A student led initiative to promote Cuba-USA relations through scientific exchange
Leilani M Chirino, Enrique Lin Shiao, Mercedes Yanora, Martin Iwanicki, Mariel Coradin, Jonathan Rumley

Abstract
The United States and Cuba severed diplomatic relations in 1961 during the Cold War. This past summer, both countries restored diplomatic relations, allowing for more discourse and travel between the two former rival countries. With this progress, we plan to use science and medicine to further advance diplomatic relations and continue building bridges between both countries.

Each year, medical students from the University of Pennsylvania visit la Escuela Latinoamericana de Medicina (ELAM) in Havana, Cuba for a week to be exposed to a healthcare system different from their own. This program, while innovative has some limitations due primarily to the short amount of time the students spend there. We believe that both American and Cuban students can largely benefit from learning about the differences in both systems. Cuban students could benefit from the cutting edge research and infrastructure available in the United States, while American students can be exposed to a different healthcare system. The Cuban health system offers many valuable lessons, from public health to scientific advances that have led to the lowest rates worldwide in maternal to fetal transmission of HIV and the development of the first lung cancer vaccine.

Taking advantage of the current re-establishment of relations between the U.S.A. and Cuba, we are interested in expanding on our existing program to allow medical and graduate students in Cuba to visit Penn to study, work, or conduct research, while also allowing current Penn medical and graduate students to similarly study in Cuba.

We have established contacts with the recently established Cuban Embassy in the U.S.A. and are discussing ways to address the difficulty that professional Cubans face in leaving the island. With this exchange of medical and science students, we will use science diplomacy to promote continued improvement of Cuba-U.S.A. relations.

Table 2. Summary of randomized clinical trials designed to assess vaccine efficacy.

<table>
<thead>
<tr>
<th>Clinical trial</th>
<th>Target population</th>
<th>End points</th>
<th>Main result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo vs Vaccine</td>
<td>500 patients</td>
<td>Vaccine vs placebo</td>
<td>Vaccine was safe and immunogenic</td>
</tr>
<tr>
<td>Vaccine vs placebo</td>
<td>500 patients</td>
<td>Vaccine vs placebo</td>
<td>Vaccine was safe and immunogenic</td>
</tr>
</tbody>
</table>

Goal
Our goal is to allow American and Cuban students to learn from each other, establish collaborations, and continue improving Cuba-US relations through science diplomacy.

Lung Cancer Vaccine

Mother to child HIV transmission
- Transmission rates less than 50 cases per 100,000 live births
- In 2013, only two babies were born with HIV and three with syphilis in Cuba.

Proposed plan
- Expand current medical rotation opportunities for medical students at the University of Pennsylvania to work in Cuba
- Establish a clinical rotation for Cuban medical students to work at the University of Pennsylvania
- Invite scientists from Cuba to speak at Penn to open up opportunities for collaborations.
- Invite Cuban pre-doctoral students to the Summer Undergraduate Internship Program

Acknowledgements
- Richard N. Gioioso, Ph.D., Assistant Professor of Political Science, Saint Joseph's University
- Penn Science Diplomacy Group