



THE UNIVERSITY OF ARIZONA

College of Medicine

Phoenix

# Certificate of Distinction in

# GLOBAL HEALTH

Revised August 2020

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## Intent

The University of Arizona College of Medicine-Phoenix (UA College of Medicine – Phoenix) offers a ***Certificate of Distinction in Global Health (COD-GH)***. The COD-GH is a 4 year program designed to promote the acquisition of knowledge of global health issues, foster a positive attitude toward giving service to global health communities and to build critical thinking skills directed at conquering global health barriers.

The COD-GH will be awarded to those who are dedicated to leadership and excellence in advancing the prevention, diagnosis and treatment of disease and injury through:

- **Education:** Teaching the physicians and scientists of tomorrow while enhancing the skills of today's health professionals
- **Research:** Creating new knowledge in clinical science through biomedical, behavioral and health services research
- **Patient Care:** Caring humanely and expertly for patients and providing leadership in health services
- **Service:** Forging local, regional, national and global partnerships in education, healthcare and research for the betterment of human health.

## Reason for the need

### Global Health Defined

Health transcends all our cultural, geographic, and political barriers to provide a fundamental base for human dignity. In seeking to address and understand complex global health concerns and solutions, an academic medical college is uniquely positioned to enlist multidisciplinary professionals to address the world's health disparities through global health efforts. In the 2010 Lancet article, *Towards a Common Definition of Global Health* (Lancet 2009; 373: 1993–95), global health is defined as the “area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasizes transnational health issues, determinants, and solutions; involves many disciplines; and is a synthesis of population-based prevention with individual-level clinical care.”

### Global Health, Growing Interest

Medical students' and residents' interest in global health has increased exponentially in the past decade. Currently approximately 30% of US and Canadian trainees participate in an international elective during their training (AAMC 2009). This growing interest among medical trainees has been accompanied by an increased commitment by the UA College of Medicine - Phoenix to provide support, mentoring and accountability for these endeavors. The medical literature has illustrated the positive outcomes for students, residents, fellows and faculty's involvement in global health opportunities. This type of experience is a means for physicians-in-training to learn important lessons about health disparities and cultural diversity and to encourage them to commit to lifelong service of vulnerable communities (Acad Medicine, 2010). Participation in global health electives is associated with increased likelihood of community service, interest in primary care fields and improved skills in problem solving and clinical examination (Acad Medicine 2003). The Global Health Program will provide programmatic structure and support for our trainees in medicine and public health as well as harness the research, education and clinical care interests of our faculty.

## Certificate of Distinction in Global Health Objectives

- To prepare students to collaborate in global health projects with the goal of serving individual and community health needs through research, clinical involvement and health education.
- To provide students with the skill set to appropriately prioritize healthcare concerns and the chance to participate in the development and implementation of strategies to address these needs.
- To provide mentorship to students interested in global health involvement during their careers.
- To enable students to have perspective on the rewards and challenges of working in environments and cultures in contrast to those of the American system.
- To understand the basic philosophic and conceptual frameworks for the study of social determinants of health including the ecologic model and the human rights and social justice frameworks.
- To be knowledgeable of major determinants of health in low resource settings and local, national or international interventions to address health determinants (e.g., UN Millennium Development Goals or the US Global Health Initiative)
- To understand how local, national, and global trends in healthcare practice, commerce and culture contribute to the health of populations, as well as the quality and availability of healthcare locally and internationally
- To demonstrate an understanding of barriers to health and healthcare in low-resource settings and evidence- based healthcare delivery strategies in low-resource settings, especially the role of community-based healthcare and primary care models
- To demonstrate an understanding of cultural and ethical issues in working with underserved populations
- To acquire clinical skills necessary to provide care for patients with a wide range of health problems in resource-poor settings.
- To develop fundamental skills in discovery and advocacy through active participation in local or global health-related research, service, education or advocacy.

## Certificate of Distinction in Global Health Program (COD-GH) Overview

The Certificate of Distinction in Global Health is a 4-year longitudinal program encompassing 5 elements that address the scholarly component, the independent learning component, group interaction, field externship, and experience in an underprivileged country. All 5 elements must be completed in order to earn the COD-GH. Students who are not interested in pursuing the COD-GH but who are interested in learning more about global health may participate in any and all of the 5 elements without any expectations of receiving the COD-GH.

### **Element 1: Field externship:**

During the 1<sup>st</sup> or 2<sup>nd</sup> year of medical school the students will participate in the Global Health Interest Group (GHIG) dedicated 1 week trip to the Dominican Republic where they will focus on clinical observations, develop clinical skills, and assess community needs in an underdeveloped

environment, under the mentoring of faculty. This will be preceded by a 4-hour orientation given by key Global Health Faculty.

### **Element 2: Independent Learning**

- The student will be required to complete the online courses at [www.globalhealthlearning.org](http://www.globalhealthlearning.org). This can be done during the 4 years of medical school. The *Global Health Learning Program* is an internationally recognized and acclaimed learning resource for global health sponsored by USAID. In 2005, USAID's Bureau of Global Health developed the Global Health eLearning (GHeL) Center to provide its worldwide mission-based health staff with access to state of the art technical global health information.
- The courses and certificate programs at the Center offer self-paced Internet-based courses that:
  - Provide useful and timely continuing education for the world's premier global health professionals
  - Present state-of-the-art technical content on key public health topics
  - Serve as a practical resource for increasing public health knowledge
- There are 17 Program Groups from which to choose. You are required to complete 200 hours of your choice.

### **Element 3: Global Health Seminars**

Four one-hour Global Health seminars will be given per year by the Global Health Faculty (total of 16 seminars for 16 hours over the 4 years). The student must attend 90% of the 16 seminars. Each seminar will focus on key principles and topics generated by the GHeL center's independent learning element and given by a Global Health Faculty member who has personal experience on the topic and in an underprivileged country. These seminars will be on a rotating basis over the 4 years so that all students who are either new to the COD-GH program each year or who are currently enrolled in the COD- GH will benefit from new and non-repetitive discussions and topics.

### **Element 4: Global Health Discovery Project (GHDP)**

- The GHDP project should address an unresolved question dealing with an underprivileged country and its population.
- The student will have a GH mentor who has experience in the topic being reviewed and will guide the student through the process of preparing the GHDP and completing the final thesis that will be reviewed by a minimum of 3 GH faculty.
- Specific objectives are:
  - Describe the significant issues related to global health
  - Discuss the important topics related to global health
  - Describe key elements of health-related issues in global health
- GHDP examples:
  - The principles and goals of global health
  - Health determinants, measurements and the status of health globally
  - The global burden of disease
  - Ethical and human rights concerns in global health
  - Culture and health
  - Nutrition and global health
  - Women's health

- The health of young children
- The health of adolescents
- Communicable disease natural disasters and complex humanitarian emergencies
- Working in global health

### **GHDP Thesis**

- Directions

The paper should be upwards of 35 pages of information including references, tables and spreadsheets abstract. In addition to the body of the research paper, write an “Executive Summary” in the format of the comprehensive tables. This should be 1-2 pages and should be in the beginning of your report with your detailed findings attached to it. The following is also used to format the body of your research as well. The ES takes a concise “summary” of each section and gives The ES acts as a surrogate or synopsis of your paper, doing almost as much work as the many words that follow it in the body. The ES includes the following sections and organizational schema. Each section is quite compact—only a few sentences. As the ES should be one to two pages long, the individual sections should naturally merge into one another to create a holistic effect. Use the following as a checklist to ensure that you have included all of the necessary content in your ES. Pending approval of the COD-GH director, students may select to complete their Scholarly Project with an emphasis on a global health topic in lieu of the GHDP Thesis. If a student does not select a Scholarly Project with an emphasis on global health, they must complete a GHDP thesis.

- The Structure of the General Content of the Paper and the Executive Summary

- *Identify your purpose and motivation.*
  - What your research is about in an underdeveloped country.
  - Why is this important? You should by explaining why people should care about this study.
  - Why is it significant and to Global Health?
  - What is exact purpose of your study?
  - What are you trying to achieve?
  - What made you decide to do this study or project?
- In summary, the first section of the body of your paper and the ES should include the importance of the research and the impact it might have in Global Health.
- *Explain the problem you are addressing.*

Stating the “problem” that your research addresses is the corollary to why your specific study is important and necessary. For instance, if the issue of “lack of deliverables in OB/GYN in underdeveloped countries” is important, what is the problem—the “missing piece of the puzzle”—that your study helps resolve? You can combine the problem with the motivation section, but from a perspective of organization and clarity, it is best to separate the two. Here are some precise questions to address:

  - What is your research trying to better understand or what problem is it trying to solve?
  - What is the scope of your study—does it try to explain something general or specific?
  - What is your central claim or argument?
- *Discuss your approach (Method and Materials).*

You have established the importance of the research, your motivation for studying

this issue, and the specific problem your paper addresses. Now you need to discuss *how* you solved or made progress on this problem—how you conducted your research. If your study includes your own work or if in your paper you reviewed the work of others, explain this here. Did you use analytic models? A simulation? A case study? You are basically showing the reader the internal engine of your research machine and how it functioned in the study. Be sure to:

- Detail your research—include methods/type of the study, your variables, and the extent of the work
  - Briefly present evidence to support your claim
  - Highlight your most important sources
- *Summarize your results.*  
Here you will give an overview of the outcome of your study. Avoid using too many vague qualitative terms (e.g., “very,” “small,” “tremendous”) and try to use at least some quantitative terms (i.e., percentages, figures, numbers). Save your qualitative language for the conclusion statement. Answer questions like these:
- What did your study yield in concrete terms (e.g., trends, figures, correlation between phenomena)?
  - How did your results compare to your hypothesis? Was the study successful?
  - Where there any highly unexpected outcomes or were they all largely predicted?
- *State your conclusion.*  
In the last section of the body of your paper and your ES, you will give a statement about the implications of your study. Be sure to connect this statement closely to your results and not the area of study in general. Are the results of this study going to shake up the Global Health world? Will they impact how people see your chosen topic in underdeveloped countries”? Or are the implications minor? Answer one of these questions:
- What are the exact effects of these results on my field? On the Global Health world?
  - What other kind of study would yield further solutions to problems?
  - What other information is needed to expand knowledge in this area?

#### **Element 5: Global Health Elective (4<sup>th</sup> year – MEDP 891)**

- Each Experience provided within Global Health is designed help medical students become comfortable within the community health context of a developing country which has limited resources and access to medical care.
- Medical students will achieve Community and Education Goals within 3 primary areas:
  - Introduction to the local health care systems.
  - Cultural issues and communication, including natural healers within bush medicine.
  - Reading, research and community education projects.
- The learning objectives facilitated through Global Health student experiences are:
  - Recognize and appreciate cost-effective approaches to medical care in a resource constrained setting. Students will have the opportunity to practice medicine relying heavily on the history and physical examination with limited access to diagnostics, choice of medicines and hospital facilities.

- Demonstrate effective team-building skills with colleagues from multiple medical disciplines and with local health care providers.
- Recognize and treat illnesses common to those seen in the developing country.
- Recognize the delivery of health in a multicultural region of the world while gaining an understanding of the country's political, cultural and historical context and their impact on health and health care delivery.
- Recognize prevalent cross-cultural and underserved issues in primary care, and gain an understanding of how this knowledge can be applied to a practice in the participants' home country.
- Understand the benefits and challenges of working with communities and recognize strategies to overcome the challenges.
- Develop the skills, knowledge, and attitudes necessary to effectively work with communities to identify and appropriately access community-based resources.
- Understand and appreciate how psychological, economic, spiritual, social and biological factors interrelate to affect patient health.

## Longitudinal Process and Flow

### **Medical Student Year 1**

- Successfully complete the first year of the Global Health Seminar Series
- Develop the Global Health Discovery Project or their Scholarly Project (GHDP/SP)
- Identify UA College of Medicine – Phoenix Global Faculty Mentor
- During the winter break attend the IHOP trip to the Dominican Republic
- Work on the GHeL courses

### **Medical Student Year 2**

- Successfully complete the second year of the Global Health Seminar Series
- Work on GHDP/SP
- Work on the GHeL courses

### **Medical Student Year 3**

- Successfully complete the third year of the Global Health Seminar Series
- Continue work on GHDP/SP
- Work on the GHeL courses

### **Medical Student Year 4**

- Successfully complete the fourth year of the Global Health Seminar Series
- Complete the GHeL courses
- One month of global health elective experience addressing health equity and access issues
- Report on GHDP/SP

### **Global Health Mentors**

Clinicians who have experience in international health will be asked to serve as mentors to the students who are pursuing the COD-GH. The mentors and students will be paired based on common interests. The mentor will be responsible for guiding and ensuring the completion of the GHDP/SP.

### Meeting requirements

- Students and mentors will meet 2 times a year and more if necessary
- A meeting within 2 weeks before the rough draft deadline of the GHDP-SP on February 15<sup>th</sup> of the graduation year
- A meeting within two weeks before the final draft of the GHDP-SP deadline on April 1<sup>st</sup> of the graduation year

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### Global Health Certificate of Distinction: Competency Based Goals and Objectives

(Adapted from the AAP guidelines for Resident exposure to International Health with additional references)

These curriculum objectives are intended as **comprehensive guidelines** for the UA-College of Medicine – Phoenix *Global Health Certificate of Distinction* program offering some organized form of training in global health, which includes a didactic curriculum and international experience.

**GOAL:** Global Health. Understand general principles related to the health of both adults and children in developing countries. These principles can also be applied to underserved populations in the U.S.

## Competencies

### Competency 1: Patient Care

Provide patient care that is development- and age-appropriate, compassionate, and effective for the treatment of health problems and the promotion of Health

1. Use a logical and **appropriate clinical approach** to the care of patients in a developing country setting, utilizing **locally available resources**.
2. Understand the approach to pediatric and adult patients with the following presentations in developing countries and initiate appropriate work-up and management:
  - Diarrhea/dehydration**
  - Respiratory Distress**
  - Fever**
  - Seizures/Altered Mental Status**
  - Malnutrition (including Severe Acute Malnutrition)**
3. Provide **culturally sensitive care and support** to patients and their families.
4. Participate in **health promotion and injury/disease prevention** activities in an international setting, utilizing local guidelines and practices.

### Competency 2: Medical Knowledge

Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a physician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care and community health.

### Epidemiology/Public Health:

1. Identify the major causes and epidemiological trends of **infant and child mortality and morbidity** in developing countries.
2. Recognize the **major underlying socioeconomic and political determinants of infant/child health**, and how these impact inequities in child survival and health care access between and within



countries.

3. Describe **known effective interventions, including prevention and treatment**, for reducing under 5 mortality and morbidity (e.g., vitamin A supplementation, exclusive breastfeeding, etc.).
4. Describe the epidemiology of **neonatal mortality**, and compare/contrast common causes including perinatal asphyxia and neonatal infections to under-five mortality.
5. Identify **prevention and treatment strategies** (e.g., skilled delivery at birth) specifically aimed at reducing neonatal morbidity and mortality.
6. List the leading causes of **maternal mortality** in the developing world, how they are impacted by health care systems, and contrast them with those in industrialized countries.
7. Identify epidemiological trends and significance of **emerging infectious diseases** in the developing world.
8. Understand the impact of **environmental factors**, including safe water supply, sanitation, indoor air quality, vector control, industrial pollution, climate change and natural disaster on child health in developing countries.
9. Demonstrate a basic understanding of **health indicators** and **epidemiologic tools and methods**, and how they may be used in settings with limited resources to monitor and evaluate the impact of public health interventions.
10. Understand the common childhood **injuries, including drowning, ingestions, burns and motor vehicle accidents that** contribute to childhood morbidity and disability in the developing world, and describe prevention strategies.

#### **Malnutrition and Infectious Diseases:**

11. Compare the different **anthropometric measures** used to diagnose malnutrition in **underweight, stunted and acutely malnourished children**.
12. Recognize the etiology and effects of **micronutrient deficiencies** and how they can be prevented and treated.
13. Describe the interaction between malnutrition/micronutrient deficiencies and infectious diseases in infants and young children.
14. Become familiar with the presentation, diagnosis, management, and prevention strategies of the following specific diseases in resource-limited settings, based on local and international guidelines:
  - Malaria** - uncomplicated and complicated/severe (e.g. Cerebral malaria)
  - Pneumonia**
  - Diarrhea and dysentery**
  - Measles**
  - Neonatal infections** including neonatal tetanus
  - HIV/AIDS** and related infections/complications
  - Tuberculosis**
  - Typhoid**
  - Fever**
  - Dengue**
  - Fever**
  - Meningitis**

15. List the **vaccine-preventable diseases** and the immunizations available in developing countries, and know the current international vaccine policies and recommendations (WHO EPI).
16. Identify conditions that contribute to **impaired cognitive development** and associated morbidity in the developing world, such as intestinal parasites, anemia, nutritional deficiencies and birth complications.

### **Specific Populations**

17. Describe common health issues faced by **immigrant and refugee populations** in developed nations. (could be part of the Rural Health Program)
18. Describe health issues of children in the developing world affected by humanitarian crisis, including **refugees, internally displaced, and orphans**.
19. Understand the health and psychological impact of certain activities affecting children including **child trafficking, child soldiers and child labor**.
20. Identify specific health issues and needs of **international adoptees**, and describe appropriate screening and counseling for adopting families.
21. Understand the challenges faced by children living with **disabilities** in resource-poor settings, and describe prevention strategies and models of support.

### **Competency 3: Interpersonal Skills and Communication**

Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families, their communities, and professional associates.

1. Practice effective **communication** with families who speak another language and utilize interpreters appropriately.
2. **Communicate effectively and respectfully with physicians and other health professionals** in an international setting, in order to share knowledge and discuss management of patients.
3. Demonstrate awareness of **effective communication approaches** for delivery of health care and promotional messages in communities with **limited literacy and education**.

### **Competency 4: Practice-based Learning and Improvement**

Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.

1. Identify appropriate medical resources, including **reference texts and standardized guidelines** (e.g., WHO/UNICEF) **for diagnosis and treatment** of conditions common to developing countries.
2. Understand the principles of **evidence-based medicine** and apply them when reviewing recent literature and considering the implications for impact on practice.
3. **Work collaboratively with health care team members** to assess, coordinate, and improve patient care practices in settings with limited resources.
4. Apply and improve upon **physical examination skills and clinical diagnosis** in settings where diagnostic studies are limited.
5. Establish **individualized learning objectives** for an international elective and strategies for meeting those objectives.

6. Identify and utilize the **resources needed to prepare for an international rotation or work** in a less developed country.
7. Understand the role of the pediatrician in responding to **humanitarian emergencies and disaster relief efforts**, within the context of participating local and international organizations, and become familiar with available resources to prepare for volunteering in this setting.

#### **Competency 5: Professionalism.**

Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to diversity when caring for patients in a developed *or* developing country setting.

1. Demonstrate a commitment to **professional behavior** in interactions with staff and professional colleagues and be respectful of differences in knowledge level and practices.
2. Give examples of **cultural differences** relevant to care of international populations and how **traditional medicine** and Western/scientific medicine can conflict with or complement one another.
3. Discuss **common ethical dilemmas and challenges** confronted when working in a setting with limited resources or different cultural values.
4. Understand the **ethical standards and review processes for research** with human subjects carried out in developing countries.
5. **Recognize personal biases** in caring for patients of diverse populations and different backgrounds and how these biases may affect care and decision-making.
6. **Plan a responsible and ethically-guided international rotation experience**, ensuring adequate preparation and appropriate expectations both for yourself and your international hosts.
7. Understand and be sensitive to the profound **inequities in global health** and how individuals can contribute to diminishing these disparities.

#### **Competency 6: Systems-based Practice**

Understand how to practice high-quality health care and advocate for patients within the context of the health care system.

1. Compare and contrast different **health care delivery settings in the developing world**, including hospitals, clinics and the community, and the roles of different health care workers as they apply to patients in developing countries, such as the physician, nurse, community health worker, traditional birth attendant, etc.
2. Identify the **major governmental and non-governmental organizations** active in international child health, and give examples of initiatives and programs that impact child health (WHO, UNICEF, Global Fund, GAVI, etc.).
3. Describe international goals and strategies for improving child and maternal health (such as the **Millennium Development Goals**).
4. Develop understanding and awareness of the **health care workforce crisis in the developing world**, the factors that contribute to this, and strategies to address this problem.
5. Identify different **health care systems and fee structures** between and within countries, including the **public and private sectors**, and understand the impact of these systems on access to patient care and quality of care.

6. Demonstrate sensitivity to the **costs of medical care** in countries with limited resources and how these costs impact choice of diagnostic studies and management plans for individual patients.
7. Contrast the advantages and disadvantages of different approaches to implementing **health care interventions in developing countries**, such as vertical or targeted programs vs. integrated; focused vs. comprehensive; facility-based vs. community.
8. **Advocate** for families, such as recent immigrants to a developed country, who need assistance to deal with system complexities, such as lack of insurance, multiple appointments, transportation, or language barrier.
9. Understand the pediatrician's role in **advocating for health policy** efforts that can reduce inequities and improve health of children in developing countries.