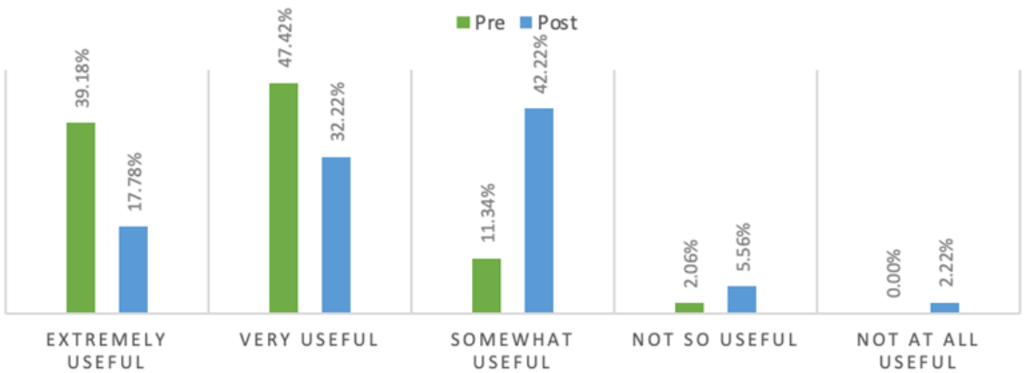


Figure 3. Perceived usefulness of SimChart in undergraduate nursing program.

Responses	Pre	Post
Extremely useful	38 (39.18%)	16 (17.78%)
Very useful	46 (47.42%)	29 (32.22%)
Somewhat useful	11 (11.34%)	38 (42.22%)
Not so useful	2 (2.06%)	5 (5.56%)
Not at all useful	0 (0%)	2 (2.22%)

Figure 3 showed that perceived usefulness was highest in the “extremely useful” and “very useful” categories. This close correlation has shown that the usefulness and importance of simulation charting have

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strong correlations within the survey. Also, the increase in “somewhat” category compared to the decrease in the “extremely useful” category could indicate the participants' perceived usefulness of simulation charting versus the reality of their experience with the charting system that was used. It could also call into question the possible need for improvements in the SimChart for future students and research.

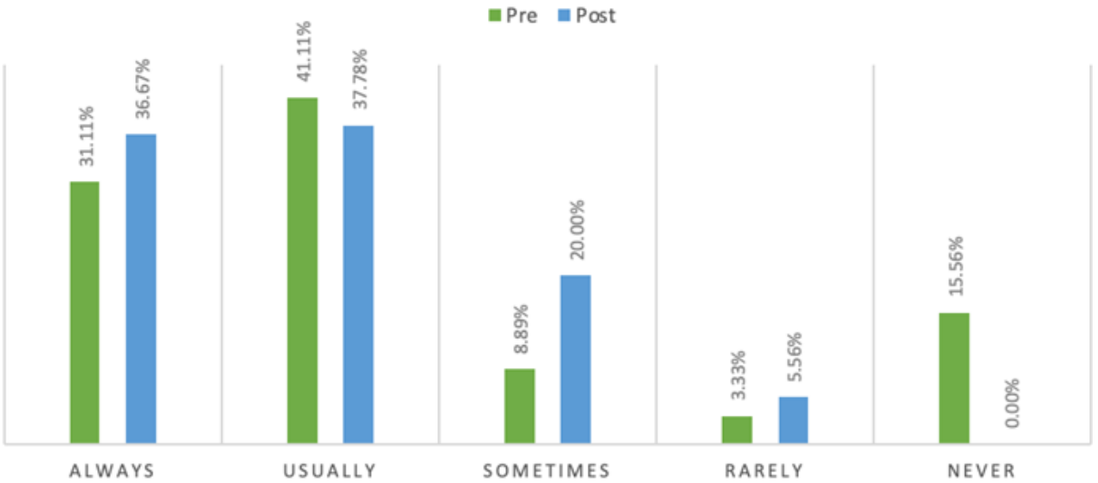


Figure 4. Prevalence of using SimChart in classroom or clinical.

Responses	Pre	Post
Always	28 (31.11%)	33 (36.67%)
Usually	37 (41.11%)	34 (37.78%)
Sometimes	8 (8.89%)	18 (20%)
Rarely	3 (3.33%)	5 (5.56%)
Never	14 (15.56%)	0 (0%)

There was a robust and moderate response when the participants were asked about the frequency of use of the charting system (Figure 4). The highest percentile in the pre and post-test was seen in the “usually” category at 37 (41.11%) and 34 (37.78%). The outlier response of 14(15.56%) participants stated, “Never,” as their frequency of use in the pretest, and then a reaction of 0(0%) in the post-test. This shift further supports the idea that much is unknown about the necessity of simulation charting before its utilization. This represents nursing students' naivety to electronic documentation before entering nursing school and the workspace.

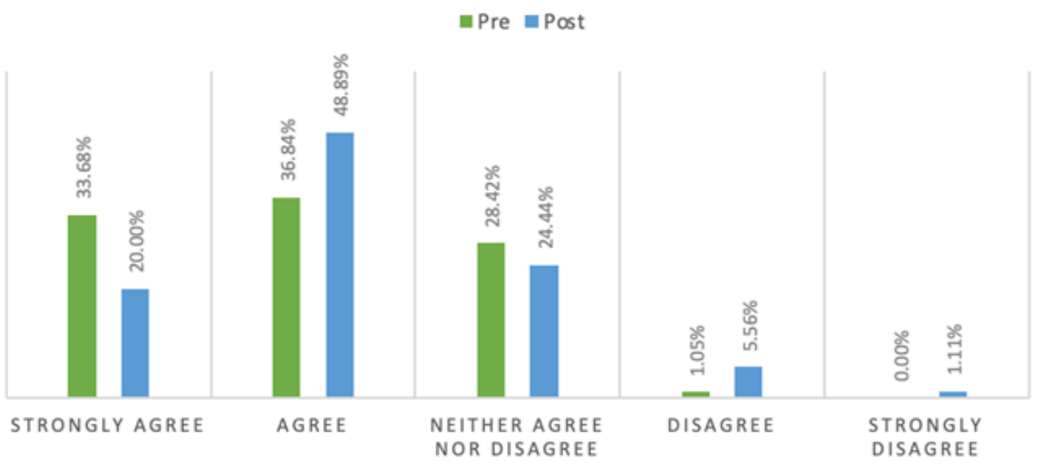


Figure 5. Perception of students in clinical input and critical thinking with great learning outcome.

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Responses	Pre	Post
Strongly agree	32 (33.68%)	18 (20%)
Agree	35 (36.84%)	44 (48.89%)
Neither agree nor disagree	27 (28.42%)	22 (24.44%)
Disagree	1 (1.05%)	5 (5.56%)
Strongly disagree	0 (0%)	1 (1.11%)

Figure 5 showed that simulation charting is an effective tool with a highest percentile for pre-test, with participants agreeing with this sentiment, and again in the post-test with a 44(48.89%) participant response. There was also a strong sense of neutrality towards effectiveness, with 27 (28.42%) in the pre-test and 22(24.44%) in the post-test stating they "neither agree nor disagree" with the statement. This neutrality impact allows the researcher to question possible factors that lead this data to be present in this dataset. It can potentially create room for improvement within the simulation charting system.

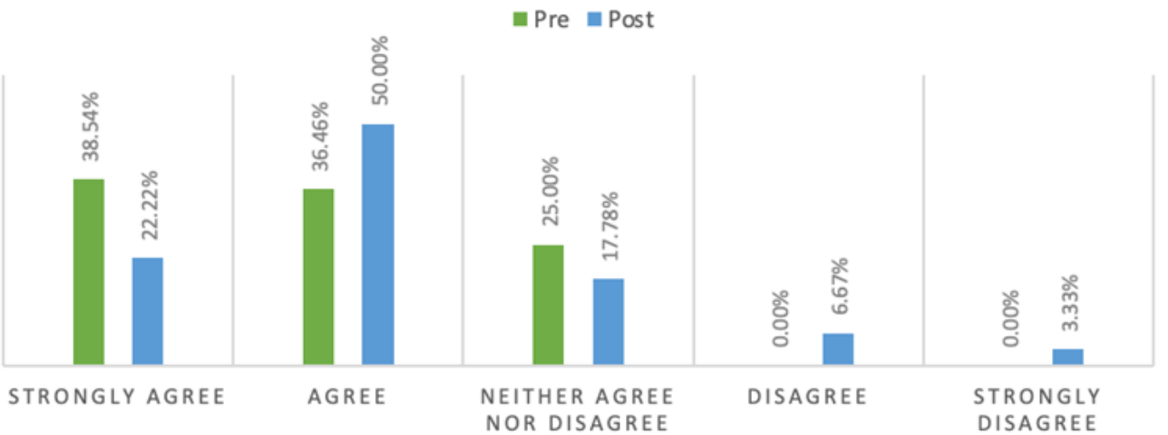


Figure 6. Perception on SimChart students preparation for clinical before hands-on patient care.

Responses	Pre	Post
Strongly agree	37 (38.54%)	20 (22.22%)
Agree	35 (36.46%)	45 (50%)
Neither agree nor disagree	24 (25%)	16 (17.78%)
Disagree	0 (0%)	6 (6.67%)
Strongly disagree	0 (0%)	3 (3.33%)

Figure 6 showed that preparation for clinical care before direct patient care in the pre-test, was high and represented under "strongly agree," at 37 (38.54%). Still, there seemed to have been a shift from "strongly agree" to "agree" in the post-test, with 45 (50%) being the highest percentile response. Again, in this dataset, the data for neutrality was 24 (25%) in the pretest and 16 (17.78%) in the post-test. The percentiles for this data category also create the ability to develop further assessments for future research around simulation charting systems. Neutrality leaves room for different interpretations and improvement.

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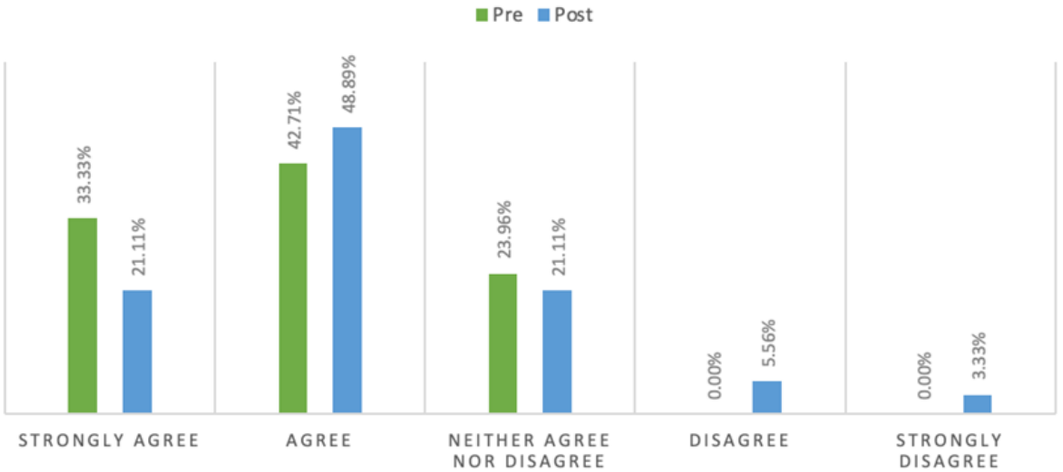


Figure 7. Perception on students' productivity, empowerment with confidence in clinical care after exposure to the tool.

Responses	Pre	Post
Strongly agree	32 (33.33%)	19 (21.11%)
Agree	41 (42.71%)	44 (48.89%)
Neither agree nor disagree	23 (23.96%)	19 (21.11%)
Disagree	0 (0%)	5 (5.56%)
Strongly disagree	0 (0%)	3 (3.33%)

Assessing overall productivity and confidence in the simulation shows a high percentile response in the "agree" data category in Figure 7. Based on the previous responses, this aligns with the other response questions. An outlier occurs in the post-test, with 3 (3.33%) of the participants responding "strongly disagree" in the post-test. This outlier is significant in sparking intrigue to understand the reason behind this response. This can also lead to another stream of investigation and research.

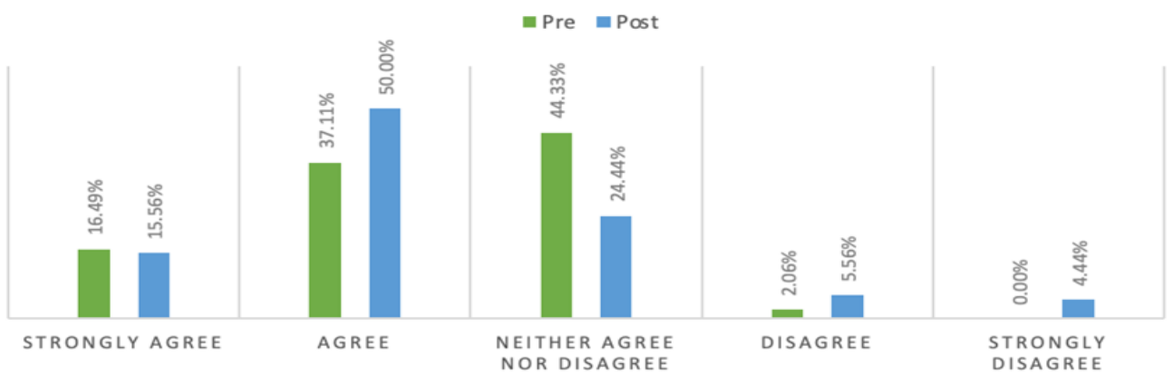


Figure 8. Perception on overall SimChart usability, easy to navigate, access and friendly.

Responses	Pre	Post
Strongly agree	16 (16.49%)	14 (15.56%)
Agree	36 (37.11%)	45 (50%)
Neither agree nor disagree	43 (44.33%)	22 (24.44%)
Disagree	2 (2.06%)	5 (5.56%)
Strongly disagree	0 (0%)	4 (4.44%)

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Figure 8 showed 45 (50%) participants expressed ease in navigation, an increase from the pretest. Knowing this response makes the researchers feel confident in the chosen simulation charting system. Ease of access and navigation increases participant adherence to the research. Again, for this question, 4 (4.44%) participants replied, “strongly disagree,” in the post-test. Further investigation of these four responses can yield more answers for the research.

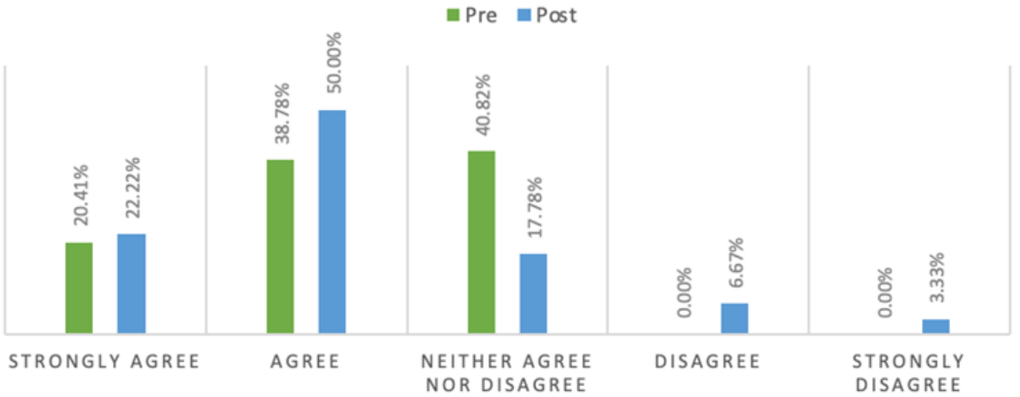


Figure 9. SimChart alignment with clinical courses.

Responses	Pre	Post
Strongly agree	20 (20.41%)	20 (22.22%)
Agree	38 (38.78%)	45 (50%)
Neither agree nor disagree	40 (40.82%)	16 (17.78%)
Disagree	0 (0%)	6 (6.67%)
Strongly disagree	0 (0%)	3 (3.33%)

Figure 9 showed the highest percentile presented in the “agree” category of the post-test. This correlation shows a positive experience with the simulation charting regarding their class course and clinical. Only 3(3.33%) participants reported a “Strongly disagree” response. These responses are also worth investigating to provide ongoing improvements within this subject matter.

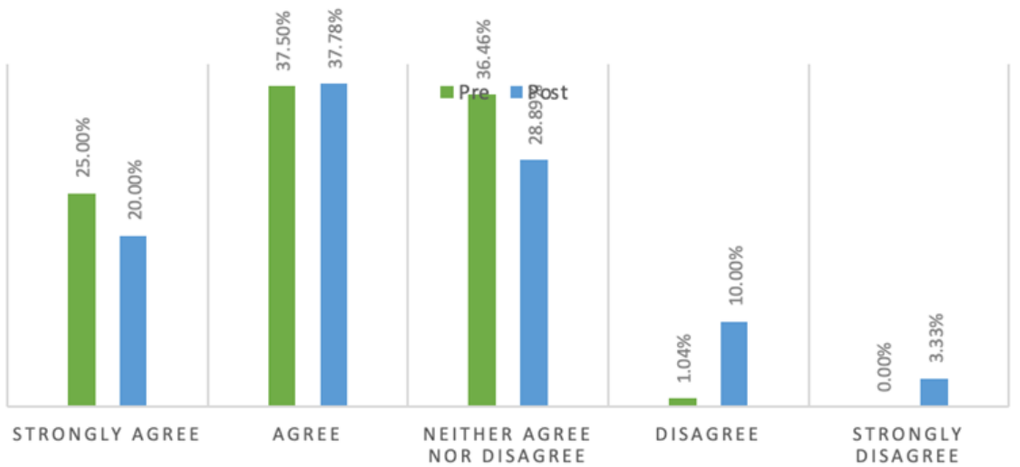


Figure 10. Perspective on students readiness and alignment with the new NCLEX prep.

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Responses	Pre	Post
Strongly agree	24 (25%)	18 (20%)
Agree	36 (37.5%)	34 (37.78%)
Neither agree nor disagree	35 (36.46%)	36 (28.89%)
Disagree	1 (1.04%)	9 (10%)
Strongly disagree	0 (0%)	3 (3.33%)

Figure 10 showed 35 (36.46%) responses reported in the pre-test and 34 (37.78%) in the post-test. These rivalled responses of neutrality can be rationalized in many ways. One is the NCLEX's variability, making it challenging to predict preparedness. It is essential to know that with this question, the foundation of the questions is not very strong due to the relative unknowns about possible NCLEX questions until taking the exam. This question provides an excellent opportunity for branched-off research studies but may also provide limitations for certain intuitions that may lack the resources to do so.

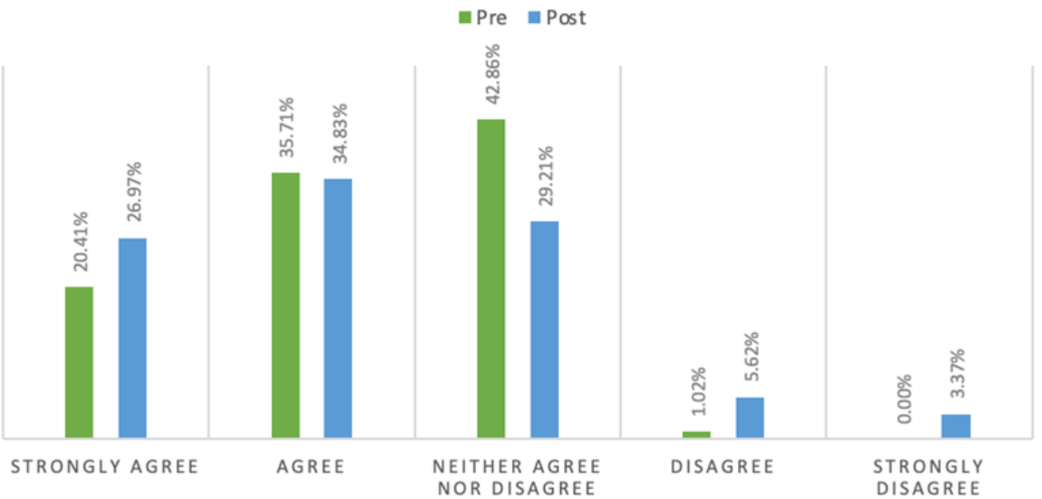


Figure 11. SimChart requirements in all levels of nursing programs for accreditation.

Responses	Pre	Post
Strongly agree	20 (20.41%)	24 (26.97%)
Agree	35 (35.71%)	31 (34.83%)
Neither agree nor disagree	42 (42.86%)	26 (29.21%)
Disagree	1 (1.02%)	5 (5.62%)
Strongly disagree	0 (0%)	3 (3.37%)

In Figure 11, the outcome shifted from 42 (42.86%) participants responding, “Neither agree” nor “disagree” in the pre-test, to 31 (34.83%) participants responding, “agree” in the post-test. This shift can represent the simulation chart proving valuable to the current user and potentially benefiting other classes. 3(3.37%) participants strongly disagreed with the necessity of an academic EHR in all levels of nursing programs for accreditation. This outlier is pertinent because it has the potential to speak for marginalized institutions that may need more resources to fund simulation for all courses and should not be gatekept from proper accreditation. If this concept becomes a requirement, this gatekeeping could decrease opportunities for nursing programs. Again, this is another avenue for further research.

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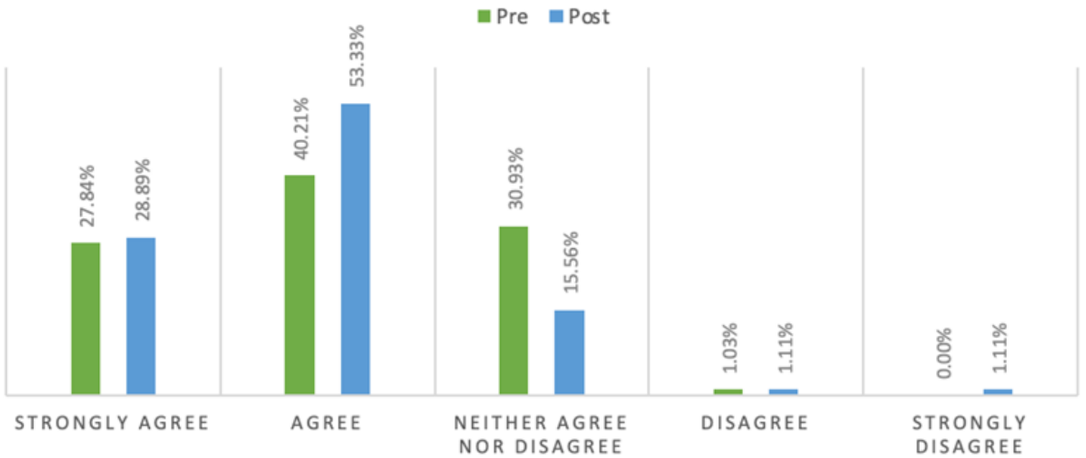


Figure 12. Perspective on students' ability to practice digital documentation in a system designed to meet their needs, while maintaining a realistic experience.

Responses	Pre	Post
Strongly agree	27 (27.84%)	26 (28.89%)
Agree	39 (40.21%)	48 (53.33%)
Neither agree nor disagree	30 (30.93%)	14 (15.56%)
Disagree	1 (1.03%)	1 (1.11%)
Strongly disagree	0 (0%)	1 (1.11%)

Figure 12 showed that the highest percentile group in the pre-and post-test was identified in the “agree” category. This response percentile can reflect the real-life simulation of the charting system compared to the real-time charting systems used within healthcare systems. Two outlier responses were present in the post-test survey, where two participants responded” disagree” and” strongly disagree. Investigating these outliers could lead to further information gathering within the study.

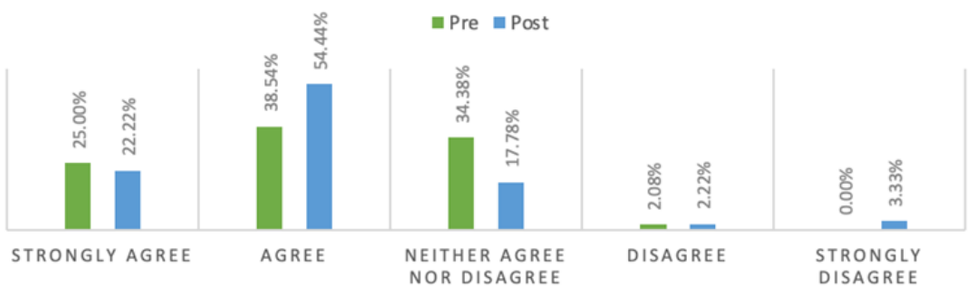


Figure13. Perception on integrating digital documentation into workflow for nursing workforce.

Responses	Pre	Post
Strongly agree	24 (25%)	20 (22.22%)
Agree	37 (38.54%)	49 (54.44%)
Neither agree nor disagree	33 (34.38%)	16 (17.78%)
Disagree	2 (2.08%)	2 (2.22%)
Strongly disagree	0 (0%)	3 (3.33%)

Figure 13 showed the effect on workflow documentation and marketability with higher percentile in the “agree” category for the post and pretest. This consistency in response leads to a positive correlation between the participants' learning and finding benefits for the simulation charting system in their post-graduation jobs.

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An outlier of 3 (3.33%) participants had a response of “strongly disagree.” These responses can represent a variety of reasons as to why the responses were received in this category. Additionally, the shift from 33 (34.38%) to 16 (17.78%) in the neutral dataset shows a change in perspective after using the simulation charting system. This shift infers impact was placed on these participants to have a different perspective after experiencing the simulation charting system.

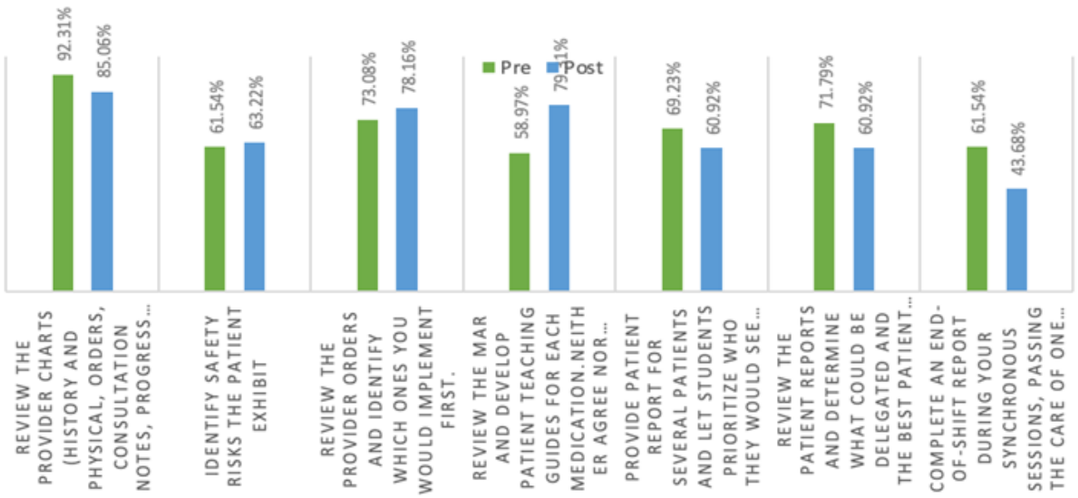


Figure 14. Perspective on overall SimChart benefits.

With SimChart students are able to complete the below activities (Please select all that apply)	**Pre**	**Post**
Review the Provider Charts (history and physical, orders, consultation notes, progress notes) and determine important information needed to plan care for the patient.	72 (92.31%)	74 (85.06%)
Identify safety risks the patient exhibit	48 (61.54%)	55 (63.22%)
Review the provider orders and identify which ones you would implement first.	57 (73.08%)	68 (78.16%)
Review the MAR and develop patient teaching guides for each medication. Neither agree nor disagree	46 (58.97%)	69 (79.31%)
Provide Patient Report for several patients and let students prioritize who they would see first and why. Somewhat agree	54 (69.23%)	58 (60.92%)
Review the Patient Reports and determine what could be delegated and the best patient assignment	56 (71.79%)	53 (60.92%)
Complete an end-of-shift report during your synchronous sessions, passing the care of one patient on to another student.	48 (61.54%)	38 (43.68%)

Figure 14 showed what the students were able to specifically benefit from after using the simulation charting system. For these responses, the most significant response appeared to be from learning how to do chart reviews and care plans. The 72 (92.31%) and 74 (85.06%) participants responding in the pre-and post-tests demonstrate the impact this dataset may have had on the participants in the study. With this question being a select all that apply, there were a more significant number of responses within this question. The increased ability to respond to this question with more than one answer allows the surveyor to see many different ways the simulation charting helped the students learn and grow within their program.

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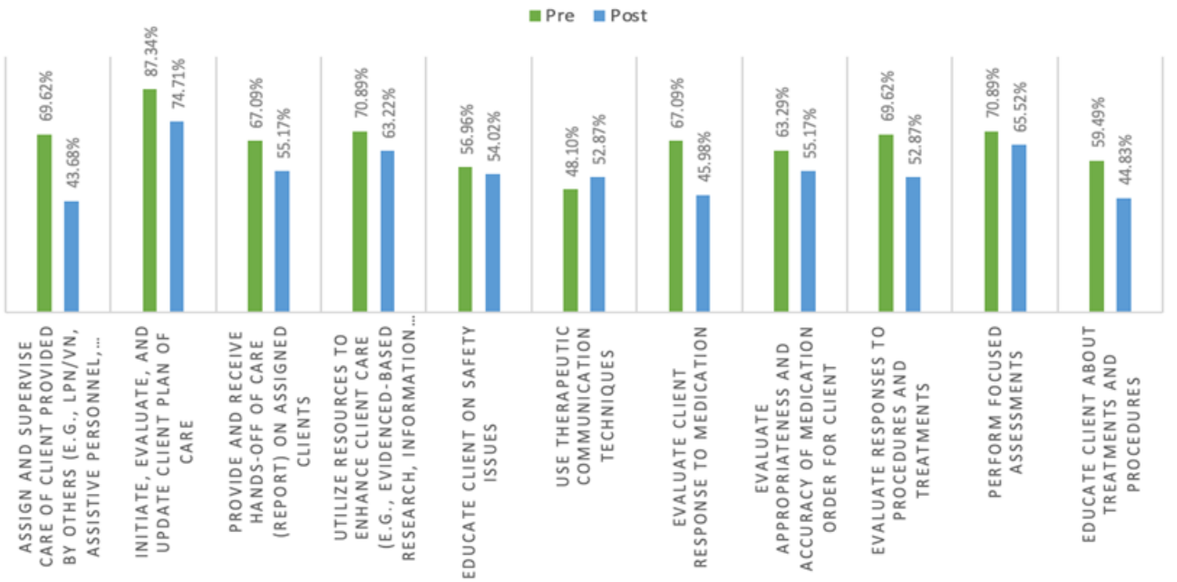


Figure 15. Perspective on students' focus on making nursing decisions about patient care to build clinical judgment skills using the "checklist".

Response	Pre	Post
Assign and supervise care of client provided by others (e.g., LPN/VN, assistive personnel, other RNs)	55 (69.62%)	38 (43.68%)
Initiate, evaluate, and update client plan of care	69 (87.34%)	65 (74.71%)
Provide and receive hands-off of care (report) on assigned clients	53 (67.09%)	48 (55.17%)
Utilize resources to enhance client care (e.g., evidenced-based research, information technology, policies and procedures)	56 (70.89%)	55 (63.22%)
Educate client on safety issues	45 (56.96%)	47 (54.02%)
Use therapeutic communication techniques	38 (48.1%)	46 (52.87%)
Evaluate client response to medication	53 (67.09%)	40 (45.98%)
Evaluate appropriateness and accuracy of medication order for client	50 (63.29%)	48 (55.17%)
Evaluate responses to procedures and treatments	55 (69.62%)	46 (52.87%)
Perform focused assessments	56 (70.89%)	57 (65.52%)
Educate client about treatments and procedures	47 (59.49%)	39 (44.83%)

Figure 15 showed that the highest percentile response is present in the student's ability to initiate, evaluate, and update the client's care plan. With percentile responses of 69 (87.34%) and 65 (74.71%), this category remained strong throughout the study. Most responses for this dataset decreased from pre- to post-test. The ability to use therapeutic communication techniques improved from pre- to post-test, as shown by an increase in response rate from 38 (48.1%) to 46 (52.87%). This improvement showed that students could work on their communication skills in simulated situations, hopefully preparing them for real-world scenarios once they graduate.

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Table 1. SimChart Usage in Clinical and Non-Courses.

Responses	Pre	Post
Fundamental	39 (42.39%)	70 (78.65%)
Health Assessment	88 (95.65%)	87 (97.75%)
Mental Health (Psych)	4 (4.35%)	1 (1.12%)
Adult Health	3 (3.26%)	3 (3.37%)
Community Health	3 (3.26%)	1 (1.12%)
Maternal and Child	3 (3.26%)	1 (1.12%)
Paediatrics	3 (3.26%)	0 (0%)
Nursing Research	2 (2.17%)	0 (0%)
Critical Care	3 (3.26%)	0 (0%)
Practicum	2 (2.17%)	0 (0%)

Table 1 showed most significant percentile from fundamental and health assessment classes. This aligns with the Survey Monkey results as these were the primary classes who participated in the survey. The health assessment class yielded the most significant result with a percentile response of 88 (95.65%) to 87 (97.75%) in the pre and post-test. One can infer that most of the questions came from their experience using the charting system in that class and secondarily within their Fundamental class. Both classes are foundational to the nursing curriculum and allow results to be congruent with the needs of the students who participated in the study. They also allow application in other classes and programs. This applicability is evident in the outlier responses where a much lower percentile used the simulation charting in different courses. Starting with these two classes is a good building block for improving the simulation charting system for more courses.

6. Research Discussion

Implementing Academic Electronic Health Record (SimChart) system in nursing programs has gained more attention as a way to prepare nursing students for the digital healthcare environment. After reviewing the literature and analysing the secondary data collected from the Howard University survey, one can infer and support incorporating electronic EHR systems within nursing curricula. This succinct incorporation can have the power to be at the forefront of improving nursing, which can provide cascading beneficial effects.

A study conducted by Kleib et al. (2021) explored the use of EHR systems in nursing education and found that integrating EHR into nursing curricula can enhance nursing students' clinical reasoning and decision-making skills. The study also highlighted the importance of hands-on experience with the academic EHR systems to prepare students for practice in healthcare settings (Kleib et al., 2021). Another study by Williams et al. (2021) focused on the impact of EHR implementation in nursing programs on student outcomes. The study found that students exposed to EHR systems during their training reported feeling more confident navigating electronic systems and managing patient information effectively (Williams et al., 2021). Based on the literature review and analysis of secondary data, it is evident that implementing academic EHR systems in nursing programs can positively impact student outcomes. Exposure to EHR systems during training can enhance clinical reasoning skills, decision-making abilities, and confidence in managing patient information electronically (Ting et al., 2021).

Nursing programs should continue to prioritize integrating academic EHR systems into their curricula to better prepare students for the digital healthcare environment. Providing hands-on experience with EHR systems in simulated clinical settings can help bridge the gap between theory and practice and equip students with the necessary skills to succeed in their future nursing careers. This is evidenced by the strong positive survey response on "*assessing whether students and faculty found the SimChart helpful in preparing students before hands-on patient care*." Secondary data from research conducted at Howard University, department of nursing provides insights into implementing academic EHR systems into their nursing program. The data shows that nursing students who participated in EHR training reported a greater understanding of documenting patient information electronically and communicating effectively about the patient care plan and health background, as in results above. Throughout the data analysis and interpretation, this concept was presented with strong positive responses to the perceived importance, usefulness, and overall confidence boost of utilizing SimChart.

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Furthermore, the results indicate that hands-on experience with EHR systems in simulated clinical scenarios improves nursing students' clinical reasoning skills and decision-making abilities. The data also suggests that exposure to EHR systems during training can help bridge the gap between classroom learning and real-world practice, as evidenced in the survey responses.

7. Limitations

Although this study supports the need for an electronic health record system, the study has limitations that must be explored and addressed. The secondary data collected showed a decreased number of respondents between the pre- and post-test. Having a solid sample size from the beginning to the end of the study allows a stronger foundation for the analysis and increases inclusivity within the results. This decrease in participants is worth considering as a limitation within the study when assessing the strength and validity of the collected data and, therefore, study results. In addition to a change in sample size, it must also be considered that faculty participated in the survey responses and could provide responses that do not directly reflect those of individuals in the program using the EHR system as a learning tool with new exposure but rather an instruction guidance tool. This differing perspective can also skew the survey results and how the data analysis is interpreted.

8. Future Research

The secondary data used in this study revealed pertinent outliers that can lead to further analysis and research. A deeper dive into the trend change within the dataset is critical to address outside this study. Utilizing and identifying the outliers and unexpected responses within this survey creates a great foundation to expand this topic for further research. SimChart improvements, nursing school expansion, and integration with academic EHR systems are all excellent venues for exploring and conducting more research. It allows for more structure for future nursing practice. Also, studying the effectiveness of EHR training methods and curricular integration strategies could provide valuable insights for future nursing education programs. These potential areas for future research were embedded within the survey questions and provided a great source for further study within this subject matter.

9. Conclusion

Incorporating academic EHR simulation early on in nursing programs aids in improving the digital skills of these nurses and their overall professionalism once they enter the workforce (Anderberg et al., 2019). Building confidence in working with electronic documentation has encouraged an emphasis on implementing these electronic health systems within nursing programs. The reviewed literature has shown that nursing training directed at clinical workflow will make future nurses more marketable and able to focus on patient care rather than the amount of time spent understanding charting systems (Ting et al., 2021). The analysis of secondary data from research at Howard University further reinforces the positive impact of EHR training on student learning and clinical skills while exposing the realities of how different individuals can respond to their impact from SimChart.

This evident gap between experience and simulated experience can be met using an academic EHR system. Academic EHR systems can provide a precursor to on-the-job training. Moving forward, nursing programs should continue to prioritize using academic EHR systems to continue pushing for improved innovation within nurse training and practice while considering possible limitations and future opportunities for research.

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