

SUSTAINABILITY IN HEALTH AND HEALTH CARE PROVISION

Abstract

Sustainable healthcare entails delivering top-notch care without causing harm to the environment, remaining affordable both now and in the future, and creating a positive societal impact. This course offers insight into a sustainable health system based on the principles of planetary health, with a broader emphasis on enhancing the health of populations. Health systems currently consume excessive quantities of materials, energy, chemicals, and water while generating substantial amounts of often hazardous waste. A well-organized sustainable healthcare system employs resources in ways that influence people's health positively. Additionally, sustainable healthcare can play a significant role in achieving carbon reduction goals outlined in the Paris Agreement, the NHS net zero commitments, and the broader United Nations Sustainable Development Goals. The World Health Organization defines a Sustainable Healthcare System as one that improves, maintains, or restores health while minimizing negative impacts on the environment and capitalizing on opportunities to enhance the health and well-being of present and future generations.

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I. INTRODUCTION

Sustainable healthcare aims to reduce its environmental impact while delivering high-quality care at an affordable cost, ensuring the well-being of future generations. Recognizing the inherent connection between human health and the environment, sustainable healthcare involves actions that promote the welfare of both people and the planet. As the healthcare industry's environmental impact is expected to increase due to factors like population growth, unhealthy lifestyles, rising chronic diseases, an aging population, and improved healthcare access in the coming decades, adopting sustainable healthcare practices becomes increasingly important.

II. SUSTAINABLE HEALTHCARE IS GROUNDED IN THREE FUNDAMENTAL PRINCIPLES

- 1. Emphasis on Prevention:** Encouraging individuals to actively participate in their own health through healthy behaviours such as smoking cessation, maintaining a healthy weight, physical activity, and a balanced diet can lead to reduced healthcare service utilization and resource consumption. Early disease detection, through screenings and tests, can also result in less resource-intensive care and better patient outcomes.
- 2. Digital Solutions:** Leveraging virtual healthcare consultations, AI-powered remote condition analysis, and advanced digital imaging in dentistry can support sustainable healthcare by delivering appropriate treatment options on the first attempt, reducing the need for multiple clinic or hospital visits and associated resource consumption.
- 3. Environmental Impact Reduction in Care:** Integrating high-quality care with reduced environmental impact is essential. This includes initiatives like using renewable energy sources for healthcare facilities, improving waste management, and transitioning to sustainable products and suppliers. Reducing hospital stays when clinically appropriate and minimizing redundant tests or unnecessary procedures are also crucial steps. Furthermore, assessing the environmental impact of different treatments alongside their clinical effectiveness can help healthcare professionals make informed decisions that are both clinically effective and environmentally responsible.

III. THE INTERSECTION OF HEALTHCARE QUALITY AND SUSTAINABILITY

Achieving a health system that is socially, environmentally, and financially sustainable necessitates clinical leadership. However, few healthcare professionals possess the conceptual framework and practical skills required to create innovative care models. By integrating sustainability principles into quality improvement and quality control, practitioners can make global health preservation an integral part of their practice. The integration of sustainability concepts and technologies into education and practice can equip healthcare professionals with the skills necessary to deliver treatment and measure need effectively.

Healthcare quality improvement encompasses various domains, including patient experience, safety, effectiveness, efficiency, equity, and timeliness. Sustainability is a quality

domain that must underlie and moderate other domains, considering the delivery of care for current patients, the broader population, and future generations.

Sustainability in Quality Improvement (Sus QI) is an innovative framework that integrates environmental, social, and economic sustainability into established quality improvement methodologies. It is defined as "an approach to improving healthcare comprehensively, assessing quality and value through a triple bottom line perspective."

1. Environmental Sustainability: The project team holds an ethical responsibility to promote environmentally sustainable practices throughout the design and construction of the new hospital. Key environmental design concepts for the new hospital include elevating the building's ground level to accommodate rising sea levels.

2. Sustainable Healthcare Initiatives

Energy Efficiency and Environmental Impact Reduction:

- Decrease energy consumption by implementing solar energy and ventilation systems.
- Enhance local biodiversity and cool buildings to mitigate environmental impact.
- Harvest rainwater for irrigation and toilet flushing.
- Reduce carbon footprint through the use of renewable energy sources.

Health Risks Associated with Climate Change:

- Heat-related illnesses, similar to recent global trends, pose risks such as heart and lung diseases.
- Air pollution can lead to respiratory issues like asthma, high blood pressure, smog, and increased hospitalizations.
- Concerns about maternal, infant, and child health are rising due to prolonged exposure to heat and sunlight, increasing the risk of skin cancer.

3. Global Warming and Disease Spread

- Global warming contributes to an increase in diseases, even in regions previously unaffected.
- Changes in weather patterns create new breeding grounds for diseases like those carried by mosquitoes (e.g., malaria, dengue fever, Zika).

4. Mental Health Impact

- Climate change is linked to mental health issues, from post-traumatic stress disorder (PTSD) to suicide.
- Nearly half of climate change survivors worldwide experience mental health problems.

5. Challenges to Healthcare Delivery

- Climate change poses threats to healthcare delivery as severe weather events damage healthcare facilities.
- Flooded roads and infrastructure damage can hinder access to basic medical services.

6. Social Sustainability

• Enhancing Healthcare Connectivity

- Promote hospital transparency and patient visits by creating central courtyards.
- Focus on critical services to improve healthcare quality outcomes.

• Patient Recovery and Equity

- Improve patient recovery by controlling infections and offering autologous grafts.
- Enhance access and equity by decentralizing primary healthcare to smaller centers.

7. Economic Sustainability

• Poverty and Health Impact

- Poverty correlates with poor health outcomes, emphasizing the need for financial sustainability in healthcare.
- Strategies include capacity building, renewable energy adoption, waste reduction, and staff training.

8. Healthcare Sustainability Measures

• Community-Centered Care

- Shift the focus from treating diseases and injuries to health management and promotion.
- Transition care from hospitals to community centers and eventually homes, emphasizing preventive measures and health management.
- Indian Healthcare Sector and Sustainable Development:

IV. NITI AAYOG'S SUSTAINABLE DEVELOPMENT GOALS (SDGS) INDEX

NITI AAYOG developed an SDG Index to assess the progress of Indian states and Union Territories in various parameters, including healthcare, education, gender equality, and environmental protection. The index, in partnership with the United Nations, monitors states and Union Territories on 115 metrics aligned with the National Index System. Kerala topped the NITI Aayog India SDG Index 2020-21, while Haryana, Mizoram, and Uttara hand showed significant improvements since 2019.

V. CHALLENGES AND THE NEED FOR SYSTEM RE IMAGINATION

Reforming Healthcare Systems: Structural reforms, changes in payment methods, and organizational adjustments alone may not ensure healthcare system stability and growth. A fundamental reimagining of healthcare delivery, including a shift toward forward-funded systems and social commissioning, is essential for long-term sustainability.

The collaboration for developing the index involved a partnership with the United Nations. This index monitors all states and Union Territories using 115 metrics that align with the National Index System of the Ministry of Statistics and Program Implementation. This tool plays a significant role in facilitating dialogue, the formulation of policies, and the implementation of targeted initiatives. It helps in identifying gaps in monitoring and underscores the importance of establishing indigenous statistical programs in India.

This index serves the purpose of identifying weaknesses in the implementation of Sustainable Development Goals (SDGs) and emphasizes the need to develop native statistical systems. In the NITI Aayog India SDG Index 2020-21, Kerala secured the top position, while Haryana, Mizoram, and Uttarakhand showed remarkable improvements in their rankings since 2019.

The challenges to achieving sustainability in global healthcare systems are such that mere structural or organizational reforms, and even changes in payment methods, won't suffice to attain the desired stability and growth. Instead, a fundamental imagination of healthcare is required. This transformation necessitates a shift from transactional, pay-as-you-go care delivery to a fully forward-funded healthcare system that invests in future health and economic dividends. Publicly funded systems must adopt a social commissioning approach for this transition.

A forward-funded healthcare system will inherently adopt a more proactive and preventative approach, addressing a wide spectrum of social determinants of disease. Successful examples, such as the Accident Rehabilitation and Compensation Corporation in New Zealand, demonstrate the feasibility of such a transition. However, this shift is challenging, potentially expensive, and requires consideration of various broader policy issues. Therefore, jurisdictions should explore whether there are more cost-effective and readily achievable interim solutions that can achieve most of the benefits associated with a fully forward-funded system.

In conclusion, maintaining a sustainable healthcare system while delivering high-quality, effective, and safe healthcare poses significant economic and social challenges for healthcare services and consumers. The potential for cost savings through efficient resource utilization in healthcare systems is evident, but there is still a considerable journey ahead for environmentally friendly healthcare facilities and practices to become the standard. Collaborative efforts among European Union healthcare systems and a shared vision for future actions would be instrumental in realizing these goals.

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