



# 2012 Student Manual

## Clinical Topics in Global Health

*Introducing students to the most important global health problems  
with a focus on clinical practice.*

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# Clinical Topics in Global Health

## A global health elective

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Medical and dental student interest in global health has been growing rapidly nationwide. As a result of global health experiences, students encounter a wider variety of diseases and health systems, improve their clinical examination skills, decrease their reliance on technology and laboratory resources, enhance their awareness of costs and resource allocation, and develop improved cultural sensitivity. However, pre-travel training opportunities remain limited, and many students participate in global health rotations without adequate preparation. This under-preparedness negatively impacts trainees as well as host communities. Many medical and dental schools could benefit from additional curricular opportunities to fully meet the needs of pre-clinical students whose first global health rotation often occurs in the summer between their first and second years.

In response to this recognized need, we developed *Clinical Topics in Global Health*. This multi-disciplinary, skills-based global health elective has been offered yearly since 2009. Ten 3-hour evening sessions introduce students to the evidence-based knowledge, skills, and attitudes needed to perform at an appropriate level as a rotating student in a resource-limited international setting. The ten leading causes of global burden of diseases are complemented with key crosscutting issues to generate the core syllabus for the course. Topics covered include neonatal, child, and maternal mortality, major and neglected infectious diseases, chronic non-communicable diseases, mental health, blindness, oral health, primary health care, health systems and delivery, populations in humanitarian crisis, and working in global health. Wherever possible, topics are paired with practical skills appropriate to resource-limited settings. Examples include neonatal resuscitation, partogram monitoring of active labor, basic bedside ultrasound, and basic tooth extraction. Teaching methods are tailored to each clinical topic and include lectures, practical skills sessions, case discussions, key readings, and invited guest speakers.

### Course goals

- Introduce students to the evidence-based knowledge, skills, and attitudes they will need to perform at an appropriate level as a rotating student in resource-limited international settings
- Orient students to the most important global health problems
- Explore each of these conditions with a particular focus on clinical practice
- Provide practical guidance for students interested in pursuing further training or careers in global health

### How to apply

Interested students should submit a brief statement of interest (several paragraphs, not to exceed 500 words) to the course director(s). The optimal class size is approximately 25-30 students.

### Course schedule

Session 1 — Introduction to global health

Session 2 — Maternal and newborn health

Session 3 — Non-communicable diseases, mental health, and oral health

Session 4 — Child health

Session 5 — Global health systems and delivery

Session 6 — HIV/AIDS and tuberculosis

Session 7 — Malaria and neglected tropical diseases  
Session 8 — Malnutrition, diarrheal illnesses, rehydration  
Session 9 — Populations affected by humanitarian crisis  
Session 10 — Working in global health

### **Evaluation**

Students are evaluated on a pass, no-pass basis. In order to receive a passing grade, students must:

- Attend at least 7 out of the 10 sessions
- Complete the pre- and post-course knowledge assessments

Students should notify the course directors if they will be missing class.

### **Readings**

Required readings are required but do use your time effectively—in many cases, executive summaries, key tables and figures, discussion sections, etc. will suffice.

### **Knowledge assessment:**

Students will be asked to complete an online, multiple-choice knowledge assessment before the course and again at the end of the course. The purpose of the knowledge assessment is to assess the effectiveness of the course in teaching core topics; students' individual scores will not have an impact on their evaluations.

## **Session 1: Introduction to global health**

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### **Learning objectives:**

- Scope and various definitions of “global health”
- Current problems that reveal the need for an integrative, primary health care approach
- Working in global health and effecting broad social change
- Current trends in global health education and training

### **Agenda:**

6:00-6:20: Introduction to Global Health (core faculty lecture)

6:20-7:10: Primary Health Care, Now More Than Ever (core faculty lecture)

7:10-8:00: Break and Class Introductions (group discussion)

8:00-8:40: Discussion on global health work and broad social change (group discussion, led by student course coordinator)

8:40-9:00: Global Health Trends in U.S Education (core faculty lecture)

### **Readings:**

- Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR. September 6-12, 1978.
- World Health Organization. Primary Health Care: Now More Than Ever. *The World Health Report*. 2008. (Please read “Director General’s Message” and “Introduction and Overview”)

- Kleinman A. Four Social Theories for Global Health. *Lancet*. 2010 May 1; 375: 1518-1519.

## Session 2: Maternal and newborn health

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### Learning objectives:

- Leading causes of maternal and newborn mortality worldwide
- Proven, cost-effective interventions for the prevention of maternal and newborn morbidity and mortality
- Case study in the use of a graphical partogram for monitoring mothers in labor
- Practical skill session on essential newborn resuscitation

### Agenda:

6:00-7:00pm: Overview of Maternal Health (guest lecture)

7:00-7:15pm: Student Case on Partogram Use (case-based discussion, led by student course coordinator)

7:15-7:30pm: Break

7:30-9:00pm: Newborn Resuscitation: Presentation and Practicum (hands-on practicum, led by core faculty and pediatric resident facilitators)

### Readings:

- Friberg IK, Kinney MV, Lawn JE, Kerber KJ, Odubanjo MO, Bergh AM, et al. Sub-Saharan Africa's mothers, newborns, and children: how many lives could be saved with targeted health interventions? *PLoS Med*. 2010 Jun 21;7(6):e1000295.
- Kinney MV, Kerber KJ, Black RE, Cohen B, Nkrumah F, Coovadia H, et al. Sub-Saharan Africa's mothers, newborns, and children: where and why do they die? *PLoS Med*. 2010 Jun 21;7(6):e1000294.

## Session 3: Non-communicable diseases, mental health, and oral health

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### Learning objectives:

- Overview of non-communicable diseases: definition, current and future burden
- Social and political context of NCDs and a roadmap for collective action
- Basics of clinical management of two chronic diseases: asthma and depression
- Introduction to global oral health

### Agenda:

6:00-7:10 Introduction to Non-Communicable Diseases (joint lecture by guest faculty and former student course coordinator)

7:10-7:30 Clinical Management of Asthma and Depression (case-based discussion, led by core faculty)

7:30-7:45 Break

7:45-9:00 Oral Health (guest lecture and hands-on practicum)

### Readings:

- Geneau R, Stuckler D, Stachenko S, McKee M, Ebrahim S, Basu S, et al. Raising the priority of preventing chronic diseases: a political process. *Lancet*. 2010 Nov 13;376(9753):1689-98.
- Global status report on noncommunicable diseases 2010, Executive Summary. WHO, 2010.
- Patel V, Thornicroft G. Packages of care for mental, neurological, and substance use disorders in low- and middle-income countries: PLoS Medicine Series. *PLoS Med*. 2009 Oct;6(10):e1000160.
- Farmer P, Frenk J, Knaul FM, Shulman LN, Alleyne G, Armstrong L, et al. Expansion of cancer care and control in countries of low and middle income: a call to action. *Lancet*. 2010 Oct 2;376(9747):1186-93.

## Session 4: Child health

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### Learning objectives:

- Leading causes of mortality worldwide in children under 5 years of age
- Proven, cost-effective interventions for preventing childhood morbidity and mortality
- Discussion of Acute Respiratory Infections (ARIs), the second leading cause of under-five mortality
- Practical sessions on: 1) making asthma spacers from water bottles, and 2) using mobile technology for health ("M-health")

### Agenda:

6:00-7:00pm: ARIs in Children (guest lecture)

7:00-7:15pm: Break

7:15-8:15pm: Overview of Child Health (core faculty lecture)

8:15-9:00pm: Water Bottle Spacers (hands on practicum, led by former student course coordinator) and M-health Technology (case-based discussion, led by course alumnus)

### Readings:

- Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? *Lancet*. 2003 Jun 28;361(9376):2226-34.
- UNICEF. *The State of the World's Children 2008: Child Survival*. New York City, December 2007. (Please read Chapter 1)
- Rudan I, Boschi-Pinto C, Biloglav Z, Mulholland K, Campbell H. Epidemiology and etiology of childhood pneumonia. *Bulletin World Health Organization*. 2008 May;86(5):408-16.

## Session 5: Global health systems and delivery

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### Learning objectives:

- Understand the importance of focusing on global blindness
- Outline the basic principles of health care delivery
- Explore the complexities of building systems and delivering care through the lens of Liberia's health reform and reconstruction

### Agenda:

6:00-6:30pm: Global Blindness (guest lecture)

6:30-7:30pm: Case Study, Part I: Liberia Health Reform (case-based discussion, led by core faculty, guest faculty, and student course coordinator)

7:30-7:45pm: Break

7:45-9:00pm: Case Study, Part II: Liberia Health Reform (case-based discussion, led by core faculty, guest faculty, and student course coordinator)

### Readings:

- Case Studies: Liberia Health Reform (Part A – The Basic Package of Health Services and Part C – Health Service Delivery). Reprints available at: [mghglobalprimarycare@partners.org](mailto:mghglobalprimarycare@partners.org).
- Barnighausen, Till, David Bloom, and Salal Humair. "Going Horizontal — Shifts in Funding of Global Health Interventions." *New England Journal of Medicine* 364 (2011): 2181-183.
- World Health Organization Maximizing Positive Synergies Collaborative Group, Samb B, Evans T, Dybul M, Atun R, Moatti JP, et al. An assessment of interactions between global health initiatives and country health systems. *Lancet*. 2009 Jun 20;373(9681):2137-69. (Please read "Introduction" and "Panel 2: Summary of Key Findings, and Synthesis and Recommendations")

## Session 6: HIV/AIDS and tuberculosis

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### Learning objectives:

- Learn the basics of HIV/TB care in resource-limited settings
- Learn and practice a clinical algorithm for managing suspected TB in ambulatory HIV-positive patients
- Explore new issues in HIV care and treatment

### Agenda:

6:00-7:00pm: The Basics of HIV/TB Care in Resource-Limited Settings (joint lecture by core faculty and student course coordinator)

7:00-7:50pm: Suspected TB in Ambulatory HIV-positive Patients (case-based discussion, led by core faculty and student course coordinator)

7:50-8:00pm: Break

8:00-9:00pm: HIV Treatment Adherence – Challenges, Opportunities, and Solutions (guest lecture)

**Readings:**

- Partners In Health. Unit 3: Comprehensive approach to the management of TB/HIV co-infection in adults. *PIH HIV Curriculum Participant's manual*.
- Harries AD, Zachariah R, Corbett EL, Lawn SD, Santos-Filho ET, Chimzizi R, et al. The HIV-associated tuberculosis epidemic--when will we act? *Lancet*. 2010 May 29;375(9729):1906-19.

## **Session 7: Malaria and neglected tropical diseases**

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**Learning objectives:**

- Basic clinical management of uncomplicated and severe *falciparum* malaria
- Overview of several neglected tropical diseases
- Common lab microscopy findings in resource-limited settings

**Agenda:**

6:00-6:45pm: Overview of Tropical Diseases (core faculty lecture)

6:45-7:15pm: Overview of Malaria (core faculty lecture)

7:15-7:30pm: Break

7:30-9:00pm: Lab Microscopy in Resource-Limited Settings (hands on practicum, led by guest faculty)

**Readings:**

- Hotez PJ, Mistry N, Rubinstein J, Sachs JD. Integrating Neglected Tropical Diseases into AIDS, Tuberculosis, and Malaria Control. *NEJM* 2011;364:2086-9.
- Ryan ET, Wilson ME, Kain KC. Illness after international travel. *NEJM* 2002;347(7):505-16.
- World Health Organization. Guidelines for the treatment of malaria, Executive Summary (pg. ix-xi). Second edition. Geneva, 2010.
- World Health Organization. Guidelines for the treatment of malaria, 2011 additional recommendations update. Geneva, 2011.

## **Session 8: Malnutrition, diarrheal illnesses, rehydration**

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**Learning objectives:**

- Discussion of childhood malnutrition
- Case study on the use of MUAC tapes and WHO malnutrition guidelines
- Discussion of diarrheal illnesses, the third leading cause of under-five mortality
- Rehydration methods in resource-limited settings

**Agenda:**



6:00-7:00pm: Diarrheal illness, rehydration, and resuscitation (core faculty lecture)  
7:00-8:00pm: Malnutrition (guest lecture)  
8:00-8:15pm: Break  
8:15-8:45pm: Student Case on Malnutrition (case-based discussion, led by student course coordinator)  
8:45-9:00pm: Screening for Acute Malnutrition and Mixing ORS (hands-on practicum, led by student course coordinator)

### Readings:

- Collins S, Dent N, Binns P, Bahwere P, Sadler K, Hallam A. Management of severe acute malnutrition in children. *Lancet*. 2006 Dec 2;368(9551):1992-2000.
- UNICEF. How to Identify and Refer Children with Acute Malnutrition.
- Santosham M, Chandran A, Fitzwater S, Fischer-Walker C, Baqui AH, Black R. Progress and barriers for the control of diarrhoeal disease. *Lancet*. 2010 Jul 3;376(9734):63-7.

## Session 9: Populations affected by humanitarian crisis

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### Learning objectives:

- Understanding the essentials for responding to humanitarian emergencies and disasters
- The role of clinicians in humanitarian emergencies and disasters
- Practical skill session on performing basic ultrasound in the field

### Agenda:

6:00-7:00pm: Humanitarian Emergencies (guest lecture)  
7:00-9:00pm: Ultrasound in the Field (guest hands-on practicum)

### Readings:

- Sphere Project. *The Sphere Project: Humanitarian Charter and Minimum Standards in Disaster Response*. Geneva, 2004. (Please read “What is Sphere?” and “The Humanitarian Charter”)
- Toole MJ, Waldman RJ. The public health aspects of complex emergencies and refugee situations. *Annual Review of Public Health*. 1997;18:283-312.
- Shah SP, Epino H, Bukhman G, Umulisa I, Dushimiyimana JM, Reichman A, et al. Impact of the introduction of ultrasound services in a limited resource setting: rural Rwanda 2008. *BMC International Health and Human Rights*. 2009;9:4.

## Session 10: Working in global health

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### Learning objectives:

- A candid discussion with current practitioners on working in global health – career paths, work/life balance, opportunities and pitfalls, key decision points, future directions

**Agenda:**

6:00-6:45pm: Working in Global Health (guest lecture)

6:45-7:00pm: Break

7:00-9:00pm: Panel Discussion on Career Paths, Work/Life Balance, Opportunities and Pitfalls in Global Health (four guest faculty, representing range of early/mid-career men and women across range of health and development professions)

**Readings:**

- Crump JA, Sugarman J; Working Group on Ethics Guidelines for Global Health Training (WEIGHT). Ethics and best practice guidelines for training experiences in global health. *Am J Trop Med Hyg.* 2010 Dec;83(6):1178-82.