



GLOBAL HEALTH CASE COMPETITION

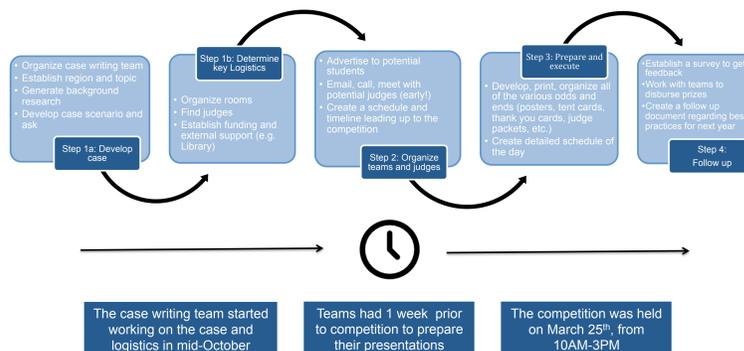
Abstract

Through a collaborative effort between two student organizations at the University of Michigan School of Public Health, Students Engaged in Global Health and the Health Policy Student Association, we held the University's first Global Health Case Competition. The competition focused on a topical, relevant, and complex public health dilemma in a developing country. Specifically, the topic of the 2015-2016 GHCC was dengue fever in Honduras. Students who participated in the competition worked in teams of 3-4 students over one week to develop an innovative and effective approach to the challenge. They then presented their implementation and evaluation strategies to a panel of judges from the School of Public Health, with expertise ranging from epidemiology to market strategies to cost-effectiveness of infectious disease interventions. The students were expected to develop a multidisciplinary, national plan for dengue fever, while also focusing on core concepts in global health, such as health disparities.

Purpose and Impact

The GHCC team strongly believes that this project fundamentally enhances global scholarship. The competition provides an opportunity for students from different schools (at least 4 were represented this year!) to apply and develop core public health, public policy, communication, and management competencies to a real world topic. Case competitions are enriching, collaborative, and inherently real world exercises providing students with an opportunity to demonstrate their skills to colleagues, industry, and faculty they may never see otherwise. The preparation and day itself simulates work they may do in the future, with a framework that requires realistic and actionable recommendations. Furthermore, the competition seeks to further both SEGH and HPSA's broad goals to increase interest and scholarship regarding the effects of globalization on health policy across the University campus.

Timeline and Steps



The 2016 teams



Overseas



ConnectGlobal – 1st Place



GlobeTrotters – 3rd Place



PoliHealth



EPIphanies – 2nd Place

Challenges

The competition presented several challenges, logistically and in terms of developing the case. With a topic as encompassing as global health, one main challenge was picking an issue that was both reflective of the wide variety of challenges in the field that was still manageable enough to address in a week-long case competition. The case writing team made a conscious effort to include as many facets of global health into the prompt as possible in order to be true to the field and attract students from as many schools and disciplines as possible.

Lessons Learned

Both the GHCC team, presenters, and judges learned a lot from this experience. Since this was the first iteration of GHCC there were many unknowns. We conducted a follow-up survey to help understand where things could improve. For next year, we will continue to implement the things that did work, but also:

- Utilize more outside examples in building our case
- Complete the case earlier for a lengthier review
- Provide clearer instructions to students about judge's expectations
- Think more about the time allotted to develop a presentation based on the scenario
- Obtain a wider breadth of judges, if possible, from private industry or government agencies

Further Work

We hope that this competition was just the first iteration of many more annual global health case competitions. We hope to continue building a strong relationship between the case writing team and the library earlier on in the writing process and expanding the competition to include more students from more schools. Additionally, we hope to offer support for our winning teams to continue participating in larger regional and national global health case competitions in the future. Our immediate next step is to create a document for future GHCC teams detailing our challenges and best known practices to ensure future success.

Library Partnership

Our relationship with the library was pivotal to the success of this event, especially research support for developing the case itself. Gurpreet Rana was an incredible resource for our case writing team and helped us find reputable data and templates from other case studies. Not only did she offer invaluable feedback as we wrote, but also provided support for logistical snags and multidisciplinary advertising. The library partnership significantly enhanced the educational experience of the case writing team, as well as the competitors, because we were able to produce a much more solid final product than we would have otherwise.

Presentations

Sample slides from winning presentation by ConnectGlobal

Challenges and mitigation

Challenges	Level	Mitigation Strategy
Gene modified farms Uncertain ecosystem impact Technical know-how	●	• Pilot and monitor potential mutations • Partner with technical and environmental experts
Urban built environment Community acceptability Permits and regulation	●	• Pilot and monitor potential mutations • Partner with technical and environmental experts
Health financing Financial literacy Security	●	• Partner with NGO's for financial education & provide incentives • Higher dependence on cloud services
Integration and referral Effective care coordination Partner retention	●	• Leveraging mobile platforms for effective coordination • Longer term contracts, vouchers
Surveillance Uptake Privacy	●	• Innovative marketing such as radio shows, soap operas • Employ encryption technology to mask identifying information
Vaccine deployment Delay in launch Willingness	●	• Consistent vector control • Vaccination made for population health

Targeted Vector Control

Gene-Modified (GM) Mosquito Farms:
Establishing a breeding ground for genetically-modified *Aedes* to cut vector proliferation. GM Farms have shown success in reducing vector population by 75-90% population through large-scale establishment in Brazil.

Stakeholders	Implementation	Evaluation	Costs
Sourcing & Consultant: OXITEC Regulatory authority: Honduras	• GM Farm pilot followed by phased scale-up near disease epicenters • Long-term tracking of vector population and disease trends to facilitate decision-making on rollout	• Evaluate the changes in <i>Aedes Aegypti</i> population near GM mosquito farm • Decide if the intervention is cost-effective and can be feasible in more areas of Honduras	• Capital costs for farm setup estimated at \$2.2 million • Annual cost of maintenance is \$440,000 per farm

Elimination of the vector population, especially insecticide-resistant and dry-land strains, complements urban built environment vector control.

Financing dengue care

Financing:
This is a microfinance scheme that leverages mobile technology to alleviate financial stress incurred from dengue fever among the poor. DengueAyuda will allow low-income populations to afford care in the case of dengue episode through a health savings account coverage platform.

Stakeholders	Implementation	Evaluation	Costs
Mobile operators: Claro, tigo Healthcare providers: Honduras Lab & diagnostics personnel	• Low cost mobile based platform • Leverage Tigo's experience in mobile banking • Health Savings Account: people add increments of any amount in anticipation of a dengue episode • Integrating providers, lab & diagnostics to receive payment • Main costs: education & mktg.	• Monitoring users over time • The flow of money through surveillance and referral system for dengue • Continued educational engagement to improve coverage • Long term: Increase enrollment based on income patterns, develop tangible insurance product	• Anticipated investment: • Set up costs: \$500,000 • Maintenance: \$100,000 • Costs include: • IT Infrastructure • Marketing • Education • SG&A and operating costs

Reduced financial stress from dengue episodes and a more cohesive access to services in the event of a dengue episode as a result reliable financing across stakeholders.

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