

BACKGROUND

A Planetary Health approach recognizes that ecological factors such as climate change, biodiversity, and resource scarcity are intimately linked with population health¹. Therefore, integrating sustainable practices into healthcare serves as a primary prevention measure against disease¹. Hence, a conscious assessment of the University of Toronto's (UofT) Nursing program and its integration of sustainable practices is paramount in establishing equitable, environmental and human health outcomes. The Planetary Health Report Card (PHRC), a global student-led tool was utilized to evaluate UofT's Nursing program, investigating blind spots with the intention to implement and optimize planetary health in the curriculum, research, and healthcare advocacy^{2,3}.

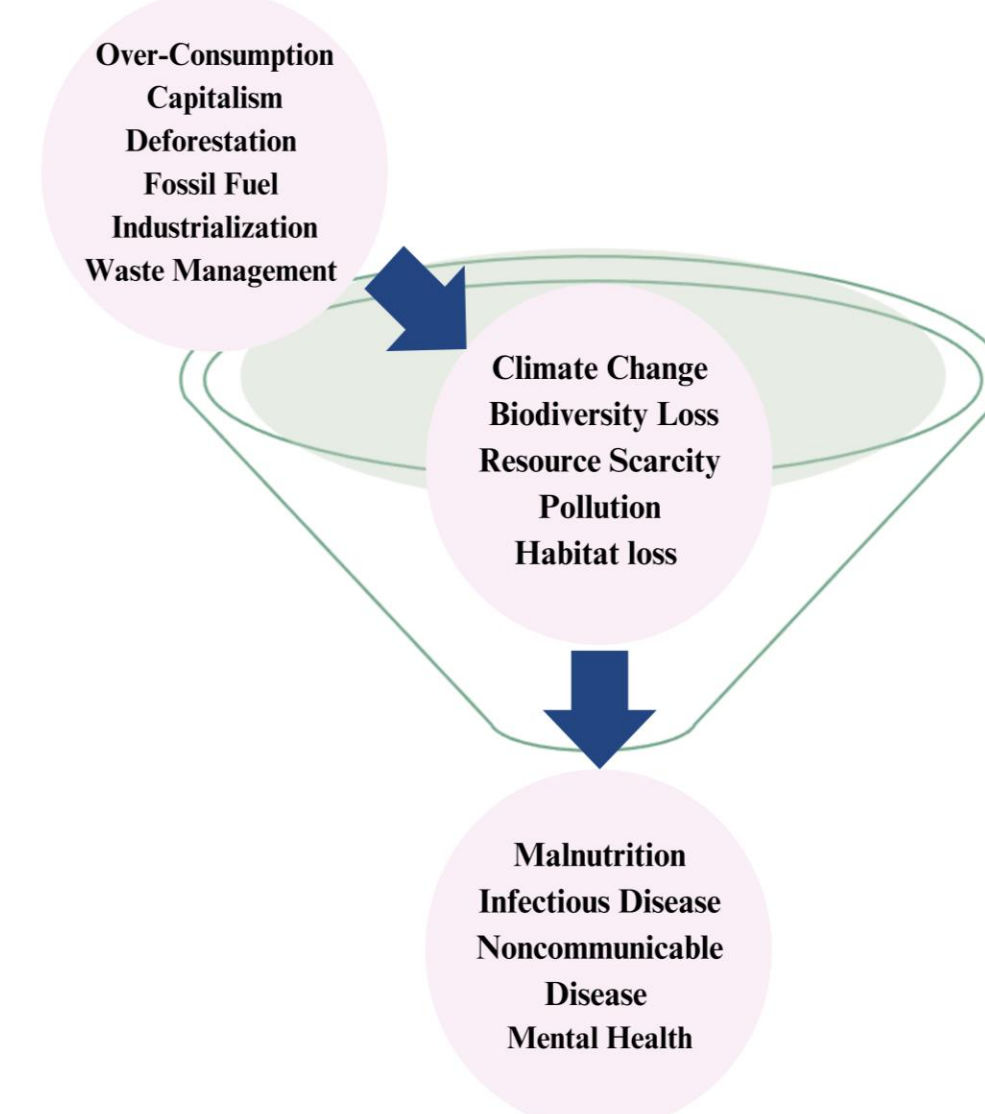


Figure 1: Planetary Health Approach on Disease. Human factors influence ecological systems which negatively impact population health.

Objective: To evaluate UofT nursing's planetary health practice within the spheres of curriculum, research and healthcare advocacy using an annual nursing PHRC assessment tool and providing recommendations based on the PHRC results¹.

METHODS

The PHRC was adjusted for nursing programs by an international team of students and faculty². This project utilized the 2023 version of the Nursing PHRC. Students were divided into five teams for each section of the Nursing PHRC.

The five categories of the 2023 PHRC include: Planetary Health Curriculum, Interdisciplinary Research, Community Outreach and Advocacy, Support for Student-led Planetary Health Initiatives, and Campus Sustainability². Teams searched relevant websites, 2023-2024 Nursing curriculum syllabi and course slides, and communicated with faculty and facility staff to complete the tool (Fig. 2). This included CASCADES, a multi-institutional initiative dedicated to the transition towards green healthcare¹.

Each individual question received a scoring of 0-4 based on the metrics of the tool. Each section received a cumulative percent and letter grade score. The cumulative score of the entire report card was then calculated as the institutional grade. Students met again after grading was completed to create recommendations based on main themes.

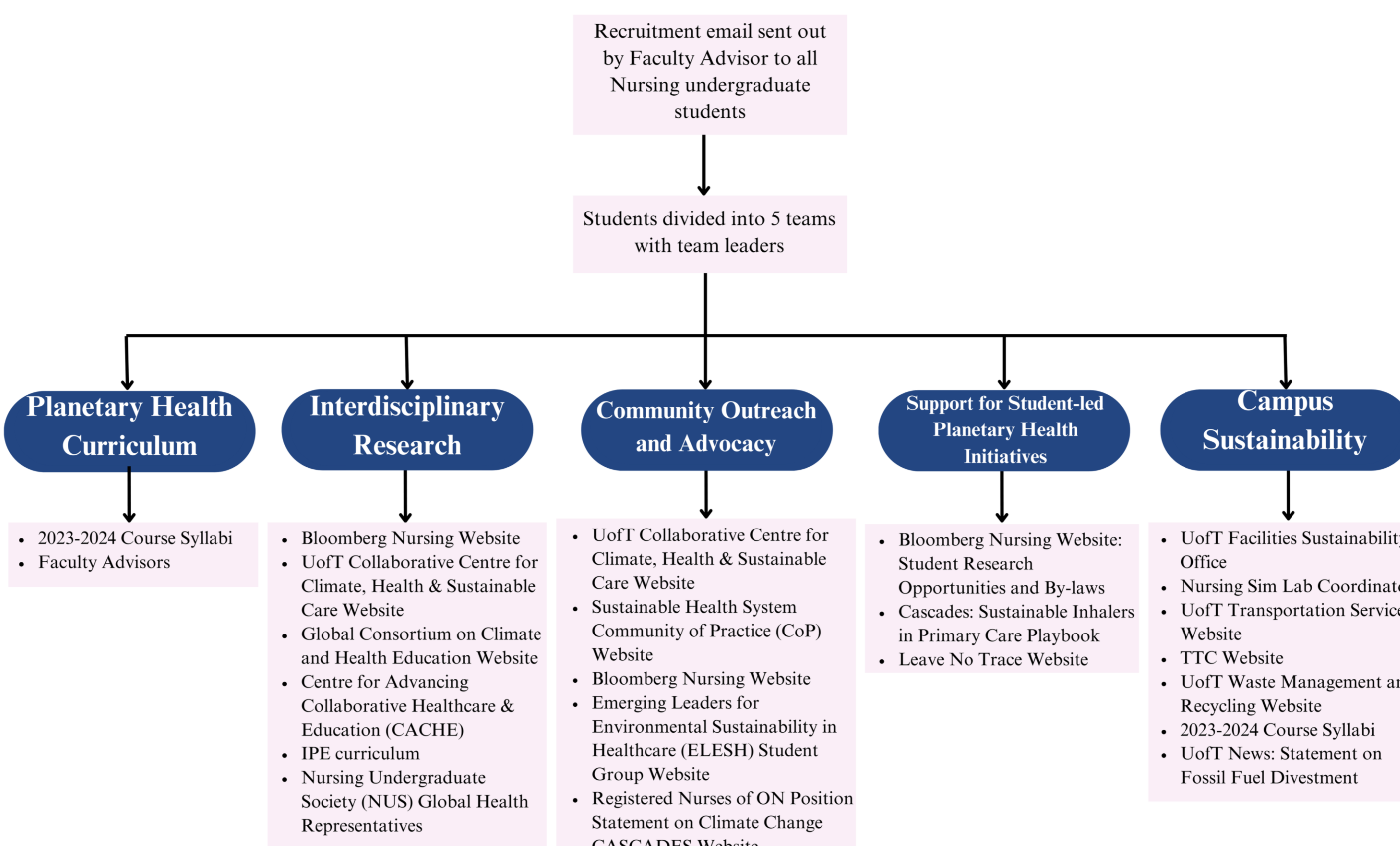


Figure 2: 2024 Nursing PHRC Methodology. This flowchart depicts the sequence and division of work as well as sources of information accessed.

RESULTS

The assessment of the nursing program's integration of planetary health and healthcare sustainability yielded the following key findings across five sections of the planetary health report card:

Section 1: Curriculum (Score: 12/40, 30%)

The nursing program curriculum shows limited integration of planetary health principles. Although some sustainability topics are briefly covered, such as the environmental determinants of health in courses and healthcare's environmental impact, the curriculum lacks dedicated courses focused on sustainability. Additionally, there are no immersive educational experiences, such as field trips or internships, related to planetary health.

Section 2: Interdisciplinary Research (Score: 7/14, 50%)

The nursing program promotes interdisciplinary collaboration in sustainability-related research, with existing partnerships involving departments like Environmental Sciences and Engineering. However, there are limited research opportunities explicitly focused on planetary health, and student involvement in these collaborations remains sparse, limiting students' ability to engage in or contribute to these initiatives.

Section 3: Community Outreach and Advocacy (Score: 9/12, 75%)

The nursing program engages in some community outreach efforts, including sustainability-focused public events such as the 2024 Global Health Conference, which featured speakers on environmental health topics. However, advocacy for policies addressing planetary health remain limited, and the program has yet to establish a robust system for promoting these policies. Community-facing initiatives, such as continuing education on sustainable healthcare practices, are generally underdeveloped and could be expanded.

Section 4: Support for Student-Led Initiatives (Score: 4/12, 33%)

While student involvement in planetary health initiatives exist, the program lacks formal structures to support and promote student leadership in this area. Representation in decision-making is limited, with no specific representation for sustainability initiatives on committees. Opportunities for research and presentations related to sustainability are not systematically promoted, nor is there an annual event or forum highlighting student contributions to planetary health. While students can engage with faculty-led research, formal support for independent student-led projects remains underdeveloped.

Section 5: Campus Sustainability (Score: 10/22, 45%)

The university has a Sustainability Office with dedicated salaried staff committed to the transition towards carbon positivity. However, the university aims to be climate positive by 2050, which does not meet the more aggressive 2030 or 2040 PHRC goal for points. Sustainability guidelines for events, simulations, and clinical skills training do not exist. While the Simulation Lab reuses supplies and recycles components, no formal guideline is in place to ensure or sustain green practices long term. Additionally, sustainability principles are not integrated into clinical skills education.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(12/40) x 100 = 30%	D
Interdisciplinary Research (17.5%)	(7/14) x 100 = 50%	C
Community Outreach and Advocacy (17.5%)	(9/12) x 100 = 75%	B
Support for Student-led Planetary Health Initiatives (17.5%)	(4/12) x 100 = 33%	D
Campus Sustainability (17.5%)	(10/22) x 100 = 45%	C
Institutional Grade	$(30 \times 0.3 + 50 \times 0.175 + 75 \times 0.175 + 33 \times 0.175 + 45 \times 0.175) = 44\%$	C

Table 1: Planetary Health Report Card Grades for UofT Lawrence Bloomberg Faculty of Nursing. The table presents the individual section grades and overall institutional grade for the UofT Lawrence Bloomberg Faculty of Nursing on this nursing-school-specific PHRC.



Figure 3: 2024 Planetary Health Report Card for UofT Lawrence Bloomberg Faculty of Nursing. The QR code leads to the PHRC document.

DISCUSSION

Our team proposed three initiatives targeting specific needs based on the cumulative results of the PHRC for the Bloomberg Nursing program.

1. Establishing a Sustainability Committee

- Include faculty, student and Sim lab representation
- In collaboration with UofT Sustainability Office
- Create specific sustainability guidelines for student-run events, faculty-run events and Sim lab

2. Increasing Planetary Health Topics in Curriculum

- Direct inclusion of planetary health concepts in classes, such as Community Health
- Indirect inclusion as examples of learned concepts, ex. critical appraisal of research

3. Improving Awareness & Accessibility

- Showcasing sustainable options and resources on campus through nursing website, email communication and through Nursing Undergraduate Society (NUS) engagement

Figure 4: Three Proposed Initiatives based on the PHRC Results. Our team proposed examples for each initiative to aim towards sustainable practices.

Results and recommendations, primarily related to curriculum, were presented to faculty members of UofT Nursing on June 20, 2024. Our team recommended including sustainability topics in clinical orientation for incoming first year nursing students, incorporating sustainability modules from CASCADES into research courses, using planetary health research papers as course case studies and increasing awareness of PPE wastage. Overall, we recommended a widespread implementation of sustainability topics in every course.

Limitations: The UofT nursing program is an accelerated two year program. Compared to a four year program, which has more time and flexibility in course load, the two year program is intensive and limited in its ability to include additional content. Furthermore, some of the questions from the PHRC were phrased to more appropriately apply to American and other non-Canadian systems and organizations. The interpretation of these questions were at the discretion of the team in charge of the section. Additionally, this project used the 2023 PHRC questions as only these questions were available to us at the time. As of the time of writing, the 2024 PHRC, with cumulative international results, is now available.

Overall the results from the PHRC led to an important discussion with faculty about future steps. We hope to re-evaluate with the 2025 PHRC to assess the impact and changes annually. This project will provide a measurement for how the nursing program will move towards increasing planetary health awareness and accountability for improved sustainability in the UofT nursing program.

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