

Pneumococcal Conjugate Vaccine Internship at the World Health Organization Headquarters in Geneva, Switzerland

A. INTRODUCTION

The World Health Organization (WHO) serves as the primary decision making body for global and public health issues. I am honored to have been awarded an internship in the Immunization, Vaccines, and Biologicals Department at the WHO headquarters in Geneva under the supervision of Dr. Thomas Cherian. The Hesburgh-Yusko Scholars Program has generously provided me \$5,000 in funding for this summer, and I am seeking an additional \$2,522 to help subsidize the full costs of this unpaid internship.

B. BACKGROUND

¹The WHO estimates that 1.6 million people die of pneumococcal diseases annually. Pneumococci is a type of streptococcus bacteria which primarily infects young children, the elderly, and patients with compromised immune systems. ²A pneumococcal infection can range from mild to severe, and it manifests itself as pneumonia, meningitis and febrile bacteremia, otitis media, sinusitis and bronchitis. ³Pneumococcal diseases kill more people in the United States annually than the all other vaccine-preventable diseases combined. ⁴The majority of the disease burden falls on developing countries which lack suitable health care systems. Because pneumococcal diseases are largely preventable by vaccination, countries are introducing the approved 10- and 13- valent pneumococcal conjugate vaccine (PCVs) to their national immunization programs. As countries introduce PCVs, data is being generated on the vaccine's impact and efficacy. The WHO is currently in the process of evaluating this new data. This

¹ WHO | Pneumococcal Conjugate Vaccines." *WHO | Pneumococcal Conjugate Vaccines*. World Health Organization, n.d. Web.

² "About Pneumococcal Disease." *Center for Disease Control and Prevention*. US Department of Health & Human Services, 10 June 2015. Web.

³ "Pneumococcal Disease Fact Sheet." *Pennsylvania Department of Health*. 26 February 2013. Web,

⁴ Conklin, Laura et al. "Systematic Review of the Effect of Pneumococcal Conjugate Vaccine Dosing Schedules on Vaccine-Type Invasive Pneumococcal Disease Among Young Children." *The Pediatric Infectious Disease Journal*. Web.

summer, all of the PCV experts and researchers will convene at the WHO headquarters to deliberate these findings and begin the process of updating the official WHO PCV Position Paper.

C. INTERNSHIP DESCRIPTION

There are three projects at the WHO that I will be working on throughout this internship. First, the Pneumococcal Conjugate Vaccine (PCV) Technical Coordination Project was initiated in 2015 with the support from the Bill & Melinda Gates Foundation. This project was created to inform strategic decision making for countries using or planning to introduce PCV into their national immunization routine. Second, the PCV Review of Impact Evidence (PRIME) is a project currently evaluating contemporary evidence on the colonization of the disease. This evaluation will be used to update the technical community on remaining gaps in knowledge of the disease, and it will feed into larger policy decision making structures aimed at sustaining the use of PCVs. Lastly, the Strategic Advisory Group of Experts on Immunization (SAGE), is the highest advisory body on vaccines at the WHO, and it will be convening in June at a conference to deliberate the initial findings of the PRIME systematic review.

There are three core areas in which I will help:

1. Attending the PCV Technical Coordination Project regular meetings, assisting with meeting preparation and tasks for completion of project deliverables.
2. Assisting with data cleaning, management or data abstracted in PRIME in preparation for the June SAGE PCV Working Group Convening.
3. Creating, preparing, and compiling materials for the SAGE Convening; assisting with drafting of the WHO Meeting Report following the conference in June.

While the stage of the process that are already completed at the start of the internship will dictate my exact responsibilities, I will be involved in the following activities:

- Summaries of regular literature reviews on pneumococcus
- Preparation of materials and analyses for WHO
- Working closely with the leadership of the project to complete necessary activities to meet deliverables
- Attending relevant conferences/ meetings at the WHO to enhance my career development

D. PROGRAM DETAILS: SCHEDULE & COST JUSTIFICATION

A. Schedule

The internship will last 10 weeks: May, 22 2017 – July, 28 2017. I will be present for the preparation for the SAGE Conference on PCVs, the conference itself in early June, and the follow-up work after the conference. It is important that my internship lasts the full ten weeks for two reasons. First, this will allow me to contribute the most meaningfully to all parts of the SAGE Conference: the preparation, the conference, and the post-conference summaries. Second, the WHO stipulates that you can only complete an internship at their headquarters once; thus, I would like to maximize my time learning from the many experts at the WHO for the full ten-week internship.

B. Cost Justification

⁵Geneva is one of the most expensive cities in the world, and it will be impossible for me to conduct a ten-week unpaid internship solely on the grant money provided by the Hesburgh-Yusko Scholars Program (Fortune 2015). I am seeking additional funds to offset the extremely high costs of living in Geneva, particularly the large cost of housing as outlined in my attached budget proposal.

E. CONCLUSION: CONNECTION TO ACADEMIC AND PROFESSIONAL GOALS

After spending last summer working in the field on Malaria Education campaigns in HaMakuya, South Africa, I developed an appreciation for the critical thinking, creativity, and flexibility needed to tackle multidimensional global health challenges. On campus, I participated in the Eck Graduate School for Global Health Case Competition, and my team was presented the Innovation Award for our novel solutions to minimize the incidence of malaria in Ugandan refugee settlements. Additionally, I was awarded a Nanovic Break Travel and Research Grant over winter break to travel to Switzerland to study the development of the RTS,S/ AS01 Phase 3 Malaria vaccine candidate. Through the process of interviewing malaria experts for my independent malaria vaccine research project, I was able to make connections to be awarded this internship at the World Health Organization. Lastly, during my time abroad in London next Fall, I plan to intern with C3: Collaborating for Health. I intend to work with C3 to develop a jump rope clinic in schools to curb the prevalence of childhood obesity. As an aspiring leader in global and public health, all of these experiences have and will continue to contribute to my academic and career trajectory: matriculating in either medical school or a Masters in Public Health / PhD program.

⁵ Snyder, Benjamin. "These Are the World's Most Expensive Cities." *Fortune International*. Fortune, 18 Sept. 2015. Web.

That being said, interning at the WHO headquarters on the PCV project will undoubtedly be of the most beneficial experiences yet. I am extremely grateful for this once in a lifetime opportunity to work at the WHO. There is simply no better place to learn about challenges of policy making in global health than the premier international health decision making body itself. I would be forever grateful to the Nanovic Institute for their assistance in subsidizing this unpaid internship in Geneva. Thank you for your consideration!