NEEDS ASSESSMENT

"Are We Medically Prepared for Climate Change?"

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I. Executive Summary

Climate change increases risks of heat-related illness, infections, asthma, mental health disorders, poor perinatal outcomes, adverse experiences from trauma and displacement, and other harms. Climate change creates unprecedented risks to health and welfare. Despite advancements being made in research and in the medical field for climate health, there is a gap in medical professionals' understanding of how climate change impacts the health of their patients. We are proposing voluntary CME credits covering climate change risk factors in the state medical professionals practice in order to keep up to date with climate related current events and changes that have the potential to impact the health of their patients. Patients face changing risks because of climate change; future physicians require training to adapt care plans to these changing risks.

II. Intro/Background/Reason for Assessment

A. Current unmet clinical needs

Graduating and current medical practitioners face a knowledge gap in understanding, managing, and adapting to the consequences of climate change that influences both the heath of their patients and the health care they deliver. In order to properly care for their patients in the changing climate, future medical professionals will require education on the health effects of climate. Increase clinician awareness and understanding of the climate change risk factors that can affect their patients is incredibly important in order to avoid delay in diagnosis and to provide the appropriate care especially concerning vulnerable populations who are people with underlying conditions, pregnant people, elders, children, minority groups, and people affected by two or more risk factors and state specific issues which activate the State Departments of Public Health as a partner to contribute to regional expertise.

There is a low preparedness and reactive policy for climate related events and the communities most affected have less access to healthcare meaning it is also important to have medical supplies and vehicles prepared in advance. All health institutions should have an immediate response since the effects of climate change do not stay in boundaries. There needs to be more of an intersection between climate change, health, and policy. Medical professionals are trusted messengers therefore to be part of the solution, they must be informed on climate health impacts to relay better information to their patients.

B. Current shortcomings in education

Current mentions of climate change or climate change curricula for CME credits is being developed, but it still remains inconsistent and not personalized to the risk factors of each state. Some states and cities, like Oregon and San Francisco, are pioneering this continuing education, but there is still so much room for improvement and expansion. Most Climate and Health literature is commentary, not actionable. The available CME is designed to help clinicians treat these emerging issues which are occurring as a result of climate change, but more work needs to be done to evaluate the effects on patients' health and keep up with the emerging medical issues as climate change is not a stationary target and the effects to humans will continually evolve.
Examples that highlight the need for expanded curriculum

Valley Fever is a disease caused by fungus that grows in the soil and dirt only found in Central California. Approximately five to ten percent of people who get Valley Fever will develop serious or long term problems in their lungs and only less than one percent of people will have the infection spread to the central nervous system. While a serious disease, it is not incredibly deadly but new cases of people dying from Valley Fever are being reported in Washington, Oregon, and Utah due to worsening wildfires. This is where awareness is critical because clinicians outside the southwestern United States typically do not know the symptoms and/or to test for it.

Climate change influences the range of mosquitos and creates more favorable conditions for the spread of dengue, chikungunya, and Zika in parts of the United States. Mosquitos moving to the United States are affected by temperatures and are able to survive easily and transmit diseases at a faster rate in warmer climates. In Washington DC, populations of adult Ae. aegypti adults were found during winter which previously had an average winter temperature below the limit for the development of this species.

Other important examples include excessive heat for cardiac patients, worsening air quality for asthmatic patients, and recognizing the signs of mold exposure from repeated flooding, and so many others.

III. Overview of Proposed Policy/Recommendations

At the start of this research, we found a gap in medical care and education and the effects of climate change. We found that there has mostly been preventative care, which is just addressing the symptoms, when there should be preventative education in order to address the root cause. Most talk in the medical field on climate change is research oriented and not didactive enough in education. We found that the trend in medicine has been towards treating symptoms with a lesser focus on understanding the risk factors, we are proposing that medicine needs to expand into prevention and upstream solutions instead of just treating the symptoms.

We are proposing a voluntary continuing medical education. A useful educational program that is appealing to health professionals needs to be generated in order to be fully equipped to anticipate and have state and regional knowledge about climate health effects. This CME should be made a priority and be at the forefront of websites. Climate health will be widespread so all medical professionals should have this available no matter specialty, level of expertise, practice setting, etc.

IV. Stakeholders

Aside from "Affected Populations," the following stakeholders were identified as the most knowledgeable about the subject matter of the proposed policy and/or would be most affected by the proposed policy. The departments and individuals, listed below, were consulted during the process. Each stakeholder provided key information based on one or more of the following questions, detailed below.

We first reached out to faculty in the BU School of Public Health (BUSPH) and focused on the following questions: What is your opinion on the needed response from the healthcare community in terms of climate change and environmental health? How would you best prepare incoming and current health practitioners based on the public health crises in your research focus? Listed below are the faculty members who assisted us in shaping our response to the research question: "Are We Medically Prepared for Climate Change?"

- Jessica Leibler - Environmental epidemiologist in the Department of Environmental Health
- Patrick Kinney - Trained air pollution epidemiologist
- David Hamer - Professor of Global Health and Medicine; board-certified specialist in infectious diseases
- Jean Van Seventer - Clinical Associate Professor in the Department of Environmental Health
- Jennifer Stowell - Postdoctoral Fellow in the Department of Environmental Health

After examining our feedback from BUSPH Faculty and exploring CME as a possible solution, we then reached out to contacts in the CE industry with the following questions: What are the current gaps in CME? What is the best way to go about proposing this policy? Who are other important CE stakeholders in the process? Who has the power and expertise to create and implement a climate change curriculum? The following professionals assisted in identifying current unmet clinical needs, current shortcomings in education, and the relevant entities in the industry best poised to implement our proposal.

- Graham Mcmahon - President of ACCME
- Kathy Charlton - Managing Director of Massachusetts Medical Society

- Julie White - CME Director at BU School of Medicine

It is also important to pinpoint the groups most affected by the proposed policy. We identified medical professionals and patients as the benefactors of climate change CME—as expanded educational tools will improve the level of healthcare given and received. Additional voluntary curriculum will also give medical professionals another avenue to complete their CE hours, and expand the range of choices given to help them develop and increase their knowledge, skills, and professional performance.

Benefactors are the stakeholders with the most power and expertise to create and implement CE, and are the group—along with patients and medical professionals—most affected by the proposed policy. Benefactors in the industry include the Accreditation Council for Continuing Medical Education (ACCME), State Departments of Public Health, the CDC Climate and Health Program, and the Federation of State Medical License Boards (FSMB). These entities, along with accreditation providers and individual accredited providers, are essential for this process to fund, create, implement, and market voluntary CE curriculum.

The ACCME ensures the quality of learning for healthcare professionals, and grants approval for CME organizations to be able to designate an hour of education as a credit. ACCME also collaborates with medical societies (like Massachusetts Medical Society) to facilitate the accreditation of local CME providers. For example, Massachusetts Medical Society was recognized by ACCME and tasked to accredit organizations and institutions providing CME in Massachusetts. If approved, these entities become accredited providers. There are approximately 1,600 organizations nation-wide labeled as accredited providers. For example, BU School of Medicine was accredited by ACCME to provide CME for physicians.

The State Departments of Public Health fund the accreditation of CME credits, and are the best organizations to tap on the shoulder to create state-specific curriculum, or work with state-based CE providers to support the development of curriculum. Given the evolving nature of climate change impacts, they would also be the most equipped to anticipate the issues in their state that are relevant.

The overall goal of the CDC Climate and Health Program is to protect states and regions from the negative health impacts of climate change, and part of this objective is promoting educational tools to prepare for current impending health impacts.

The Federation of State Medical License Boards (FSMB) is the voice for state-medical license boards in licensing, disciplining, and regulating medical professionals. They promote best practices and advocate for policies that add to and shape the future of medical regulation.

V. Desired Outcomes & Implementation

Each benefactor mentioned above will play a part in either the funding, creation, and implementation in voluntary climate change CME credits.

To ACCME: In our research, we found there is a curriculum available through the CDC and some specific states. We urge you to consider it as a priority area, and make these resources available to accredited providers on the resource page on ACCME website.

To State Departments of Public Health: Review our needs assessment and find funding to support development of the curriculum with state-based CE providers; Conduct a "call-to-action" of state clinical providers, including medical societies and accredited providers.

To CDC Climate and Health Program: We urge you to expand and more widely implement the Climate-Ready States and Cities Initiative—and work with stakeholders in the medical industry to build this into state-specific CE curriculums.

To the Federation of State Medical License Boards: In your role to support state medical boards in licensing, disciplining, and regulating healthcare professionals, we urge you to promote best practices, and provide policies, advocacy, and other resources (CE) on the intersection of climate and health.

VI. Implementation Costs/Resource Requirements

It is impossible to identify an anticipated cost or resource requirement—both with time and money—given the uncertainty with the scope of the educational program. Based on our research, we estimate it will cost between $5,000 and $10,000 to build and certify a CME activity. However, online activities like a webinar or interactive programming usually require a lower budget.

We have identified the State Departments of Public Health as the best sources of funding, given each CME curriculum will be personalized to the risk factors of each state. As stated above in Section V, we ask the state departments to review our assessment and find funding for the development of such curriculum.

VII. Conclusion

Climate change and health is a growing research area but not largely implemented in policy, medical field, and other areas. This proposal is the next step to close that gap between academia and action in order to start the process of making climate change more of a priority in medical education.

We want to thank everyone who helped us with this research project; we feel this is an important topic that could save many lives in the near future.