

Integration of Soft Skills in 21st Century Health Education Curriculum: Strategies for Developing Healthcare Professionalism: Systematic Review

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ABSTRACT

The increasing complexity of global health challenges necessitates reforms in healthcare education, particularly in the training of soft skills. Healthcare education must equip future professionals with relevant skills such as critical thinking, creativity, empathy, and adaptability, which are essential in addressing various health challenges. This study is a systematic literature review aimed at exploring the integration of soft skills into 21st-century healthcare education curricula as a strategy for developing healthcare professionalism. The findings indicate that integrating soft skills into healthcare education curricula can enhance healthcare workers' job readiness and strengthen their ability to provide optimal healthcare services.

Keywords: *Soft Skills, Healthcare Education, Healthcare Professionalism, 21st Century Curriculum*

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I. INTRODUCTION

The continuously evolving global health challenges necessitate reforms in healthcare education, including medical training. Concerns have arisen about whether current education can adequately equip future healthcare professionals to address the global issues posed by communicable and non-communicable diseases. Healthcare workers and doctors are expected to have the knowledge, learning capabilities, and the ability to respond to these challenges effectively, working comprehensively and collaboratively. Soft skills in healthcare encompass three interrelated aspects: professionalism, practical work skills, and essential life skills (Abraham et al., 2021).



The integration of soft skills into healthcare education is increasingly recognized as essential for developing competent healthcare professionals. A review of global health competencies for postgraduate public health education highlights the importance of incorporating soft skills into curricula alongside core knowledge areas and technical skills (Sawleshwarkar & Negin, 2017)

Soft skills, which encompass professionalism, practical work skills, and essential life skills, are crucial in this context. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) emphasizes the importance of skills such as creativity, critical thinking, communication, and teamwork as essential for 21st-century learners (Majumder, 2024). These soft skills enable healthcare professionals to adapt to the evolving needs of the health sector and to apply the latest scientific evidence in their practice. Moreover, resilience and empathy are vital attributes that enhance the ability of healthcare workers to provide compassionate care and to navigate the complexities of patient interactions (Razi, 2023).

The student-centered learning (SCL) approach is recommended as a learning method in medical education and other healthcare professions. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) identifies essential skills for humans in the 21st century, such as creativity, critical thinking, collective decision-making, lifelong learning, communication and collaboration/teamwork skills, information management, and social responsibility, known as soft skills (Feyza , 2023). In addition to the specific skills required by each profession, soft skills help healthcare workers respond to the evolving needs of the health sector over time and to the latest scientific evidence. Resilience/adaptability and empathy are also crucial aspects for healthcare workers to perform optimally (Bozman, 2023).

Soft skills, particularly resilience, adaptability, and empathy, are fundamental for healthcare professionals to perform optimally in their roles. Empathy, in particular, has been shown to significantly impact patient



outcomes and satisfaction, as it fosters trust and effective communication between healthcare providers and patients (I, 2023). Research indicates that healthcare professionals who exhibit strong empathetic behaviors are better equipped to understand and address patient needs, leading to improved diagnostic performance and reduced medical errors (Bennett et al., 2020).

The cultivation of these soft skills is essential in preparing healthcare workers to navigate the complexities of modern healthcare environments, where interdisciplinary collaboration is increasingly necessary (Bozman, 2023). Incorporating soft skills training into healthcare education can enhance the ability of future professionals to respond to the latest scientific evidence and adapt to changing healthcare landscapes. For instance, studies have highlighted the importance of empathy training in medical curricula, suggesting that such training can lead to better patient-provider relationships and improved healthcare delivery (Karnesis, 2023). Additionally, the integration of SCL methodologies, such as problem-based learning and simulations, can further enhance the development of these critical soft skills among healthcare students (Moya-Salazar, 2023).

Research has shown that student-centered learning (SCL) approaches, such as Problem-Based Learning (PBL), enhance the development of soft skills among medical students. For instance, studies indicate that graduates from PBL programs report higher satisfaction with their education and perform better on standardized assessments compared to their peers from traditional educational models (Qiu et al., 2017). This highlights the effectiveness of SCL methodologies in fostering not only academic knowledge but also critical interpersonal skills such as communication, teamwork, and empathy, which are essential for healthcare professionals ("Snippets of Student Centric Methods for Postgraduate Teaching", 2023).

Moreover, the literature emphasizes the importance of resilience and adaptability as key soft skills for healthcare workers. In an era marked by rapid changes in healthcare delivery and patient needs, professionals must be equipped to respond effectively to new challenges. The incorporation of soft



skills training into health education curricula can significantly enhance the ability of future healthcare workers to navigate these complexities and provide high-quality care (Zhao et al., 2020). Additionally, the literature review can illuminate various pedagogical strategies that have been successfully implemented to integrate soft skills into health education.

II. METHODS

This study is a systematic review that seeks to explore the integration of soft skills in 21st-century health education curricula as a strategy for developing healthcare professionalism. The sources for this literature review include a systematic search through computerized databases on Google Scholar, using 15 internationally accredited journals. The search keywords are soft skills, health education curriculum, and healthcare professionalism. The inclusion criteria include research articles published in English or Indonesian, articles published between January 2014 and January 2024, original research articles, and articles discussing the integration of soft skills in health education. The exclusion criteria include opinion articles, review articles, and articles that do not focus on the development of soft skills or healthcare professionalism.

III. RESULTS

The table below reviewed studies regarding the critical role of integrating soft skills into health education curriculum across diverse contexts and healthcare disciplines.



No.	Writer/Years/Title	Country	Research Objectives	Type of Research	Method	Results
1	Riskiyani, et. Al. / 2022/ Towards improving soft skills of medical education in the 21st century: A literature review	Indonesia	The aim of this research is to identify and categorize the soft skills that are relevant and important to be included in the curriculum of medical and health professional education in Indonesia.	This type of research is qualitative, using literature review and Delphi study methods. The literature review is used to identify the soft skills needed in the health context, while the Delphi study is conducted in two rounds to reach a consensus among experts and practitioners regarding the soft skills that should be included in the curriculum of medical and health professional education.	Literature Review	There is a significant difference between the expectations and reality in mastering cognitive skills such as digital technology and critical thinking among future healthcare professionals, with expectations of mastery being higher than what is currently practiced in education. The integration of soft skills into health education curricula is essential to address the gap between expectations and reality in cognitive skill mastery, in order to support the development of healthcare professionalism in the 21st century.
2	Dolev, N. 2021. Making Soft Skills a Part of the Curriculum of Healthcare Studies	England	The purpose of this research is to develop a model and methodological tool (SE-SD) that	This type of research is developmental research. This developmental research aims to create a model and	This research method uses the development of a	Research indicates that the importance of developing social-emotional skills (soft skills) in health education curricula is increasingly recognized. Skills such as emotional self-awareness, self-regulation, empathy, and interpersonal relationships have been shown



can be used to integrate the development of social-emotional skills (SEI) into the existing health education curriculum.

methodological tool that can be used to integrate the development of social-emotional skills (SEI) into the existing health education curriculum. This approach typically involves a systematic process of designing, testing, and validating the developed model or tool to ensure that they are effective and applicable in the context of health education.

model and methodological tool for integrating social-emotional skills into the health education curriculum through a three-stage approach: preparation, action, and assessment.

to enhance adaptability, academic learning, and professional effectiveness in both medical teams and health management. To address the challenges of integrating these skills into the existing curriculum, a holistic SE-SD tool is proposed, which integrates social-emotional learning while addressing time constraints and workload issues. Effective implementation also requires support from faculty and ongoing training for healthcare professionals post-academically, to ensure the sustainability of these skill development efforts.

<p>3 Alghafary, N. A. (2020). The Availability of the 21st Century Skills in the Sport and Health for All Curriculum of the Undergraduate University Students in Al-Balqari</p>	<p>Jordania</p>	<p>This research aims to explore the extent to which 21st-century skills are available in the "Sports and Health for All" curriculum designed and introduced for university students at Al-Balqaa</p>	<p>This type of research is descriptive analytical research.</p>	<p>The research method used is descriptive analysis, which involves content analysis of the "Sports and Health for All" curriculum.</p>	<p>The research shows that learning and innovation skills are available at a moderate level (41.89%), information and technology skills are very low (0%), and life and work skills are also available at a moderate level (58.1%). Overall, 21st-century skills in this curriculum are available at a low level.</p>
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			University in Jordan.			
4	Lili, S. et al. (2019). Setting priorities for EU healthcare workforce IT skills competence improvement	Swedania	The purpose of this research is to identify and prioritize the actions needed to develop information technology (IT) skills competencies among healthcare professionals.	This research is a descriptive study with a systematic approach using the Child Health and Nutrition Research Initiative (CHNRI) methodology to establish priorities in developing IT skills competencies in the health sector.	This research method uses the CHNRI approach, which consists of four stages: (1) defining the context and criteria, (2) identifying potential actions, (3) evaluating and ranking actions based on relevant criteria, and (4) analyzing and prioritizing actions based on the scores obtained.	The actions that received the highest priority score are the integration of health information technology into the curriculum for healthcare professionals, with a score of 85.1. Other actions that also received high scores include continuous training for healthcare professionals, such as ensuring trainer competency (score of 84.5) and training on patient-centered eHealth services (score of 83.6). The actions that received the lowest priority scores include the introduction of online training tools (score of 72.5), identifying the IT skills competencies needed at the international level (score of 70.0), and enhancing training for potential healthcare professionals at the secondary and undergraduate levels (score of 47.8). Concerns about feasibility and maximum impact were key factors in this assessment.



5	Muammar, O.M. (2023). Saudi Soft Skills of Students in Arabia University: How Do Higher Education Institutes Respond to 21st Century Skills Demands?	The purpose of this research is to examine how 21st-century soft skills are developed in higher education, particularly from the perspective of gifted students in various health clusters in Saudi Arabia. This study also aims to compare students' perceptions of their mastery of soft skills with university expectations, as well as to explore the differences in perceptions among student groups based on ability, gender, and year of study.	This research is a quantitative study with a survey approach. The researchers collected data through a questionnaire designed to measure the mastery of soft skills among students.	The research method used is a survey utilizing five questionnaires specifically developed to measure 21st-century soft skills, namely: problem-solving, communication, planning, self-leadership, and leading others.	The results of the research indicate that there is a significant difference between students' perceptions of their mastery of 21st-century soft skills and the performance criteria set at a score of 80%. All average scores for students' soft skills, such as problem-solving, communication, planning, self-leadership, and leading others, were below this criterion value, with differences ranging from 3.39 to 8.88 points, indicating that the mastery of these soft skills is still inadequate. The effect of this difference is considered large based on Cohen's d effect size, highlighting the urgent need for improvement in these soft skills among students.
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6	Sawleshwarkar, S. et. Al. (2017) A Review of Global Health Competencies for Postgraduate Public Health Education	Australia	This research aims to identify and analyze the core competencies of global health that are relevant in the context of postgraduate public health education.	This research is a literature review that focuses on the analysis of various articles and publications related to global health competencies in public health education.	This research uses a systematic literature review method. The process involves searching for literature from various electronic databases.	Overall, these articles provide a comprehensive overview of the core competencies needed in global health education, including an emphasis on analytical skills, leadership, policy development, cultural awareness, as well as justice and ethics in health. These findings provide an important foundation for the development of a more integrated and relevant public health education curriculum that aligns with global needs.
7	Mountasir, E. Y. (2020). The importance of soft skills on high education for learning processes (Literature review)	Arab Saudi	The purpose of this research is to identify and analyze the core competencies in global health education, particularly in the context of public health education worldwide.	This research is descriptive, utilizing a literature review approach. This descriptive study aims to systematically and comprehensively describe the existing phenomena.	This research employs a systematic literature review method.	This research examines how teachers' perceptions influence the integration of soft skills in higher education and proposes recommendations for the development and evaluation of these soft skills.
8	Wan Idriss, et. al (2023) Integration of Soft Skills in Nursing	Malaysia	This research aims to identify, critically	This research is a narrative review aimed at analyzing and synthesizing the	The researchers conducted an in-	The research shows various interpretations of soft skills in the nursing profession, including non-technical skills (NTS), caregiving skills, and different



<p>Clinical Evaluation: A Narrative Analysis</p>	<p>analyze, and synthesize the integration of soft skills components in clinical evaluation for undergraduate nursing students.</p>	<p>existing literature on the integration of soft skills in clinical evaluation. The study does not focus on the collection of primary data but rather assesses the evidence from the existing literature.</p>	<p>depth literature search using databases such as EBSCO, ProQuest Dissertation and Theses, and ProQuest Nursing Journal. Inclusion and exclusion criteria were established to filter relevant articles.</p>	<p>forms of knowledge such as intuition, tacit knowledge, effective communication skills, the art of nursing, and team-building skills.</p>
<p>9 Yulizawati, dkk. (2023). Indonesia Integration of Soft Skills in Student Center Learning Methods and Student Assessment in Block 2C. Adolescent</p>	<p>This research aims to evaluate the effectiveness of integrating soft skills within a</p>	<p>This type of research is a quasi experiment. It is not entirely experimental because it does not</p>	<p>The research was conducted on students in</p>	<p>This research produced several findings and outputs related to the development and integration of soft skills in the context of adolescent health and preconception, as well as enhancements to clinical assessment guidelines and instruments.</p>



Health and Preconception	and	<p>Student-Centered Learning (SCL) model in Block 2C (Adolescent Health and Preconception) of the midwifery education curriculum. The focus is on improving student learning outcomes through the integration of soft skills, compared to assessment methods that only measure cognitive skills.</p>	<p>involve randomization, but it still tests the effects of the intervention on a designated group.</p>	<p>the Midwifery Study Program who participated in Block 2C, with a total population of 50 individuals, using total sampling as the sampling technique..</p>		
10	<p>Lee, N. E. (2018). Skills for the 21st Century: A Meta-Synthesis of Soft-Skills and Achievement</p>	Canada	<p>This research aims to identify and understand the deficiencies in</p>	<p>Students are able to understand the basic concepts of Adolescent Health and Preconception.</p>	<p>The use of the STAD method in the DKK assessment</p>	<p>This meta-synthesis research reveals that although the reviewed articles cover various topics related to soft skills, only one article specifically addresses the relational aspects of soft skills and</p>



soft skills among adult learners by synthesizing recent studies in Canada on this topic.

instrument achievements among undergraduate students. Overall, these articles provide a deep understanding of emotional intelligence and soft skills as essential elements in various life contexts.

<p>11 Maulana, N. (2023). EM Direcao A Uma Educacao Superior sustentavel: Integrando o Desenvolvimento De Habilidades Levels No Curriculo da Descola De Negocios Na Indonesia</p>	<p>Brazil</p>	<p>This research aims to explore how the development of social skills (soft skills) can be integrated into the business school curriculum, particularly in Indonesia.</p>	<p>This research is qualitative with a case study approach. The qualitative study aims to gain an in-depth understanding of the implementation of the social skills curriculum at PPM Business School, as well as various factors affecting its effectiveness and application.</p>	<p>This research uses a case study design focusing on PPM Business School, the first business school in Indonesia to have integrated social skills into its curriculum.</p>	<p>The research found that the implementation of social skills at PPM Business School utilizes an autonomous approach. The curriculum consists of four main courses: Self-Development Course, Team Development Course, Community Development Course, and an Internship Program.</p>
<p>12 Ozkan, et. al. 2023. Development and Integration of Health Literacy Education</p>	<p>Europe</p>	<p>This project aims to improve health literacy among</p>	<p>This research is applied research with a collaborative project approach.</p>	<p>Design and Methodology: Program</p>	<p>The findings from the HELEM-EU project revealed that many doctors feel inadequately prepared in applying health literacy, despite acknowledging its</p>



with Innovative Methods in Medical Curricula Across Europe	medical students and other healthcare professionals, which is expected to enhance health communication and the understanding of health information within the community.	The project involves various higher education institutions and international partners to develop and implement an innovative health literacy curriculum in medical education.	Development: This involves developing a health literacy education program, including teaching methods and participatory training techniques for medical students.	importance. The study highlighted the need to integrate health literacy training into medical education curricula to improve doctor-patient communication and healthcare effectiveness. Interviews with educators identified socio-cultural and economic factors as significant influences on health literacy, with misinformation being a major concern. Program evaluation showed that 76.9% of participants rated the program as excellent, with a significant improvement in knowledge and communication skills.	
13 Yunus, S. dkk. (2023) Knowledge And Perception Of Soft Skills Among Medical Students And Postgraduate Residents At Services Hospital Lahore	Pakistan	This research aims to assess the perceptions of medical students and postgraduate residents regarding soft skills and the need to incorporate	A cross-sectional descriptive study was conducted at the Services Institute of Medical Sciences and Services Hospital in Lahore from January 1 to March 31, 2023. A total of 192 participants, divided into two groups	A cross-sectional descriptive study was conducted at the Services Institute of Medical Sciences and	Residents demonstrated better skills in educating and motivating patients, solving problems in critical situations, and managing ethical conflicts compared to medical students. They also reported receiving more training and assessment in communication skills, critical thinking, time management, and leadership than medical students. The study concluded that the integration of soft skills into health education programs is essential to enhance



<p>these skills into the educational curriculum.</p>	<p>(final-year medical students and first-year postgraduate residents), were given a validated questionnaire to assess their soft skills.</p>	<p>Services Hospital in Lahore from January 1 to March 31, 2023. A total of 192 participants, divided into two groups (final-year medical students and first-year postgraduate residents), were given a validated questionnaire to assess their soft skills.</p>	<p>patient care and prepare both medical students and residents to face professional challenges.</p>
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<p>14</p>	<p>Millanzy, et. al. 2022.</p>	<p>Tanzania</p>	<p>This research aims</p>	<p>This study is a double cluster-</p>	<p>The research</p>	<p>The final findings indicate that the soft skills of adolescents participating in both</p>
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reproductive health lesson materials in a problem-based pedagogy on soft skills for safe sexual behaviour among adolescents: A schoolbased randomized controlled trial in Tanzania

examine the randomized method effects of controlled trial used is integrated conducted between quantitative reproductive September 2019 and e. health September 2020, curriculum involving 660 within randomly selected adolescents. Soft problem-based pedagogy on behavior were enhancing adolescents' Soft skills for safe sexual behavior were measured using the behavior were measured using the Sexual Risk Behavior and Self-Esteem Belief Scale adapted from previous studies. Descriptive statistical analysis was performed using version 9.4 of statistical software, and the intervention effects were determined using a Linear Mixed Model with a significance level of $\alpha = 5\%$ and $\beta = 0.80$.

hybrid and pure Problem-Based Pedagogy (PBP) are significantly higher than those in the control group, both in evaluations immediately following the intervention and at 3- and 6-month follow-ups. This intervention substantially improved soft skills related to safe sexual behavior and contributed to adolescents' intentions to delay sexual relationships and negotiate condom use. The research suggests integrating PBP into the high school curriculum to better prepare adolescents for a healthy adult life.



15	Dhar, et. al. 2023. Unlocking the Healing Potential: Exploring the Imperative of Soft Skills in Physiotherapy Practice	Bangladesh	This research aims to highlight the importance of soft skills in modern physiotherapy practice. Soft skills, including empathy, effective communication, and relationship-building abilities, are considered crucial elements in enhancing the quality of interactions between physiotherapists and patients.	Literature review	The research is conducted through a literature review.	The majority of physiotherapists (over 70%) rated soft skills as "Very Important" on the assessment scale. This indicates a strong consensus among respondents regarding the significance of soft skills in their profession. These skills are considered essential for creating a therapeutic interface between patients and physiotherapists.
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IV. DISCUSSION

The research from Riskiyani et al. (2022) indicate a significant discrepancy between expectations and reality in the mastery of cognitive skills, such as digital technology and critical thinking, among future healthcare professionals. Prior to the integration of soft skills, the mastery of cognitive skills was measured to be lower than expected. The study concludes that the integration of soft skills into health education curricula is essential to bridge this gap and support the professionalism of healthcare workers in the 21st century.

Dolev (2021) developed the SE-SD model to integrate social-emotional skills (SEI) into health education curricula. This research demonstrates that skills such as emotional self-awareness, self-regulation, empathy, and interpersonal relationships positively impact professional effectiveness. The SE-SD model helps address time constraints and workload issues within health education curricula, highlighting the importance of support from faculty and ongoing training for post-academic healthcare professionals.

According to Alghafary (2020), 21st-century skills in the "Sports and Health for All" curriculum at Al-Balqaa University in Jordan are available at a low level. Learning and innovation skills are available at a moderate level, while information and technology skills are extremely low. This research suggests the need for improvements in the provision of 21st-century skills within the curriculum.

Lili et al. (2019) used the CHNRI methodology to prioritize the development of IT skills competencies in the healthcare sector. This research indicates that the integration of health information technology into the curriculum is highly prioritized, with the highest scores assigned to continuous training and trainer competencies. The study also emphasizes the



need for enhanced training and the identification of IT skill competencies required at the international level.

Muammar (2023) examined how 21st-century soft skills are developed in higher education, particularly from the perspective of gifted students in Saudi Arabia. The study revealed a significant discrepancy between students' perceptions of their mastery of soft skills and university expectations, with the average scores for students' soft skills falling below the established criteria. This research highlights the urgent need to enhance soft skills among students.

Sawleshwarkar et al. (2017) conducted a literature review on core competencies in global health within postgraduate public health education. The findings highlighted the importance of analytical skills, leadership, policy development, and socio-cultural awareness in the global health education curriculum. These results provide a strong foundation for the development of a more integrated curriculum.

Mountasir (2020) discusses how teachers' perceptions influence the integration of soft skills in higher education. The study reveals that despite an awareness of the importance of soft skills, their integration into the curriculum is often insufficient. The research recommends enhancing the development and evaluation of soft skills in higher education.

Wan Idriss et al. (2023) analyze the integration of soft skills in clinical evaluations for undergraduate nursing students. The study demonstrates that soft skills such as communication and team-building are crucial in the nursing profession, highlighting the variations in interpretations of these skills present in the literature.

Yulizawati et al. (2023) evaluated the effectiveness of integrating soft skills into the Student Centered Learning (SCL) model during Block 2C (Adolescent Health and Preconception). The study found that the integration of soft skills significantly enhances students' learning outcomes compared to assessment methods that only measure cognitive skills.

Lee (2018) conducted a meta-synthesis on the deficiencies of soft skills among adult students in Canada. This research revealed that emotional



intelligence and soft skills are vital yet often neglected in academic contexts. The findings underscore the significance of soft skills in various life scenarios.

Maulana (2023) explored the integration of social skills into the business school curriculum in Indonesia. The study highlighted that Sekolah Bisnis PPM successfully incorporated social skills through an autonomous approach, featuring courses focused on self-development, teamwork, community engagement, and internships.

Ozkan et al. (2023) developed and implemented a health literacy curriculum in medical education across Europe. The study demonstrated that integrating health literacy into the medical education curriculum is crucial for enhancing doctor-patient communication and improving the effectiveness of healthcare services.

The integration of soft skills into health education is not just beneficial but imperative for the holistic development of healthcare professionals. Addressing existing gaps and implementing innovative, context-specific strategies will foster a workforce that is competent, compassionate, and adaptive to future healthcare demands.

V. CONCLUSION AND SUGGESTION

Based on the systematic review, it can be concluded that the integration of soft skills into health education curricula is a strategic step to enhance the professionalism of healthcare workers in the 21st century. The reviewed research highlights that cognitive skills, such as digital technology and critical thinking, often do not meet expectations among future healthcare professionals without the integration of soft skills. The SE-SD model, which incorporates social-emotional skills into health education, has proven to improve professional effectiveness by developing skills such as emotional self-awareness and self-regulation. Additionally, 21st-century skills, including information technology and analytical abilities, require greater attention in curricula, especially in higher education settings.

The evaluation of the effectiveness of integrating soft skills across various contexts, such as the Student-Centered Learning (SCL) model and



health literacy, also indicates improved learning outcomes and quality of healthcare services. Overall, these findings support the integration of soft skills as an essential component in health education curricula to ensure that healthcare professionals are well-prepared to face global challenges in the 21st century. This approach not only enhances individual competencies but also contributes to better patient care and communication within the healthcare system.

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