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Research Article

Academic Electronic Health Records: SimChart Students' Perspective

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Abstract

Background: Over the years, healthcare has witnessed remarkable transformations, as reflected in today's nursing practice, research and education. The introduction of electronic health records (EHRs) with the increasing uptake in its implementation is a manifestation of the positive impact of EHRs on the healthcare delivery system. Notably, EHRs has been in use over the past two decades, with a significant increase in its utilization across healthcare settings. However, studies have shown that EHR technologies have not been adequately incorporated into the educational curricula of nurses to prepare them for transition to real- world practice experience, after their graduation. In the light of the stated benefits and challenges of EHRs, the goal of this article is to ascertain the undergraduate students' usability and perspective regarding the academic EHR (SimChart) in the preparedness of nurses.

Method: Approximately, a hundred SimChart codes were purchased through the Evolve® Elsevier Inc., for this pilot study. Both faculty and students were trained on the usage of SimChart after the codes were installed in their laptops. A survey was created with a secured tool for data collection on the perspective of undergraduate students. Data were analyzed using the IBM SPSS Statistics v29.0.

Results: 59 (81.94%) out of 72 students who responded to the survey answered favorably to perceived importance of SimChart usage in case study, simulation, or clinical arena. 37 (56.39%) of students deemed SimChart as extremely important and very important, while 22 (30.56%) described usage as somewhat important. The remarkably high percentage of students who acknowledge usefulness of SimChart is proof of the significance importance of SimChart in developing relevant competencies as well as building skills that students need to be successful in current healthcare settings.

Limitations & Discussion: The survey is limited to the experience of one institution; hence, study is not panoramic as to reflect experiences with nursing programs in other institutions. Financial constraints constitute a limiting factor to the implementation of SimChart, not only for institutions but also for faculty skill and students who may not afford the additional costs of purchasing necessary informatics and analytical tools for positive learning outcomes.

Implications & Future Research: The potential gains of SimChart tool are not fully realized when training is not started early in nursing programs. It is necessary that nurses, at the inception of their programs, are assessed on self-reported knowledge of informatics and attitudes toward SimChart to guide instructional designs and approaches. Therefore, there is need for more studies to identify impediments to students' adoption of SimChart learning strategies to meet current health technology and informatics workplace requirements and equip nurses with essential knowledge and skills to perform nursing roles.

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Keywords: Academic EHR, SimChart, Healthcare, Undergraduate, Students, Perspective

Introduction

Technological growth has brought with it innovations and advancements in the healthcare delivery system. One such advancement is the introduction of EHRs in the early 1960s. Over the years, the impact of EHRs in the healthcare system has become more recognizable. The value placed on EHRs was translated in the enactment of the HITECH act of 2009. The HITECH act enacted by the Office of Civil Rights (OCR) offered financial incentives to healthcare providers or organizations to adopt and demonstrate "meaningful use" of electronic health records [1]. The result was a steady growth in the adoption of EHRs in healthcare delivery which peaked in the 2000s as gleaned from studies include promoting continuity of care. With the benefit of cutting-edge technology, EHRs enable healthcare providers to have access to a patient's medical history and treatment plan, despite the location of the patient. This singular benefit was apparent during the Covid 19 pandemic, when through the utilization of digital health technology; patients' conditions were treated, thereby stemming the infection rate of the highly contagious virus on populations. Nurses play an important role in the utilization of EHRs in healthcare settings as knowledge workers. It is no doubt that the adoption and implementation of EHRs has brought with it numerous benefits, as well as some challenges to nursing practice, prompting discourse on the preparedness of nurses, through their training and education to gainfully utilize EHRs, while recommending changes for their optimal use in healthcare delivery systems. However, there has not been adequately directed training of nurses in the use of academic EHRs, as reflected in articles reviewed. In the light of the stated benefits and challenges of EHRs, this project aims to evaluate the usability and perspective of academic EHR (SimChart) by the undergraduate students.

Background

The gains of EHRs in current healthcare practices cannot be overemphasized. Academic EHR has continued to play an important role in both healthcare practices and in training of healthcare practitioners. One way of achieving this is the merging of information technology with patient care, education, and research. To reap the benefits of EHRs, nurses need to have adequate knowledge and understanding of the workings of EHRs. Noticeably, leaders of nursing education have begun to integrate early academic EHR training in nursing curricula. This is in line with standards set by the Commission on Collegiate Nursing Education (CCNE) and the National League for Nursing Accrediting Commission (NLN). In a value statement issued in November, 2021 and titled "*Workforce Demands of the Future: The Educational Imperative,*" the regulatory body directed that technology, including artificial intelligence be integrated in nursing education and practice in a bid to strengthen the ability of nurses to meet the demands of healthcare needs in the world [2]. Majority of studies reviewed were of the consensus that academic EHRs contribute to improve health care by ensuring that healthcare providers have access to a patient's complete medical history, such as past diagnoses, medication history, treatments and lab results.

A remarkable feature of person-centered care as advocated in current healthcare delivery practices, is the importance of interdisciplinary collaboration. Academic EHRs have been credited with facilitating collaboration between various healthcare disciplines such as nursing, medicine, pharmacy, and allied health, thereby instilling in practitioners the value of rendering comprehensive and holistic patient care. Cook *et al.,* (2021) [3] argued that if pharmacists are to fully integrate academic EHR in the current progressive technology of patient care delivery, there is a need for more purposeful and vigorous inclusion of academic EHRs skills in Pharmacy education as well, especially in areas of collecting patient data, engaging in medication reconciliations, practicing order verifications and general documentation. In research guides practice, many of the revisions and modifications in practice are outcomes of studies and evidence-based practices. Data are the kernel of research studies and EHRs are simply digital data. Academic EHRs have proved to be valuable tools for medical research and patient care education. In working with academic EHRs, students have access to simulated patient data, thereby gaining knowledge and involvement in enhanced clinical skills development and sharpening clinical reasoning and decision-making skills. Sherman et al., (2022) [4] investigated the use of EHRs to recruit and collect data for research purposes through the utilization of secure patient portals such as the *MyChart* feature in Epic operating studies. Early inclusion of academic EHR training in nursing curricula position nurses to develop interest and participate in research work, as the students climb the career ladder. Covid 19 fueled the growing use of telemedicine and contributed to the heightened rationale for the imperative need for academic EHRs as crucial in nursing education and training.

Presently, there is an increase in the use of EHR educational tools. One of such educational EHR is the use of the SimChart tool, a product from Evolve® Elsevier Inc. Academic EHRs have been in use in healthcare institutions for years now. Academic EHRs have been effective in enriching clinical knowledge and learning experiences of both undergraduate nursing students and practicing nurses. Utilizing a learner-centered approach, academic EHRs provide learners a safe, controlled but active learning opportunity, in situations that mimic real-world clinical practice, thereby preparing nurses, through knowledge building, for safe practice. Another example of a Simulation teaching and learning method is the use of Lippincott DocuCare, as illustrated in a mixed

study by in the study conducted with both students and educators as participants. Kleib et al., (2021) [5] established that DocuCare is a valuable tool for imparting knowledge on informatics competency, which in turn prepares students for practice in digital health environments. Results in their study aligned with previous studies on the effectiveness of DocuCare in improving students' knowledge about informatics, as well as accuracy of electronic documentation.

Patient safety continues to be prioritized in health care. EHRs are identified to reduce medication errors and promote general safe patient care with the inculcation of academic EHRs in a novice nurse's training. The use of academic EHRs early in nurse training tend to prevent mistakes in digital charting. Also, academic EHRs provide safe environments that allow student nurses to improve their skills in data entry into a stimulated system. According to the study, student nurses are more comfortable with improving their general knowledge and nursing assessment skill when working and documenting with virtual patients. However, despite the benefits of academic EHRs as well as recommendations by governing and regulatory authorities to embrace and actualize the benefits of academic EHRs, designers of nursing schools' curricula are not abreast with the pace of knowledge and training needs, required in today's healthcare delivery system. (Everett-Thomas et al., 2021). [6] Williams et al., 2021 [7] spotlight the gap in education of nurses and emphasize the need for nursing schools to strive to impart knowledge to nurses while they are in training, so nurses can attain adequate knowledge of EHR documentation and general training, in order to meet the present demands of nursing practice. The authors cited preceding studies that touched on the inadequate preparedness of nurses in data entry and mining, prior to entering the workforce.

Ting et al., (2021) [8] concurred that inadequate training and education has presented roadblocks to reaping the full benefits of EHRs. The authors stated that inadequate training impacts the quality of nurses' documentation in EHRs, thus implicating integrity of documentation, therefore stymying the advantages of digital documentation. As with all things new and evolving, teaching EHRs to students has presented some challenges. While admitting a paucity of training on academic EHRs in nursing programs, studies attribute the problem to inadequate staff equipped with necessary technical knowledge to teach EHR technology. This has accounted for the slow pace in incorporating and sufficiently implementing information technology into formal nursing education curricula and practice. Even in situations where a learning environment is provided, students' attitudes and cultural beliefs are noted to have influenced student engagement in learning the new technology [7]. Also, cost issues and implementation challenges have been identified as some of the factors that mar the implementation of academic EHRs [5]. Regardless of government subsidies, some academic institutions may struggle with allocating resources to academic EHRs in the area of training healthcare professionals and educators of EHRs**.** A real-world example could be a situation in minority institutions where student nurses could not be exposed to the use of the academic EHR due to its added cost to their book bundles. In order to reduce the financial burden on students in minority institutions, other financial assistance should be explored which will motivate students and faculty to integrate the academic EHR across all nursing clinical courses.

Nonetheless, the benefits of EHRs, as driven by technological advancements are remarkable and will continue to drive healthcare practice. Academic EHRs are bound to witness continued growth and evolution in the coming years. There is the likelihood that advanced technologies such as artificial intelligence would be incorporated into EHRs. The integration of AIs into EHRs may be beneficial in diagnoses of diseases, identification of data sets in furthering education and research. Nurses are fundamental to the implementation of quality healthcare practices. Early in their training, nurses would need to be engaged in rigorous programs in academic EHRs, to keep abreast with rapid technological developments in healthcare. Therefore, no investment made in their training would be wasted. Ting et al., (2021) [8] suggested incorporating new approaches for nursing education and training on academic EHRs, that would entail ongoing staff engagement and the development of interventions that enable nurses to integrate academic EHRs into their daily workflows. Williams et al., (2021) [7] emphasized that developing an effective nursing workforce in the face of technological advancements in healthcare delivery will need to start with a robust educational foundation. Interdisciplinary and intradisciplinary collaboration among healthcare professionals is known to foster positive health outcomes. It is expected that there should be an increased focus on interoperability among EHR systems in both academic institutions and health care institutions, in sharing of health information towards collaborative healthcare and research. Nurses, as frontline caregivers, play a crucial role in ensuring that all team members work together to the utmost benefit of the patient. To be equipped for this role, nurses therefore need to be adequately trained in the technology of EHRs, through a more guided and vigorous integration of academic EHRs in nursing curricula.

Methodology

This project used mixed research of both qualitative and quantitative methods as in literature review and the analysis of secondary data garnered via SurveyMonkey®. Literature search was conducted in academic databases, including PubMed, Google Scholar, and the Cumulative index of Nursing and Allied Health Literature (CNAHL). A total of 12 articles were initially sourced. Of note is that most of the articles focused on academic EHR, electronic medical records (EMR), as part of EHR. Final articles were eventually selected for review, based on their subject matter

focus. In the selection, attention was paid to use of academic EHR in a healthcare profession, other than nursing, in view of the new direction of collaborative healthcare practices. With increasing impetus on nursing research in directing nursing practice, a study on the use of academic EHRs in academia for research purposes was included. To reflect the current state of EHR training and implementation, the years of publication was also taken into consideration, with mostly recent articles, spanning from 2017 to 2022. With academic EHR, EMR, stimulation learning systems as key words to retrieve articles that gave the academic EHR background and significance. Secondly, a hundred academic EHR (SimChart) codes were purchased through the Evolve® Elsevier Inc. A survey was created with survey monkey to collect data on the demographics and perspective of undergraduate students involved in this project. Students' perspectives on the academic EHR (SimChart) usage were examined with an approved University Institutional Review Board (**IRB-2022-0467**). The project was made possible through the **National Institute of Health-Howard University AIM-AHEAD center grant.**

Data Analysis and Interpretation

SimChart, a type of academic Electronic Health Record continues to gain prominence in nursing education curriculum. SimChart is determined to be effective in providing a practical and engaging platform for developing clinical skills and competence in nursing education and training. To what degree this is achieved in nursing training depends on different variables, as classified in the interpretation of the analyzed data. Variables including age, ethnicity and usability levels were utilized to collect data on the SimChart perspective and usability for 2022 fall semester. The survey was created using a 20-point questionnaire with an approved consent from Howard University (**IRB-2022-0467**). Analysis of the data was accomplished using the most current IBM SPSS Statistics v29.0.

Result and Discussion

Results per survey variable:

Age: Out of 72 students who responded to this variable, 69 (95.85%) were within the age bracket of 18-24 years. This is understandable, as most students within this age group would be in their upper-level years. Only two students (2.78%) were aged between 25-34 years.

Ethnicity: Out of the 71 students who responded to this variable, 70 (98.59%) students identified as Black or African American. This large number is significant and expected, considering that Howard University is among one of the prominent Historically Black Colleges and Universities (HBCU). Only one student (1.41%) identified as Asian or Asian American. Population trends reveal that more blacks and immigrants are entering the nursing profession. In 2021, nurses top the list of immigrant health-care workers in the United States with a percentage of about 79%, in comparison with other sectors of the healthcare workforce [9].

Perceived level of SimChart or any similar instructional tool skills: 72 students responded to this item. An impressive total number of 66 (91.67%) students indicated different degrees of perceived level of awareness of SimChart or any similar instructional tool skills, with responses ranging from average, good, very good to excellent. It is notable that 26 (36.11%) described as average, their perceived level of SimChart or similar instructional tool skills coincided with the number of students, 26 (36.11%) who responded to having a perceived good level of awareness of SimChart or any similar instructional tool skills. While the high attestation is expected, given that the students surveyed are in their second semester of upper level and most likely would have had exposure to SimChart or other forms of EHRs, it is still concerning that only three (4.17%) students responded to having a perceived excellent level of SimChart or any similar instructional tool skills. This finding speaks to the importance of exposing students early in the nursing curricula to any academic EHR tool to enable familiarity with EHR systems as well as allow students increasingly gain hands-on experience with academic EHR. (Wisner et al., 2019) [10] in their study, called attention to the need to evaluate the adaptive process and challenges experienced by nurses who hitherto were not versed in the use of academic EHR technology in their practice.

Perceived Importance of SimChart usage in Case Study, Simulation, or Clinical arena: 59 (81.95%) out of 72 students responded answered favorably to this item. 37 (56.39%) of students deemed it as extremely important and very important in SimChart utilization, while 22 (30.56 %) described usage as somewhat important. The remarkably high percentage of students who acknowledge usefulness of SimChart is proof of the importance of SimChart in developing relevant competencies as well as building skills students need to be successful in current healthcare settings.

Perceived Usefulness of SimChart in Undergraduate/Graduate Nursing Program: Of the 71 students who responded to this item, 11(15.28%) students did not think SimChart was useful in their programs. Still, a high number of students, 61(84.72%) in all, gave a favorable response to what they perceived as usefulness. This is significant and aligns with the new direction in nursing education that supports the use of SimChart in nursing curricula. Most students stated that SimChart has been beneficial in increasing their proficiency with EHRs and making them more employable in today's healthcare delivery environments. In their study, Kleib et al., (2021) [5] cited positive experiences of student-participants who said DocuCare, as a learning tool, helped them improve computerized documentation as well as increase their overall informatics competency.

Frequency of using SimChart in Classroom or Clinical: Out of the 71students who responded to this item, 61(84.72%) of students affirmed different degrees of frequency in the use of SimChart. 40 (55.56%) of students stated they have used SimChart sometimes, while 21 (29.16%) attested that they have always used and usually engaged in frequent use of SimChart in classroom or practicum settings. A high percentage of 84.72% students gave a positive response is an affirmation of the gains of SimChart in nursing education. Skills practice is an effective learning principle that rings true, even in the implementation of SimChart to facilitate learning. It is therefore a necessity that students should be frequently and progressively exposed to simulation learning experiences in order to build their clinical and improve documentation skills.

SimChart is an effective tool that helps students input clinical data and think critically with great learning outcome: Compared to 7 (9.86%) students who did not find value in the use of SimChart, a remarkable number of 52 (73.24%) students confirmed that SimChart is an effective tool that helps them input clinical data and think critically with resultant great learning outcomes. This finding substantiates the effective role of SimChart in enabling students practice documentation of the nursing process such as in assessments, diagnosis, care plans, implementation, and evaluation, within academic EHR, which in turn prepares students for documentation in real-life clinical settings, on graduation. Uslu & Stausberg (2021) [10] called on the need for further studies to focus on specific aspects of EHRs, in order to provide guidance in both operation and implementation.

SimChart would help students prepare for clinical before hands-on patient care: 46 (63.89%) students out of 71 students responded that SimChart would help them prepare for clinicals before hands-on patient care. While 63.89% may not be considered an overwhelmingly large percentage of students agreeing that SimChart prepares them for clinicals before they engage patients in real life practice, still 63% is a high percentage when compared with the number of students, 15 (20.83%) who neither agree nor disagree. It can therefore be logically argued that a reasonably high number of students overtly and implicitly said SimChart would be beneficial in preparing them for clinical practice. This affirms the acclaimed benefits of EHR in patient care.

SimChart would lead students to productivity, empowerment with confident in clinical care after exposure to the tool: 42 (58.33%) out of 71 students attested that SimChart would lead them to productivity, empowerment with confidence building in clinical care after exposure to the tool. This finding supports the claims by majority of students who find SimChart effective in practicing nurse-patient interactions, building clinical skills and empowering them to execute patient care at a higher confidence level, all of which would have not been achieved in the absence SimChart training. In their study, [7] affirmed students' reports of satisfaction and increased confidence from engaging in simulation activities, through academic EHR incorporation in their curricula. Students stated that early simulation exposure with their clinical courses contributed to their self-efficiency in the utilization of EHRs in the clinical sites.

SimChart is easy to navigate, access and friendly to use in documentation: Of 71 students who responded, 26 (36.11%) agreed that SimChart is easy to navigate, access and friendly to use in documentation, while 22 (30.56%) neither agreed nor disagreed. 24 (33.34%) students did not think SimChart is easy to navigate or access, nor friendly to use in documentation. The slim margins of perceptions of easy use among those who agreed, those who did not agree and those who neither agreed nor disagreed is noteworthy and justify the necessity to address usability in the architectural design of SimChart and make them more user-friendly**.** In their study, Wisner et al., (2019) [11] attributed nurse-clinicians as describing, as cognitively challenging, the job of navigating and sorting out the volumes of information from EHRs.

SimChart aligns well with my course/clinical: The benefits of SimChart are better harnessed when students can make a correlation between SimChart and course/clinical requirements and translate coalesced knowledge into meaningful, safe, and effective clinical practice. 49 (68.06%) out of 71 students agreed that SimChart aligns well with course/clinical, as against 8 (11.11%) students who disagree. While a high percentage (68.06%) of students offer a favorable view of SimChart aligning well with their course contents, still the fact that as many as 15 (20.83%) of students neither agreed nor disagreed is reason enough to review current SimChart instruction models, with a view to not only integrate them into nursing curricula, but also aligning them with specific objectives and learning outcomes. It is important that the design concepts SimChart take into cognizance the continually changing principles of patient care and reflect same in design content and architecture to make SimChart more relevant to current nursing practice. An example would be in integrating the core tenets of patient-centered care in SimChart as integrated in new version of SimChart.

SimChart would help students be ready for the case studies, simulation or clinical knowledge which align well with the new NCLEX prep: NCLEX certification is used to determine that recently graduated nursing students are safe to practice. Students' perception of how case studies, simulation or clinical knowledge offered with SimChart education impact their prep for NCLEX is a primary consideration in the value of SimChart in nurses' education and training. 33 (45.83%) of students out of 72 students agreed that SimChart is useful in NCLEX certification examination preps. 23 (31.94%) neither agreed nor disagreed and 16 (22.23%) of students did not agree that SimChart is helpful in preparing for NCLEX exams. These numbers denote the fact

that there is room for improvements in the design of SimChart and in aligning SimChart education new generation NCLEX (NGN) features with expectations and current practice guidelines, as are now tested in national certification exams.

SimChart is an academic EHR that is required in all levels of Nursing programs for accreditation: Of 71 students who responded to the question that SimChart to this item, 30 (42.25%) of students agreed that SimChart needs to be incorporated in all levels of Nursing programs for accreditation. Remarkably, a higher number of students, 35 (49.30%) neither agreed nor disagreed. This opens further discourse on making academic EHR a requirement in all levels of nursing programs for accreditation. The results may also be expected of undergraduate students who just completed their courses and have no idea of NCLEX requirement and knowledge. Also, it is pertinent to note that this finding may not be a correct depiction of views on academic EHR requirements across the board of nursing programs for certification. Student respondents are in undergraduate programs and may not have commensurate knowledge and experience with EHR to address its relevance in program accreditations.

SimChart gives students the ability to practice electronic documentation in a system designed to meet their needs, while maintaining a realistic experience: A remarkable high number 57 (79.17%) of students were in agreement with this item. This is a significant finding, when compared with 8 (11.11%) students who did not agree. As an academic electronic health record, SimChart is an experiential, learner-centered strategy that enables students to acquire and apply the informatics knowledge needed for working with electronic records in a safe learning environment before the students have encounters with real patients [5]. Therefore, the finding attests to the benefit of SimChart, as pedagogic tool, which through the enactment of realistic patient scenarios enables students interact and learn with virtual patients, before carrying through the experience to real life clinical situations.

Students also learn how to integrate electronic documentation into their workflow, which makes them more marketable when they are seeking their first job: 46 (64.79%) out of 71students responded that learning to integrate electronic documentation into their workflow with SimChart tool makes them more marketable when they are seeking their first job. 8 (11.27%) students did not concur. The high percentage of students in agreement underscores the fact that when students practice EHR documentation with SimCharts such as in documenting patients' assessments, care plans, interventions, and progress notes, they gain competence, with accompanying self-confidence as they enter the job market.

With SimChart students are able to complete stated nursing activities: Nursing activities were itemized under seven categories. 67 students responded to how they have been able to complete specific nursing activities with SimChart. Significant responses to select nursing activities that show the relevance of SimChart training are captured in the bar chart as follows:

- Review the provider charts (history and physical, orders, consultation notes, progress notes) and determine important information needed to plan care for the patient: 62 students (92. 54%)
- Review the provider orders and identify which ones you would implement first: 56 students (83.58%)
- Review the MAR and develop patient teaching guides for each medication: 56 students (83.58%)
- Identify safety risks the patient exhibit: 45 students (67.16%)
- Complete an end-of-shift report during your synchronous sessions, passing the care of one patient on to another student: 31 students (46.27%).

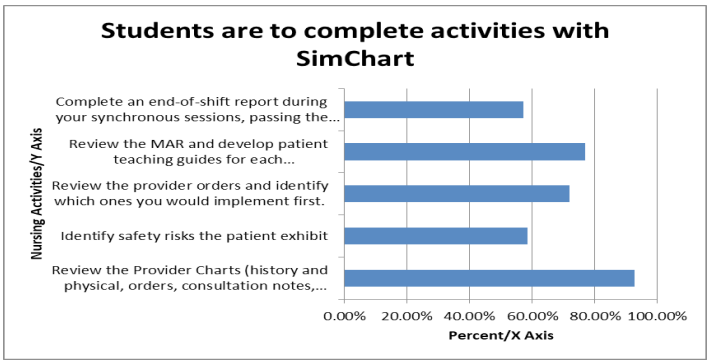

Figure 1: Students Responses on Activities Completed with SimChart.

As depicted in the data above, an overwhelming number of students 62 (92.54%), out of 67 attested to successfully using SimChart to review the provider charts and determine important information needed to formulate patients' care plans. An equally significant number of students 56(83.58%) in separate responses affirmed that SimChart helped them review the provider orders and enabled them prioritize care. The students responded that SimChart enabled them to review the MAR and develop patient teaching guides for each medication. 45 (67.16%) stated that SimChart helped them maintain patient safety, by identifying risks patients exhibit. Their acknowledgement of the effectiveness of SimChart in these important tenets of patient care is indicative of the gross benefits of SimChart in nursing training and practice.

Students are able to focus on making nursing decisions about patient care, which will help build their clinical judgment skills: With the benefit of SimChart exposure and training, students responded on their ability to make clinical decisions and sharpen

their clinical judgment skills as follows.

A significant number, 52 (80.00%) of students responded that with SimChart they were able to initiate, evaluate, and update client plan of care. 46 (70.77%) confirmed SimChart was beneficial in performing focused patient assessments. 40 (61.54%) utilized SimChart to provide and receive hands-off care on assigned patients**.** 41 (63.08%) attested to using SimChart to evaluate appropriateness and accuracy of medication orders for clients.

The data underscore the several acclaimed benefits of Electronic Health Records to provide accurate, up-to-date, and complete information about patients at the point of care. EHRs, therefore enabled coordinated and efficient care [12]**.**

Listed below and depicted in bar chart are select responses by students:

- Initiate, evaluate, and update client plan of care: 52 students (80.00%)
- Provide and receive hands-off of care (report) on assigned clients: 40 students (61.54%)
- Evaluate appropriateness and accuracy of medication order for client: 41 students (63.08%)
- Perform focused assessments: 46 students (70.77%)

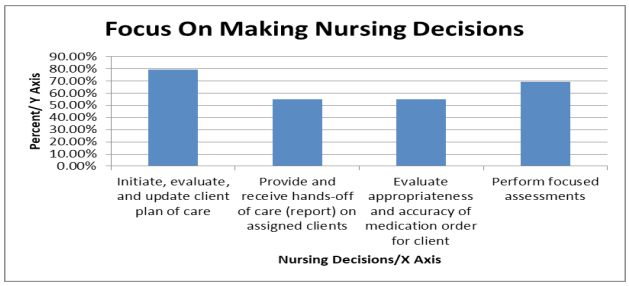

Figure 2: Students Responses to Benefits of SimChart on Making Nursing Decisions.

I have used SimChart in the following course/courses (Please select all that apply): Out of 72 students that responded, 63 (87.50%) indicated they had used SimChart with Adult Health, 62 students (86.11 %) had used SimChart with the Fundamental course, while 47 (65.28%) had used SimChart with Health Assessment course. The significant number of students who attested to the effective use of SimChart with their courses is proof of the increasing awareness of incorporating SimChart in nursing curricula and confirming proposals that learning strategies be framed by governing professional nursing bodies and licensing authorities, through the introduction of simulation and lab activities in EHR systems. Miller et al., (2022) [13] had supported proposals to that effect.

Summary and Limitation

The results of this study have shown the usefulness in providing an insight into the acceptability, feasibility, and practicability of SimChart, against the backdrop of the numerous benefits of EHR systems in today's increasingly digital healthcare environment. Also, the survey is limited to the experience of one institution hence study is not panoramic as to reflect experiences with nursing programs in other institutions. Financial constraints constitute a barrier to the implementation of academic EHRs, not just for institutions but faculty who may lack the skill to teach the students who may not afford the additional costs of purchasing necessary learning and analytical tools for data entry and analysis. Hence, the need to assist students financially to defray out of pocket expenses for SimChart codes through alternative sources, an example would be to apply for a grant/contract or other form of reimbursement.

Conclusion

The consensus by all stakeholders is that in today's technology-driven era of healthcare, the potential gains of academic EHRs are not fully realized when training is not started early in nursing programs. As principal participants in healthcare delivery, nurses are crucially placed to drive practice through utilization of EHRs. It is therefore necessary that nurses, at the inception of their programs, are assessed on self-reported knowledge of informatics and attitudes toward academic EHRs to guide instructional designs and approaches. Kleib et al., (2021) [5] pointed out the necessity to begin early, even within undergraduate programs to teach health information technologies geared towards equipping students with required entry level- to practice informatics competences. Finally, feedback from faculty on uptake and challenges of academic EHRs are vital for continuous improvement in nursing curricula, on the part of responsible authorities.

Future Research

There is need for more studies to identify challenges to students' adoption of academic EHR learning strategies, in order to meet current health technology workplace requirements and equip nurses with essential knowledge to perform nursing roles.

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