

Healthcare Education for a Sustainable Future

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Introduction

The imperative to integrate sustainability into healthcare education has become a global focal point, recognized as crucial for preparing future health professionals to address complex global challenges. This includes equipping them to tackle climate change and the pervasive social factors affecting health, ultimately fostering a healthcare workforce that is more environmentally and socially aware [1].

This broader movement involves embedding sustainability principles directly into medical training, ensuring a more holistic understanding of health and better preparing future doctors for these responsibilities [2].

Medical educators play a vital role in this transformation, moving beyond traditional medical training to cultivate a deeper understanding of ecological and societal health determinants, which promotes more resilient health systems [3].

Across various health disciplines, scoping reviews consistently highlight the evolving landscape of sustainability integration and areas needing further development. For instance, nursing education needs to more intentionally embed principles of environmental, social, and economic sustainability, empowering nurses to advocate for and practice sustainable healthcare [4].

Similarly, allied health professions require their training to explicitly incorporate environmental responsibility, resource management, and social equity to effectively contribute to sustainable healthcare systems [5].

Physiotherapy programs must also evolve to better prepare graduates to practice sustainably, considering healthcare's environmental footprint and the long-term well-being of both patients and the planet [7].

The integration of sustainable development principles specifically into nursing and midwifery curricula is crucial, underscoring the importance of these professionals understanding and addressing environmental and social determinants of health to contribute to resilient and equitable global health systems [10].

Educating future doctors for sustainable healthcare is another significant area, with systematic reviews synthesizing findings from various studies, identifying current teaching methods and their effectiveness. Medical education, in this context, needs to deliberately equip students with the knowledge and skills for environmental stewardship and social equity in their practice, guiding them towards a resilient and responsible healthcare system [8].

Furthermore, the integration extends to specific health challenges. For non-communicable diseases prevention, sustainable health education strategies emphasize methods that are informative, adaptable, culturally sensitive, and empowering. These approaches promote lasting behavior change and health equity, moving beyond temporary interventions [9].

Beyond formal curricula, sustainable health promotion strategies are also being explored through community-based participatory research. This approach involves communities directly in identifying health needs and developing solutions, fostering strategies that are not only effective but also culturally relevant and long-lasting, creating sustainable health impacts [6].

The body of work collectively emphasizes a fundamental shift in healthcare education, advocating for curricula that proactively address the ecological and social dimensions of health, thereby nurturing a generation of health professionals ready to meet the demands of a sustainable future. What this really means is a comprehensive redesign of professional training to ensure environmental and social awareness is not an add-on, but an intrinsic component of clinical competence and public health leadership. This holistic integration is paramount for fostering healthcare systems that are not only effective in treatment but also deeply committed to planetary and community well-being.

Description

The discourse surrounding sustainable healthcare education reveals a global movement towards integrating environmental and social consciousness into professional training. Several scoping reviews underscore the foundational need for this shift, particularly in traditional healthcare disciplines. For instance, a review exploring education for sustainable development (ESD) within healthcare curricula emphasizes its critical role in preparing future professionals to confront climate change and social determinants of health. This work identifies existing gaps and proposes improvements to cultivate a healthcare workforce that is proactively environmentally and socially aware [1]. Similarly, the integration of Sustainable Development Goals (SDGs) into medical education globally is under scrutiny, with research highlighting current approaches and significant curriculum gaps. These findings stress the necessity for medical schools to better equip future doctors for complex global health challenges by embedding sustainability principles, thus fostering a more holistic understanding of health [2]. The overarching sentiment is that educating for sustainable healthcare is a global imperative, requiring medical educators to move beyond conventional training to instill a deeper appreciation for ecological and societal health determinants, ultimately strengthening health systems resilience [3].

The specific applications of sustainability in nursing and allied health professions are also a focal point. A dedicated scoping review on sustainability in nursing education reveals both progress and areas needing further development. It advocates for educational programs to more intentionally embed environmental, social, and economic sustainability principles, empowering nurses to effectively advocate for and practice sustainable healthcare [4]. This perspective is echoed in a broader review concerning nursing and midwifery curricula, which investigates how sus-

tainable development principles are integrated. This research reinforces the importance of preparing these vital healthcare professionals to grasp and address the environmental and social determinants of health, contributing to more resilient and equitable health systems worldwide [10]. For allied health professions, a comprehensive review examines sustainability education, identifying current practices, key themes, and curriculum development gaps. The consensus is that training must more explicitly incorporate environmental responsibility, resource management, and social equity for these professionals to contribute meaningfully to sustainable healthcare systems [5].

Physiotherapy education also faces the imperative to integrate sustainability. A scoping review on sustainability content within physiotherapy education maps out current practices and highlights areas requiring more focused attention. This implies that physiotherapy programs must adapt to better prepare graduates for sustainable practice, which includes considering the environmental footprint of healthcare services and the long-term well-being of both patients and the planet [7]. Beyond specific disciplines, the broader medical community is actively reviewing its educational paradigms. A systematic review examining how future doctors are educated for sustainable healthcare synthesizes findings from various studies, identifying current teaching methods and their effectiveness. The review concludes that medical education must more deliberately arm students with the knowledge and skills necessary for environmental stewardship and social equity in their practice, guiding the evolution towards a healthcare system that is inherently resilient and responsible [8].

Moreover, the scope of sustainable health education extends to specific public health challenges and community engagement. In the realm of non-communicable diseases (NCDs) prevention, a systematic review compiles effective sustainable health education strategies and their underlying principles. This research demonstrates that long-term success in NCD prevention hinges on educational methods that are not only informative but also adaptable, culturally sensitive, and empowering for individuals and communities. Such approaches promote lasting behavior change and health equity [9]. Concurrently, sustainable health promotion strategies through community-based participatory research offer a practical example of direct community involvement in identifying health needs and co-developing solutions. This case study highlights how genuine community engagement fosters strategies that are effective, culturally relevant, and long-lasting, moving beyond temporary interventions to create sustainable health impacts [6]. What this means for healthcare education broadly is a pivot towards curricula that are globally aware, community-centric, and environmentally conscious, fostering professionals who are not only clinically competent but also stewards of planetary health.

Conclusion

This body of research consistently highlights the paramount importance of integrating sustainability and sustainable development principles into healthcare education across diverse disciplines. Numerous scoping and systematic reviews critically examine current educational practices, identifying significant gaps and proposing crucial improvements within medical, nursing, midwifery, physiotherapy, and other allied health curricula. The overwhelming consensus indicates an urgent necessity to prepare future healthcare professionals to effectively address complex global health challenges, the pervasive impacts of climate change, and the crucial social determinants of health. This preparation involves fostering environmental stewardship, promoting responsible resource management, and embedding principles of social equity directly into their daily practice. The studies collectively reveal that current training often falls short, underscoring the need for a more intentional and explicit embedding of sustainability concepts. The ultimate goal is to cultivate a healthcare workforce that is not only clinically proficient but

also deeply environmentally and socially aware, fully capable of promoting and maintaining resilient health systems. Furthermore, the compiled data extends beyond formal education to explore practical applications, touching upon sustainable health promotion strategies. Notably, community-based participatory research emerges as an effective approach, demonstrating the profound impact of genuine community engagement in developing and implementing culturally relevant, long-lasting health solutions and in the prevention of non-communicable diseases. The collective findings robustly advocate for a fundamental paradigm shift towards a holistic healthcare education model, one that fully embraces ecological and societal dimensions, thereby ensuring that future professionals are comprehensively equipped for the demands of a sustainable future.

Acknowledgement

None.

Conflict of Interest

None.

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How to cite this article: Lopez, Martina. "Healthcare Education for a Sustainable Future." *J Health Edu Res Dev* 13 (2025):187.

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Received: 01-Apr-2025, Manuscript No. jbhe-25-172298; **Editor assigned:** 03-Apr-2025, PreQC No. P-172298; **Reviewed:** 17-Apr-2025, QC No. Q-172298; **Revised:** 22-Apr-2025, Manuscript No. R-172298; **Published:** 29-Apr-2025, DOI: 10.37421/2380-5439.2025.13.187
