Developing a Strategy & Engagement Plan to Increase Staff Participation in Sustainable Healthcare

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Disclaimer

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This project was conducted under the mentorship of BC Cancer Planetary Health Unit members and the Energy and Environmental Sustainability (EES) team. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of BC Cancer, the Energy and Environmental Sustainability team or the University of British Columbia.

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Executive Summary

Background: Climate change has significant consequences for human health and the delivery of healthcare services. Providing healthcare is resource and energy intensive, accounting for 4.6% of national greenhouse gas emissions, thereby contributing to the health harms of climate change. The transition to low-carbon, low-waste, high-quality and sustainable healthcare service delivery will require system-level transformations and will require participation from frontline healthcare workers. To date, few studies have specifically evaluated barriers to and strategies for engagement of frontline healthcare workers in low carbon, low waste healthcare.

Purpose: To assess frontline healthcare worker knowledge and readiness to participate in low-carbon, low-waste, high-quality sustainable practices at BC Cancer

Methods: We conducted a qualitatively driven quality improvement project. Using non-probabilistic convenience sampling, we conducted semi-structured interviews with 12 frontline healthcare workers. Data was analyzed iteratively using the qualitative data management software NVivo™.

Results: Participants expressed an awareness of sustainable healthcare activities and a high degree of willingness to participate in low-carbon, low-waste, high-quality sustainable practices. This reflects a promising shift towards a greener, more responsible healthcare sector, setting an inspiring example for broader societal change.

Recommendations: To engage clinicians effectively, BC Cancer should implement green purchasing policies, promote a positive workplace culture, and involve patients. Transparent advertising, staff empowerment, and media campaigns can also drive clinician buy-in, while international collaboration fosters global sustainability adoption.

Background

Clinical engagement in the context of BC Cancer care center involves the active collaboration and involvement of healthcare professionals, including nurses, physicians, specialists, and other direct care staff, in the planning, improvement, and delivery of patient care within the oncology unit.[1] It involves nurturing a sense of shared responsibility, ownership, and commitment amongst oncology clinical staff towards achieving the best possible outcomes for cancer patients. This engagement extends beyond oncology clinical practice to encompass multidisciplinary collaboration, research, and continuous quality improvement efforts.[1] In healthcare sustainability, its aims include promoting prevention, using data for improvement, reducing unnecessary procedures, optimizing resources, early detection, and enhancing patient safety and satisfaction while controlling costs for the cancer center. [2] Clinical engagements can significantly influence greenhouse gas emissions by fostering collaboration among healthcare professionals to implement sustainable practices and reduce the carbon footprint of healthcare delivery.

Greenhouse gas emissions and waste generated by healthcare activities have significant implications for the health harms associated with current climate crisis. [3] Globally, the healthcare sector is significant contributor to greenhouse gas emissions with emissions arising from the supply chain (scope 3), direct (scope 1) and indirect (scope 2) energy use. The pollution and emissions lead to a range of health consequences, including adverse effects on water and air quality, extreme weather events, and the spread of infectious diseases all of which disproportionately affect vulnerable populations. [4] Reducing carbon emissions and waste in the health sector is vital in addressing these health risks and advancing climate resilience. Canada's commitment to the World Health Organization's Sustainable, Climate-Resilient Healthcare Pledge, signed at COP 26 underscores the importance of this endeavor, aligning the country with global efforts to mitigate the health impacts of climate change and create a sustainable and resilient healthcare system that benefits both current and future generations. [5]

To advance clinicians participation in sustainable healthcare, this project was born in collaboration with the BC Cancer Planetary Health Unit, the EES team, and the UBC Sustainability Program. This project seeks to explore BC Cancer front line staff knowledge levels, and their preparedness to participate in sustainable activities at work. The project is a quality improvement project and through qualitative one-on-one interviews, we aim to highlight the crucial and pivotal role that direct care staff could play in promoting planetary health through sustainable activities at work. By proactively engaging front line clinical teams in low carbon, sustainable healthcare, BC Cancer can contribute to a healthier, more resilient, and sustainable future.

Methods

The project is an evaluation/quality improvement project; a collaboration between the UBC Sustainability Scholars Program, BC Cancer Planetary Health Unit (BCCPHU), and the regional Energy and Environmental

Sustainability (EES) Team. Twelve participants were recruited through an open invitation email to BC direct care clinicians and staff through their email portal (bccancer.bc.ca).

Sample

We interviewed 12 healthcare professionals from BC Cancer, which included physicians (7) and other health professionals (5). There was an equal representation of age groups (6 ≤49 years, 6 ≥50 years) and gender distribution (4 men, 7 women, 1 undisclosed). Work locations were balanced between 8 in the Lower Mainland and 4 in other regions. Experience in the oncology setting varied, with 4 participants having ≤10 years, 7 with ≥11 years, and 1 missing data.

Data Collection & Analysis

Data collection included a short survey on demographic information and questions related to climate (5-10 minutes); and a semi structured interview (30–45-minutes) exploring participants experiences, perspectives, and insights on BC Cancer's care sustainability practices. Interviews were audio recorded, transcribed verbatim, de-identified, and analyzed using inductive coding on the data management software NVivo™. [6]

Findings

Data was analyzed under four main themes: knowledge base on climate change; willingness to participate in sustainable healthcare activities; barriers and support with sustainable healthcare; and co-benefits.

1) Knowledge base

Participants understood human activities are responsible for climate change and environmental damage, leading to adverse changes such as air and water pollution, extreme weather events fires, food insecurity, and biodiversity loss. There were varied insights into factors contributing to adverse environmental impact at BC cancer including paper waste, plastic waste related to single use items, chemotherapy drugs and radiation therapy equipment. Efforts to reduce waste were noted, including recycling, turning off lights, equipment, and computers at close of day, using telemedicine when appropriate, and use of active transportation where possible. Respondents indicated understanding of the impacts of climate change on human health including air pollution, lung cancer, mental health impacts leading to increased burden on the healthcare system. Participants were able to describe BC Cancer's efforts at addressing climate change including the BC Cancer Planetary Health Unit and Greencare Leaders, presentations on climate change, and encouraging remote meetings/conference.

2) Willingness

Participants indicated their willingness to participate in sustainable healthcare activities. Individual activities mentioned as possible included walking/cycling to work, reducing garbage at work, avoiding single use items, recycling, turning off lights at close of day, and driving electric cars. The initiatives participants hope to see at BC Cancer include more energy efficient buildings (insulated buildings), the purchase of climate friendly chemotherapy drugs, opening of additional cancer care sites to avoid long-distance commuting,

robust recycling programs, a change management team with a focus on sustainable healthcare, encouragement for staff to become engaged in sustainable healthcare, and reducing use of paper.

3) Barriers /support

Barriers identified by participants as limiting participation in sustainable healthcare activities at BC Cancer are unavailability and limited recycling bins, inappropriate waste segregation, absence of a unified vison, multiple compartmentalization without an overarching integration, overstressed and overstretched workers, a feeling of hopelessness and voicelessness, resistance to change, unmotivated staff, competing priorities, and a sense of *more talk and less action*. The support needed and strategies of overcoming these barriers as suggested by the participants are: a more robust focus on grassroots to influence change, more action and role play by leaders, refusal to accept plastics from companies, use of software to decrease paper usage, sharing of information and knowledge, a clear channel of directives and communication, an establishment of new regulations, new cultural shift on waste production, motivation of staff, and to deal with top-down mentality to help with moral at work.

4) Co-benefits

In participating in sustainable healthcare practices, participants identified that there were numerous co-benefits for the patients, staff, the health care institution, and the general population at large. Amongst these benefits are staff /patient empowerment and gratification, positive impact on care, role models for other health care centers,

sense of belonging and success, staff satisfaction, high quality work output, positive impact on health equity, cost saving to the health facility, and a medium that improves social collaboration.

Recommendations

To effectively promote sustainability in the healthcare sector, several recommendations should be considered. First and foremost, actions taken towards sustainability should be visible to both healthcare professionals and the public, fostering buy-in by showcasing their direct impact on individuals and communities. Transparency and advertising campaigns can play a crucial role in this regard. Developing a positive workplace culture, characterized by consistency and celebration of sustainability efforts, can encourage staff engagement. Additionally, involving patients in the process, encouraging them to ask questions, and providing information about the environmental footprint of pharmaceutical companies producing chemotherapy can enhance awareness and commitment.

Moreover, healthcare organizations should work within the framework of their purchasing practices, considering the environmental practices of suppliers and opting for ecologically friendly resources and supplies whenever possible. Engaging staff in sustainability initiatives and granting them control over their workspaces can further drive commitment and innovation.

A holistic approach to cancer treatment, emphasizing team-based care and addressing the

psychological aspects of change, is essential. Furthermore, using media platforms to involve the broader community and change public perceptions can create a groundswell of support for sustainability in healthcare. These recommendations, when implemented effectively, can facilitate the integration of sustainability principles into healthcare systems, benefiting both the environment and patient care.

Other areas that could further enhance clinical engagement towards sustainable healthcare include: Assessing the Impact of Green Purchasing Policies; Environmental Impact of Chemotherapy; Patient Education and Engagement Strategies; Long-Term Sustainability Metrics; Psychological Barriers and Mindset Change; A Comparative Based Study Across Different Health Facilities and Levels; and Assessing the Impact of Media Campaigns on Clinical Staff Awareness and Involvement.

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Appendices -Knowledge base

3.1 - How much do you know about climate change?

3.4 - How big is the threat of climate change to people in BC in the next 20 years?

3.8 - How willing are you to join an organized group working to convince leaders in BC Cancer to take action?