

**Needs Assessment for
Sustainable Healthcare
Education (SHE)
Curriculum at U.S.
Medical School**

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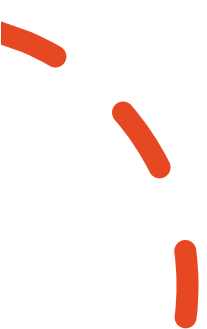
**University of Michigan Medical School*

AMEE Virtual Conference 2020



Disclosures

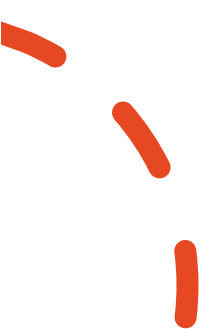
I have no financial disclosures or conflicts of interest.





Acknowledgments

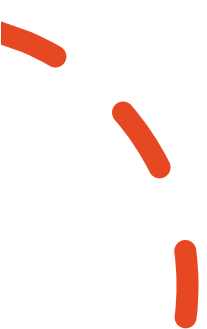
- *Senior Advisor:* Dr. Michael Englesbe
- *Student Curricular Board:* Casey Patnode, Colby Foster, Simona Martin, Jonathon McBride, Hanna Saltzman, Anita Vasudevan
- *Support:* RISE (Research. Innovation. Science. Education)





Background

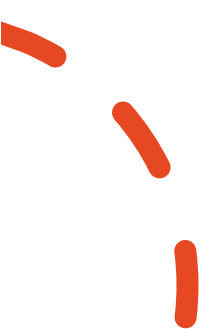
- AMMA Resolution #A19-302 calling for “teaching on climate change in UME, GME and CME”
- Sustainable Healthcare Education
 - impact of climate change and ecosystem alteration on human health
 - impact of healthcare industry on environment (CO₂ emissions, landfill waste, water-use, etc.)
- Only a minority of US medical school curriculums currently provide any teaching about environmental sustainability.





Methods

- Student-driven, faculty supported initiative to integrate climate change and sustainability education into curriculum at University of Michigan Medical School.
- Adapted 12 learning objectives, reaching significance (≥ 0.80) modified Delphi study [Teherani et al, 2017]
- Created and distributed an online 36-question needs assessment to all current medical students.

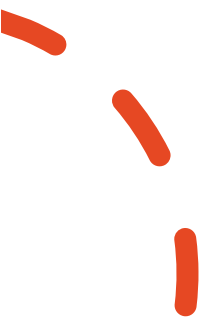




Learning Objectives

A. Doctor as scholar and scientist

1. Outline the dependence of human health on global and local ecological systems
2. Describe the mechanism by which human health is affected by environmental change
3. Describe the features of a health-promoting local environment
4. Discuss the contribution of human activity to global environmental changes
5. Explain the concept of environmental justice and principles for addressing it
6. Discuss the medical, ethical, legal and economic factors in caring for patients with environmental disease

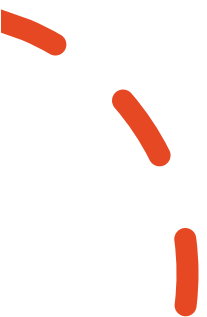




Learning Objectives

B. Doctor as practitioner

1. Identify ways to improve the environmental sustainability of health systems
2. Identify potential synergies between policies and practices that promote both environmental sustainability and health
3. Define environmental sustainability
4. Take a focused occupational and environmental history

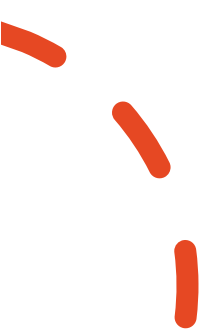




Learning Objectives

C. Doctor as professional

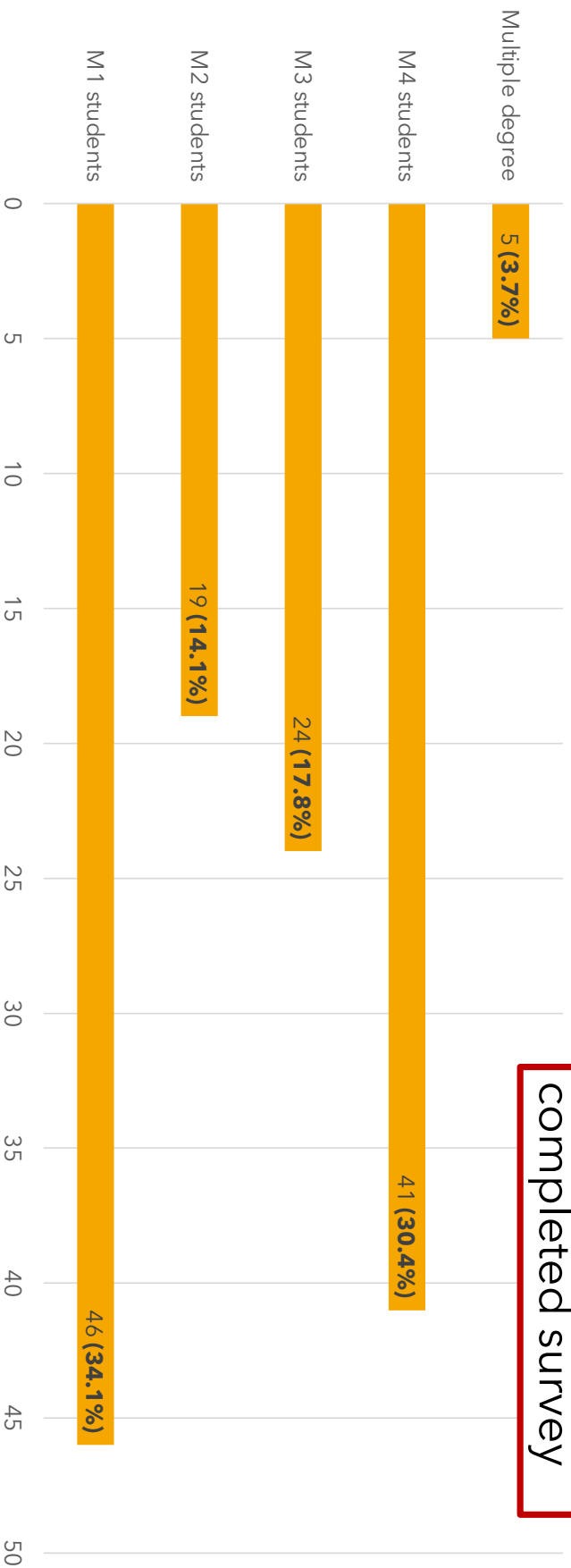
1. Discuss the ethical tensions between allocating resources to individual patients and protecting the environment upon which the health of the wider community depends
2. Evaluate work or school environment for level of sustainability





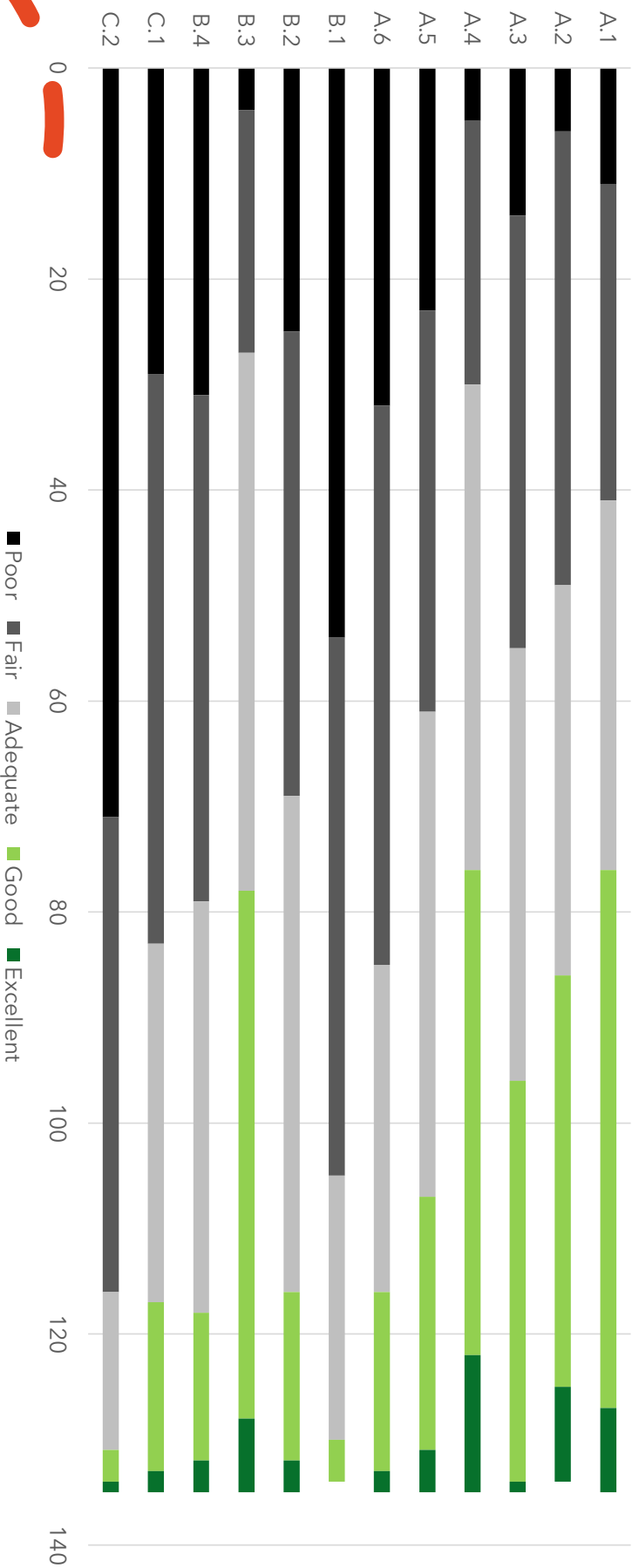
Results

135 students
completed survey



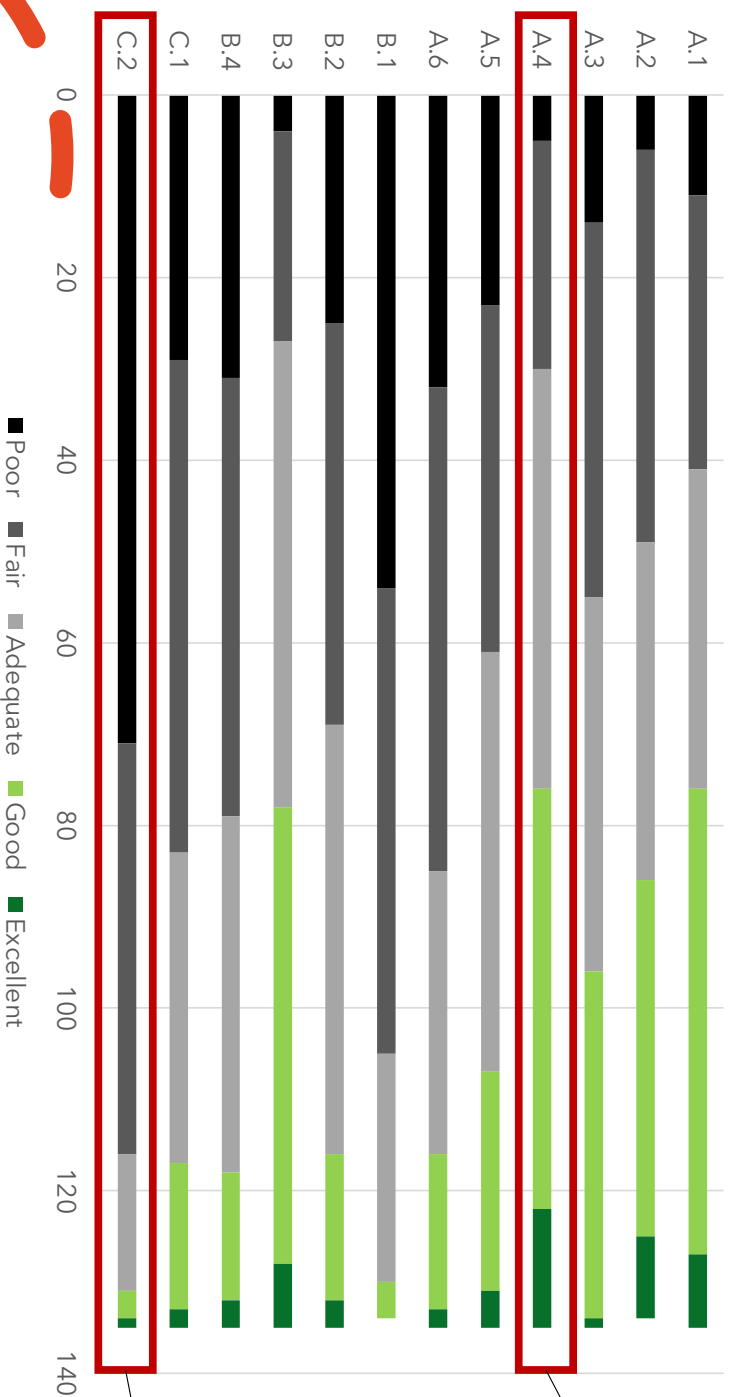


“What is your current level of knowledge with the following topics?”





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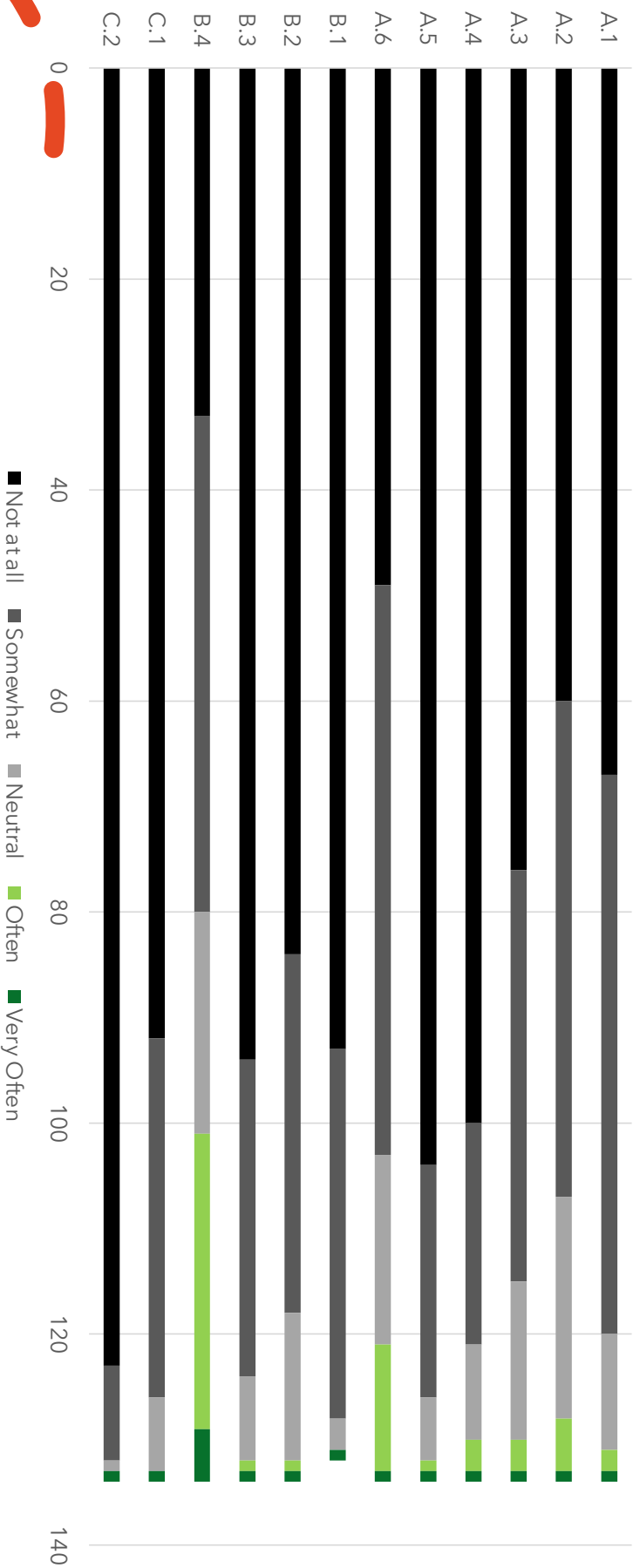


A. 4 Discuss the contribution of human activity to global environmental changes

C. 2 Evaluate work or school environment for level of sustainability

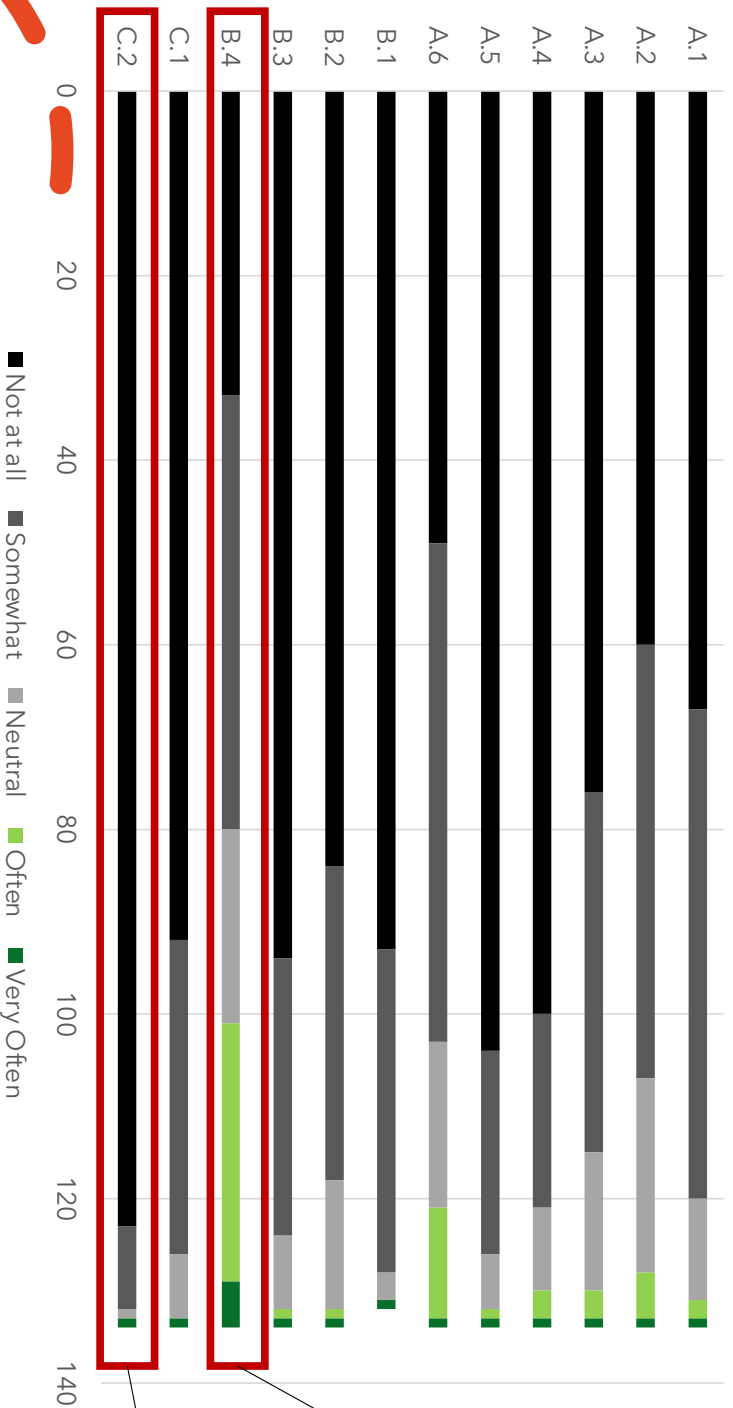


“To what extent does the medical school engage you in the following topics?”





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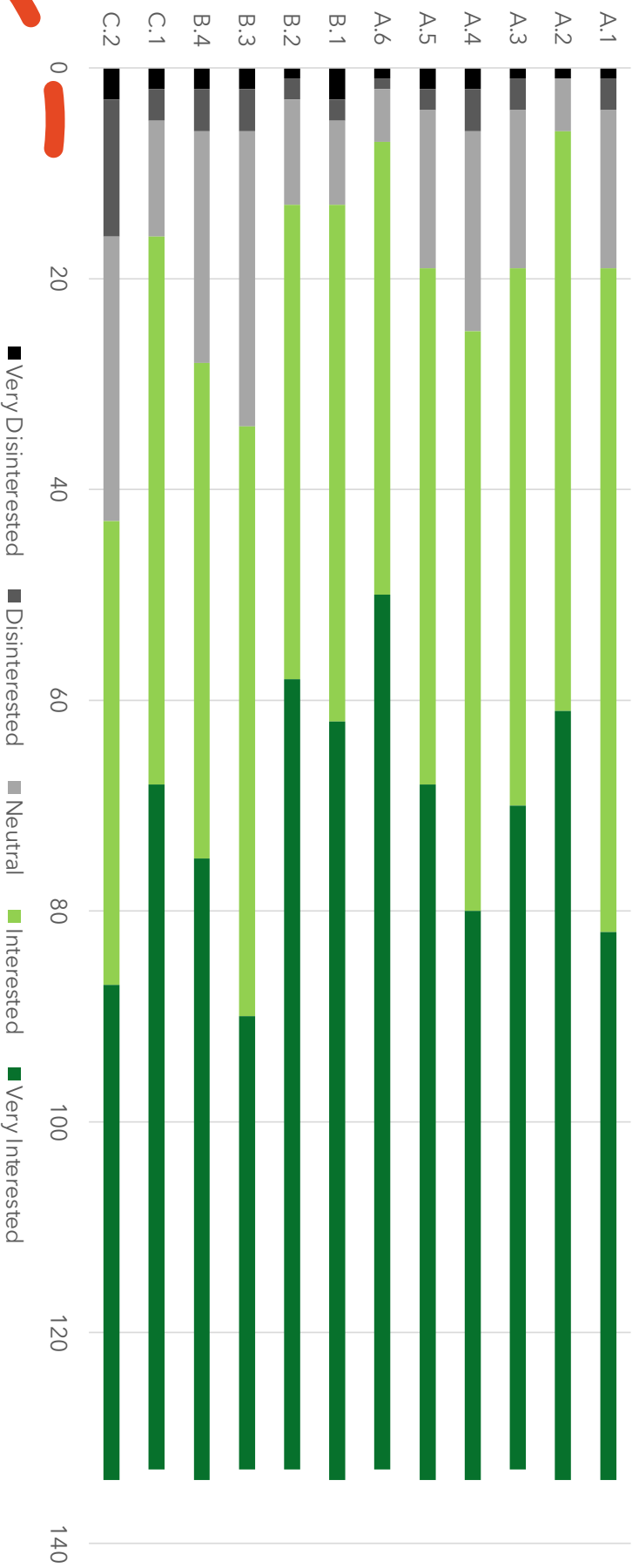


B. 4 Take a focused occupational and environmental history

C. 2 Evaluate work or school environment for level of sustainability

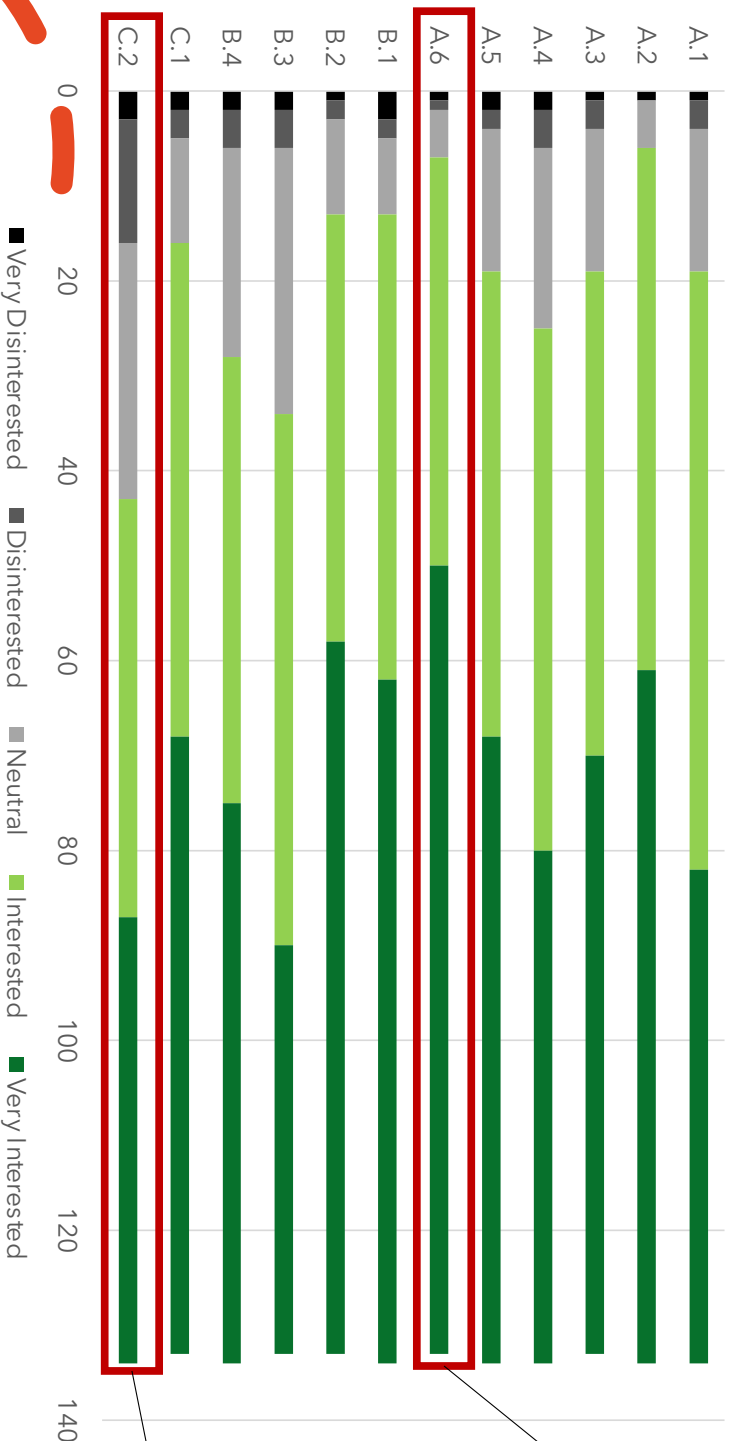


“How interested are you in learning more about the following topics?”





“How interested are you in learning more about the following topics?”



A. 6 Discuss the medical, ethical, legal and economic factors in caring for patients with environmental disease

C. 2 Evaluate work or school environment for level of sustainability

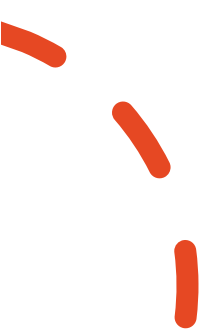


Discussion

Identified several major learning gaps related to SHE among medical students at U.S. based medical school.

1. Current knowledge & interest
2. Interest & medical school engagement
3. Policy recommendations & medical school engagement

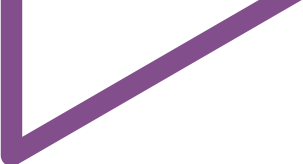
Needs assessment results will guide the development of a medical student elective on SHE learning objectives.





Thank you!

Questions: ehjohnso@med.umich.edu



Title: Needs Assessment for Sustainable Healthcare Education (SHE) Curriculum at U.S. Medical School

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Background:

In 2019, the American Medical Association introduced a resolution calling for teaching on the relationship between climate change and human health among trainees and practicing physicians. Sustainable Healthcare Education (SHE) focuses on the impact of climate change and ecosystem alterations on health, and the impact of the healthcare industry on the planet. Research suggests that only a minority of US medical school curriculums currently provide any teaching about environmental sustainability. US medical schools are not keeping pace with a growing need for SHE teaching.

Summary of Work:

This is a student-driven, faculty supported initiative to integrate climate change and sustainability into medical curriculum at the University of Michigan Medical School. Guided by previous literature, we created and distributed an online 36-question needs assessment regarding 12 SHE learning objectives to all current medical students, to assess the current state of sustainability curriculum and help determine the need for SHE learning opportunities.

Summary of Results:

One-hundred and twenty-six current medical students completed the needs assessment, comprised of 36.51% first-year, 15.08% second-year, 18.25% third-year, 26.98% fourth-year, and 3.17% MD-PhD students. The majority of students, 60.1% reported that they were not being engaged at all by the medical school in each of the 12 learning objectives. When asked about their interest in engaging these topics in the curriculum, the majority, 85.1% expressed that they were interested or very interested in engaging with the learning objectives. Students were most interested in learning about the medical, ethical, and legal factors in caring for patients with environment-related disease.

Discussion and Conclusions:

Medical students at a U.S. based medical school desire training in topics related to climate change and environmental sustainability that are not currently being provided by the medical curriculum. The results of this survey will guide the development of a 4th-year medical student elective on SHE learning objectives. If successful, this could provide a model for expansion to other medical schools and collaboration between institutions.

Take Home Messages:

There is a clear learning gap between the current level of student engagement around topics related to climate change and environmental sustainability, and the interest and needs of students in these areas.