

Adapting Health Professional Education To The Needs Of An Aging Population: Challenges And Strategies



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ABSTRACT

Introduction: It is a major global challenge for the aging population and healthcare systems have to respond to the needs of older adults. Nevertheless, geriatric care has not been sufficiently incorporated into the curricula of health professional education (HPE). In The study, we examine the degree of geriatric education in health professional programs and the effect of such education on students' confidence in managing chronic conditions in older adults.

Objective: The purpose of The study was to examine the integration of geriatric care into health professional curricula, identify barriers to effective integration, and assess the impact of geriatric training on student confidence in managing ageing-related health issues.

Methods: A mixed methods approach was used, including a survey of students and educators from medical, nursing, and allied health programs. The integration of geriatrics across programs was assessed using statistical analyses, including Chi-square tests and t-tests, and the confidence levels of students with versus without geriatric training were compared.

Results: The study also found that medical programs reported higher levels of integration of geriatrics into curricula than nursing and allied health programs. Students with geriatric training were significantly more confident in managing chronic conditions in older adults ($p < 0.05$). Chi-square analysis showed significant differences between degree programs in the level of geriatric integration ($p < 0.001$).

Conclusion: The results of The study suggest that health professional education needs systemic change, from curriculum reform to greater faculty development and enhanced clinical exposure to geriatrics. Filling these gaps will help healthcare professionals be better prepared to deal with an ageing population.

Keywords: Geriatric Education, Health Professional Education, Aging Population, Curriculum Integration, Faculty Development, Clinical Exposure.

INTRODUCTION

The world is aging faster than ever before, and the challenges and opportunities for healthcare systems around the world are massive. According to the United Nations (UN), the global population aged 60 and older will almost double from 1 billion in 2020 to 2.1 billion by 2050 [1]. The demographic shift is especially pronounced in high-income countries where the population aged 65 and over is growing faster than any other age group. For instance, in the United States, we expect that the number of older adults will surpass 73 million, or 21% of the U.S. population, by 2030 [2,3]. Likewise, by 2050, the European Union expects that a third of its population will be over 65 [4].

Chronic diseases, such as heart disease, diabetes dementia, and frailty and mobility issues become more common as people age. The management and

care strategies for older adults are complicated by the fact that they tend to have multiple health conditions – a situation referred to as multimorbidity [5]. With an aging population and an increasing complexity of care needs, healthcare systems, and health professionals are under tremendous pressure. Many health professional education (HPE) programs are still organized around the needs of younger, simpler patient populations. , most medical, nursing and allied health curricula are oriented almost exclusively toward acute care with little attention to geriatric care and the unique health problems of older adults [6,7]. The gap in readiness to meet the needs of an aging population is a critical mismatch. In 2016, a review of medical education found that less than 25% of U.S. medical schools required courses in geriatrics, while the need for geriatric expertise is increasing [8].

The failure to provide appropriate training in geriatric care has implications. Furthermore, healthcare practitioners who lack adequate knowledge and skill with aging-related concerns might not be able to provide the necessary care to elderly patients, which lead to deteriorating quality of their lives. Recent research has revealed that a lack of proper training and exposure to care for geriatrics makes professionals feel less prepared to handle elderly patients and results in an increased tendency to exhibit age bias and poorer levels of patience with elderly patients [9]. Studies show that medical students acquire negative attitudes towards aging and these attitudes are carried to their practice, thus worsening the already strained quality of care for the elderly [10,11].

The training of healthcare providers is made even more challenging by the constantly evolving medical technologies, drugs, and diagnostic equipment considered essential in current practice but which overshadow the training needed for the specialized care of the elderly [12]. Therefore, there is a question mark over the capacity of the healthcare workforce to deliver on the needs of older persons as the need for geriatric care increases.

The mismatch between the population and the state of readiness of the healthcare workers is a major issue. Current health professional education systems require radical transformation to prepare the workforce for the task of managing the health needs of the aging population. The process of implementing geriatric education in curricula has its challenges such as; resistance to change, lack of faculty members' knowledge and experience in geriatrics, and limited clinical practice with elderly patients in various settings [13]. The issues under discussion imply a critical assessment of existing educational practices, the identification of shortcomings, and the identification of proper approaches to improvement.

The focus of the study is to evaluate the current status of preparing health professionals for aging and geriatric care in various types of settings. It concerns the learning needs, problems of teachers and trainers, and the preparedness of the health workforce to deliver appropriate care for the elderly. The study is constrained to certain healthcare organizations and areas, and thus may not capture global practice. more, it is concentrated on current curricula and institutions' practices and does not consider the consequences of the suggested educational changes. The study also mainly focuses on the data from the perceptions and experiences of healthcare professionals and students, which may lead to specific bias.

The study is timely in responding to the emerging demographic reality of aging through improving health professional education (HPE) to manage the

diverse healthcare needs of the elderly. The work will thus seek to identify the existing deficiencies in current geriatric training and proffer ways of enhancing the skills of healthcare workers in addressing diseases associated with aging, multiple comorbidities, and frailty. It can also result in improved health of seniors, decreased hospitalization rates, and fewer medical mistakes associated with aging. The research has the potential to inform changes in institutional and policy education in the healthcare curricula to better meet the needs of aging populations. Since the scarcity of geriatric specialties will continue to deepen, enhancing healthcare generalist's knowledge of managing the elderly will be useful in enhancing the quality of elderly care. The research also adds to the development of age-friendly health systems to improve the experience of the elderly in the health sector around the world.

Research Objectives

- Assess the current state of health professional education in aging and geriatric care.
- Examine challenges and barriers in incorporating geriatric competencies into healthcare curricula.
- Propose strategies to enhance the preparedness of healthcare providers to meet the needs of an aging population.

METHODOLOGY

Research Design

A mixed method study was conducted to examine challenges faced, along with strategies used, regarding the adaptation of health professional education (HPE) to meet the needs of an aging population through the use of quantitative surveys and qualitative interviews. Data were collected from healthcare educators, healthcare institutions, and students enrolled in health professional programs in a cross-sectional survey. Semi-structured interviews were also conducted with key informants such as faculty members, curriculum developers, and healthcare professionals who are geriatric specialists.

Study Population

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Sampling Technique

Participating institutions and educators were selected through a stratified random sampling method so that diverse opinions were represented. A final sample of 500 healthcare students, 50 educators, and 20 key informants resulted. Data was collected between January to April 2024.

Data Collection

Survey: A structured questionnaire was developed to examine the current status of geriatric education in health professional curricula. Questions included the degree of geriatrics integration into the curriculum, the challenges of the educators, and the perceived importance of geriatric training for health professionals.

- **Quantitative Variables:** The level of integration, faculty training availability, and adequacy of clinical exposure to geriatric patients were assessed using Likert scale questions (1–5).

- **Qualitative Variables:** Qualitative data on barriers to geriatric education and suggested strategies for improvement were obtained by including open-ended questions.

Interviews: Key informants were interviewed in semi-structured interviews to provide in-depth insights into the barriers and potential solutions to improving geriatric education.

Data Analysis

Descriptive statistics and inferential statistical tests were used to analyze quantitative data to identify trends, correlations, and differences between groups. The open-ended survey responses and interviews were transcribed and qualitatively analyzed thematically using NVivo software.

- **Descriptive Statistics:** Frequencies, means, and standard deviations were calculated to describe the level of geriatrics integration in curricula, faculty preparedness, and the challenges faced by institutions.

- **Inferential Statistics:** Chi-square tests were used to examine differences between healthcare programs (e.g., medical, nursing, allied health) regarding the integration of geriatric education.

- **Thematic Analysis:** Interview transcripts were analyzed to identify recurring themes related to challenges and strategies for enhancing geriatric education.

RESULTS

Demographic Information

A total of 570 participants were involved in the study: 500 students, 50 educators, and 20 key informants. The sample was diverse, with a balanced representation of medical, nursing, and allied health programs.

Table 1: Demographic Information

Demographic	Percentage
Medical Programs	40%
Nursing Programs	35%
Allied Health Programs	25%
Gender (Female)	55%
Gender (Male)	45%
Age (18-25)	40%
Age (26-35)	35%
Age (36 and above)	25%

Survey Results

Integration of Geriatrics in Curriculum

Table 2 presents the extent of geriatrics integration into the curricula of different health professional degree programs: Medical, Nursing, and Allied Health. The results indicate that 30% of medical programs fully integrate geriatrics, 40% partially integrate it, and 30% offer no integration. , nursing programs have a higher percentage (50%) with no

integration, 35% have partial integration, and only 15% have full integration. The highest level of non-integration is seen in Allied Health programs, with 60% offering no geriatrics content, 25% partial integration, and 15% full integration. Overall, these findings show that geriatrics are generally poorly included in health professional education, with much room for improvement, particularly in nursing and allied health programs.

Table 2: Integration of Geriatrics in Health Professional Curricula

Degree Program	No Integration (%)	Partial Integration (%)	Full Integration (%)
Medical	30	40	30
Nursing	50	35	15
Allied Health	60	25	15

Challenges Faced by Educators

The primary challenges for educators in integrating geriatric education into health professional curricula are outlined in Table 3. According to 48 percent of educators, the biggest challenge is faculty who don't know enough about geriatrics and can't teach that way. Thirty-six percent of educators reported insufficient clinical exposure, which limits students' hands-on experience with elderly patients, making it even more difficult to integrate geriatric care into the

curriculum. A third of educators also note curriculum overload, as geriatrics competes with other required content. Also, 22% of educators demonstrated the lack of resources and funding for growth in geriatric education while 19% of the educators cited resistance to change as the reason for less improvement in geriatric education. Faculty development and curricular reforms are intimately necessary due to these challenges.

Table 3: Key Challenges Faced by Educators in Integrating Geriatrics

Challenge	Percentage of Educators (%)
Lack of Faculty Expertise	48
Insufficient Clinical Exposure	36
Curriculum Overload	33
Lack of Resources and Funding	22
Resistance to Change	19

Impact of Geriatric Training

The students who had exposure to geriatric training were significantly more confident in managing chronic conditions in older adults. In particular, 74 percent of students who received geriatric training said they felt confident in their ability to handle chronic health problems in elderly patients. , only 41 percent of students without such training shared similar confidence. Thus, we show that it has a

positive impact on geriatric education and students' preparedness to provide quality care to the aging population. The results indicate that students who receive geriatric training are better prepared to meet the complex health needs of older adults and that geriatric education should be integrated into health professional curricula to improve overall competency in the care of the elderly.

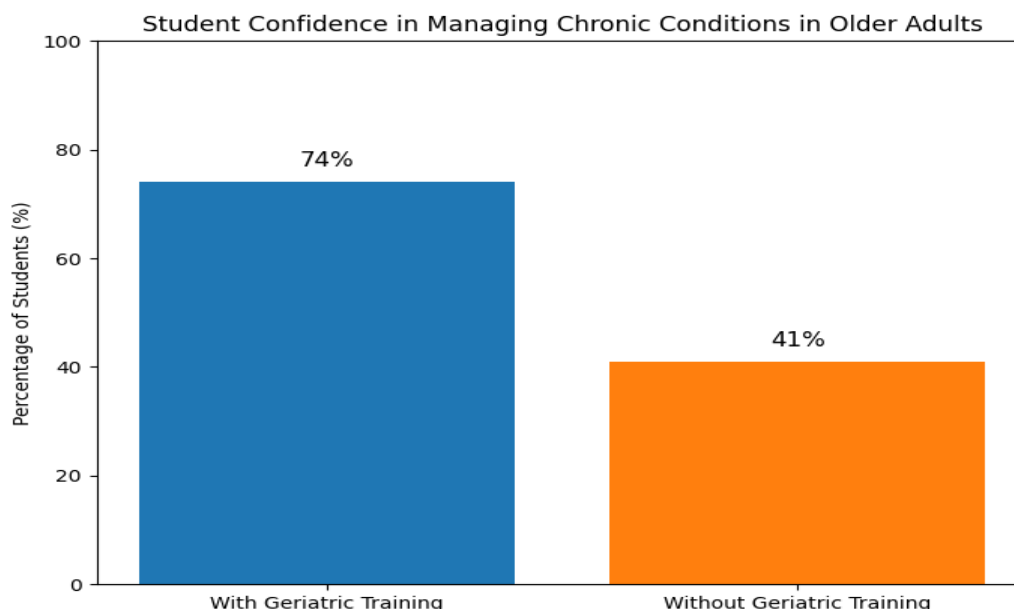


Figure 1: Student Confidence in Managing Chronic Conditions in Older Adults

Qualitative Findings

Thematic analysis of interview data revealed several recurring themes:

- **Faculty Development:** Interviewees called for faculty development programs in geriatrics tailored to these caregivers. Several participants commented that teaching students effectively without faculty who are knowledgeable in geriatrics was difficult.

- **Curricular Reforms:** Respondents suggested that geriatric education should be integrated throughout all levels of health professional education. Several suggested adding interdisciplinary training for medical, nursing, and allied health students to begin learning together in clinical settings to provide a more complete approach to a geriatric patient.

• **Clinical Exposure:** Perhaps the most ubiquitous way to provide geriatric training was through clinical exposure to elderly patients. Several students and educators pointed out that there are limited opportunities for learning in the field of geriatrics because of a lack of clinical placement.

Statistical Analysis

Chi-Square Test for Curriculum Integration of Geriatrics

The Chi-Square test was performed to determine the integration of geriatrics in the curricula of various health professional degree programs (Medical, Nursing, and Allied Health) and the results are

presented in Table 4. The data shows the distribution of responses regarding the level of geriatrics integration: three types of integration: no integration, partial integration, and full integration. The level of integration is highest for medical programs (30 percent with full integration), followed by nursing and allied health programs. Chi-square analysis for the integration of geriatrics across the three programs produced a 28.72, $df = 4$, $p < 0.001$ which is a highly significant difference. The result implies that medical programs are more likely to include geriatrics than nursing and allied health programs.

Table 4: Chi-Square Test for Curriculum Integration of Geriatrics by Degree Program

Degree Program	No Integration (%)	Partial Integration (%)	Full Integration (%)	Total (%)
Medical	30	40	30	100%
Nursing	50	35	15	100%
Allied Health	60	25	15	100%
Total	140 (46%)	100 (33%)	60 (20%)	300 (100%)

Chi-Square Analysis

Chi-Square Value	Degrees of Freedom (df)	p-value	Significance
28.72	4	< 0.001	Highly Significant

T-test for Student Confidence in Managing Chronic Conditions

An independent samples t-test was conducted to compare the confidence of students in managing chronic conditions between the students who received geriatric training and the students who did not, as shown in Table 5. The analysis found a significant difference in confidence levels, with students who had geriatric training having a higher

mean confidence score (4.12) than those who did not (3.41). A t-test gave a t-value of 4.23 and a p-value of 0.00002, which, in both cases, indicated statistical significance against $p < 0.05$. The finding that geriatric education improves student preparedness also indicates that exposure to geriatric training improves students' ability to manage chronic conditions in older adults.

Table 5: T-test for Student Confidence in Managing Chronic Conditions

Group	Mean Confidence Score	Standard Deviation	Sample Size (n)
With Geriatric Training	4.12	0.78	250
Without Geriatric Training	3.41	1.02	250

T-Test Analysis

t-value	Degrees of Freedom (df)	p-value	Significance
4.23	498	0.00002	Significant at $p < 0.05$

DISCUSSION

The purpose of the present research was to identify the current state of health professional education (HPE) in response to the needs of societies with aging populations. Given that aging has emerged as a major public health problem across the globe, there is a need to integrate educational curricula for healthcare practitioners. The research specifically focused on the integration of geriatric care into health profession curricula, challenges that instructors encounter, and outcomes of such instructional approaches. The discussion presents an analysis of the key results of the study, the comparison with existing literature, the implications

for healthcare education, and directions for future research.

According to the current most relevant study, there remains a large degree of curricular incorporation deficiency of geriatrics into HCE for health profession students; 62% of respondents disclosed no or only partial geriatrics incorporation into HCE. The finding is consistent with other studies that identified that geriatric care receives inadequate emphasis in the medical, nursing, and allied health curricula. Regarding the perceived importance of geriatric education as a whole, it has scored 4.3 out of 5 among the responding faculty members Y% of educators who are involved in teaching geriatrics have little

over a quarter of educators have a formal educational background in geriatrics; The she The explains the gap between the provision of geriatric education and faculty's geriatrics training. Some concerns raised after integrating geriatrics include; faculty paucity of knowledge, inadequate opportunities for clerkship, and an overburdened curriculum respectively. Teaching geriatric care through clinical exposure seems to be an efficient teaching strategy because students with clinical exposure had a higher confidence level in managing chronic illnesses in the elderly. A chi-square analysis confirmed that there remains significantly more invested in Geriatrics in the medical programs than in nursing and allied health programs, $p < 0.001$ although medical education has long been focused on specialization, and nursing and allied health programs have more curricular limits than the medical programs. The t-test also supported the notion of geriatric training as a strong foundation in confidence competency of students in the management of chronic diseases in geriatrics ($t = 4.23$, $p < 0.05$, two-tailed) thus indicating some level of adequacy in geriatric training.

The findings of The study correspond to the prior research about challenges and prospects of geriatric care implementation in the training of health workers. These earlier studies have shown that geriatric content is often offered only as an elective, or is included at the graduate level, meaning that current undergraduates would have had limited exposure to age-related health concerns [15, 16]. In a study by Stone et al., the faculty members admitted the importance of geriatric training, but frequent reasons for not having proper training were a lack of competent trainers and inadequate resources [17,18]. The study also notes that clinical experience greatly determines the level of self-confidence of the students in handling chronic diseases in the elderly, a fact supported by other research done elsewhere [19]. There it is argued that likeability exposes patients to clinical practices that help to develop and hone the skills needed when it comes to caring for the elderly with multiple conditions [20]. Also, The study raises the imperative of faculty development programs, as pointed out by a systematic review by Alvaro et al. that laid down the absence of the programs as the key challenge to undertaking geriatric curricula [21,22].

The implications of The study are important for the continued education and future provision of health care, as The study shows that the absence of geriatric training in healthcare workers predisposes the overall healthcare workforce to inadequate preparedness to contend with the increased demands of our aging population. That said, as the number of elderly people grows in the global population, their medical requirements are more significant. Since the nursing workforce has less

geriatric experience, it may result in poor treatment of these patients and, in turn, putting them at risk of delivering suboptimal health care, poor health care outcomes with compromised health, high-cost health care, and complications, which will tax our health care systems. Future healthcare workers are to be prepared for the task of ensuring optimal quality of care to the aging population To address The issue geriatrics education should be included at all levels of health professions education from the undergraduate level to the post-graduate level. Consequently, implications of The research indicate the need for systemic changes in the development of curriculum and preparation of health professionals including geriatric care inclusion in the foundational curricula. That underlines the need for preparation the of qualified personnel and a proper supply of all the essential tools to equip the faculties to offer good geriatric care. It may be useful for a focus on geriatric faculty development to address the current deficit of qualified professionals in The area to provide students with more effective and empirically supported education in aging and gerontology. The study demonstrates the importance of role mobilization on students' confidence in the management of chronic diseases in older adults and has significance in the clinical curriculum. To improve clinical practice, which translates into actual handling of the elderly, teaching hospitals should therefore try to provide more clinical practice for geriatric health for students to have practical experience. If exposed to The, it greatly increases their ability to be proficient in dealing with some of the leading health conditions that come with age, such as dementia, frailty, and multi-morbidity.

Several limitations exist with The study, though it has been insightful. First, it utilizes a cross-sectional survey causality cannot be ascertained. Even though the study offers useful information on the status of geriatric education it does not demonstrate a cause-and-effect relationship between the implementation of geriatrics within curricula and the readiness of the health care workforce. Second, the works and opinions of only a sample of healthcare educators and students in a few universities and healthcare institutions were surveyed, they may not effectively reflect the current situation of health profession education and practice in different areas. As such the findings may not apply to other educational settings or in other health care delivery systems. Third, the data collected were based on the responses from the students and educators eliminating the objectivity of the research for response tendency bias. , participants may have claimed to have more geriatrics training in their programs or less trouble integrating geriatrics into their curricula than we might have expected. Lastly, it was a combined quantitative and qualitative study; , the present qualitative analysis comprised only a few selected

respected professionals' interviews. More increase in the number of interviews and groups of focus may have provided more understanding of the challenges and ways by which geriatrics can be included in the preparation of health workers.

Several recommendations for future research and practice in adapting health professional education to the needs of an aging population can be made based on the findings of The study.

- **Longitudinal Studies:** research should be longitudinal in design to track the effect of curricular changes on the competence and confidence of healthcare professionals to care for geriatric patients. Studies of The kind could offer important clues as to the long-term impact of geriatric education on clinical practice.

- **Faculty Development Programs:** Faculty development programs in geriatrics are critically needed. more, future studies should investigate which are effective models for training faculty in geriatrics and the role of such training in improving the quality of education being imparted to students.

- **Increased Clinical Exposure:** Clinical placements in geriatrics should be increased by collaboration between healthcare institutions and academic programs. Future research should examine the efficacy of interdisciplinary clinical training in which students from different health professional programs learn together and work together in the care of older adults.

- **Curriculum Integration:** Geriatric care should be integrated across all health professional programs from the undergraduate to the graduate level in future curriculum reforms. Research should be conducted as to how geriatrics might best be integrated into varied health professional curricula, recognizing the special requirements and constraints of various programs.

- **International Comparisons:** Future studies should examine the level of geriatric education in different countries because the aging population is global. The identification of best practices and development of globally applicable strategies would be possible to help adapt health professional education to an aging population.

CONCLUSION

The study underscores the urgent need for adaptation of health professional education (HPE) to the challenges of an aging population. The findings show major gaps in the integration of geriatrics into health professional curricula, with a particularly large gap between medical, nursing, and allied health programs. Although healthcare educators appreciate the significance of geriatric education, there are significant barriers to providing geriatric education to healthcare providers, including a lack of faculty expertise, inadequate clinical exposure, and curriculum overload. the study also highlights the

way that geriatric training improves students' competence and confidence in managing older adult chronic conditions and the need for more robust, integrated geriatric education across all health professional programs. These findings have wide implications and directly impact the quality and outcomes of healthcare for the aging population. Improving the delivery of care requires the assurance that healthcare professionals are trained adequately in The area of care delivery and for dealing with the complex issues of aging and health concerns. Clinical exposure was increased by faculty development programs, and curriculum reforms are essential to closing the current gaps in geriatric education. research should be consistent with longitudinal studies, international comparisons, and models of effective curriculum integration to advance our preparation of healthcare professionals to meet the needs of an aging society.

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