# Introduction to Global Maternal and Child Health

**Duke University, Spring 2014**

printable version here

| Course Code: | **GLHLTH 571-01** |
|---|---|
| **Instructor:** | Eric Green, Ph.D. |
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| **Web:** | Facebook (private) / Google Drive (private) |
| **Classroom:** | Trent 124 |
| **Time:** | M 15:05-17:35 |

# COURSE DESCRIPTION

This course is designed to provide students with a solid foundation in global perspectives on maternal and child health research, practice, and policy. Through a combination of lecture, class discussion, and in-class activities, students will examine critical health challenges facing women, children, healthcare providers, and policymakers in some of the world's most vulnerable communities.

# LEARNING OBJECTIVES

By the end of this course, students will:

- know how key maternal and child health outcomes are measured;

- appreciate the global burden of maternal and child mortality and morbidity;

- have a working knowledge of the evidence base for key maternal and child health interventions;

- be familiar with innovative technologies and services for maternal and child healthcare;

- be able to articulate the key challenges facing health systems serving women and children; and

- be familiar with the major policy debates and international advocacy initiatives in the field of maternal and child health.

# COURSE REQUIREMENTS

## Class Participation (50%)

I expect that all students will make regular, meaningful contributions to class discussions and team assignments. For that reason, your participation grade will be determined by your attendance and contributions to class activities. Every class I will pull a few names at random to determine who will be the first to field questions about the required readings. If you are absent on the day I pull your name, you will lose 3 participation points (excused absences excluded). If this happens twice, your grade will drop a step (e.g., from A+ to A).

# Writing Assignments (50%)

The first midterm exam (40%) will cover maternal health, and the second midterm (40%) will cover infant and child health. Both exams will be take-home. I will announce details about the first midterm exam on Feb 24, and you will have until 9am ET on Mar 4 to submit it. I'll give you details about your second midterm on the last day of class, and it will be due at 9am ET on April 22. I will give other small writing assignments throughout the semester that will make up 20% of your "writing assignments" grade.

I encourage you to consult the Writing Studio throughout the semester. You may seek their support for any assignment, including the midterm exams. The Writing Studio also publishes helpful resources that will help you to improve your drafts, such as this collection on working with sources. Avoid plagiarism and know when to quote (rarely) and when to paraphrase (often). If you do not use a citation manager, you should, and the library can help you get started.

# EVALUATION

Students should abide by the Duke Community Standard at all times. If a questionable circumstance arises, do not hesitate to seek my guidance (before is always better than after).

# Grading Scale

The grading scale for this course is as follows:

| A+: 100-98 | A: 97-93 | A-: 92-90 |
|---|---|---|
| B+: 89-87 | B: 86-83 | B-: 82-80 |
| C+: 79-77 | C: 76-73 | C-: 72-70 |
| D+: 69-67 | D: 66-63 | D-: 62-60 |
| F: 59 and below | | |

# Final Grade

Your final grade will be a weighted average of your participation (50%) and writing assignments (50%). If you are in between grades, and if the difference is less than or equal to 0.5, your score will round up (e.g., 97.5 rounds up to 98). See this grading template for more details. Penalties for late submissions will be described with each assignment.

# CLASS FORMAT

The general class format will be as follows. Please try to limit your breaks to the scheduled breaks. Readings listed under "*In-Class Activity*" should be read before class.

| Session A | 70 min |
|-----------|--------|
|           | 30 min discussion of assigned readings |
|           | 5 min break |
|           | 35 min in-class activity |
| Break     | 10 min |
| Session B | 70 min |
|           | 30 min discussion of assigned readings |
|           | 5 min break |
|           | 35 min in-class activity |

# FREQUENTLY ASKED QUESTIONS

## How can we contact you?

Aside from talking in person, email is my preferred mode of communication; it helps me to keep track of our conversation. A clear and concise email with "MCH" in the subject line will usually result in a response from me within 24 hours, often sooner. If you have a question or request, please put it toward the top of your message. Come across an interesting link? Feel free to send it along but forgive me if I don't reply. Better yet, post it to our Facebook group so everyone can benefit. Finally, if you find yourself needing to write more than a few sentences, you should probably just come by for office hours so we can talk in person. I lurk on Twitter and usually have Skype open during the day. Feel free to reach me on either one. I'll respond if I can. I also own a phone and take

advantage of its calling features. Sometimes a quick call can save a lot of time.

# What are your office hours?

W 13:00-16:00 in Trent Hall 238. Other times by appointment (email me). Skype, phone, or in-person meetings are possible.

# Is it OK to record class sessions?

You should feel free to create recordings in class that aid your learning. This does not give you permission to share or distribute these recordings. Know that for all of your classes, the speaker holds the copyright to the lecture, and you must get the speaker's written permission to distribute this content. And you have to consider individual privacy rights of your classmates. This video produced by Duke's Scholarly Communications Office gives a short overview of the issues.

# What happens if I miss class?

Officially, Duke permits students to miss work due to absence from class in four circumstances: illness; personal emergencies; religious observance; and varsity athletic participation. Please take a moment to read how Duke defines each circumstance. Missed work associated with any other absence is not covered by this policy and will be considered on a case-by-case basis. See here for the implications of unexcused absences on your participation score.

# May I use electronic devices during class?

You are free to use any device in the classroom that helps you learn and work (e.g., laptop, tablet, smartphone). If you try to multitask and work on non-class assignments, improve your high score on Angry Birds Candy Crush, or make a critical trade for your Fantasy Football team, your grade will likely suffer. I will notice, and recent research (Wood et al., 2012) suggests that you might not perform as well as you could have in the course if you were not distracted during class.

Rather than banning devices and the internet from the classroom, I will leave it up to you to learn how to use these tools effectively. You will have these distractions in every work meeting once you graduate, so I see no need to enforce an outright ban. Furthermore, I think you will benefit from being able to search the web and use online collaboration tools during class.

That said, I reserve the right to ask you to turn off your device or go offline if I believe that you are distracted or are somehow distracting others (the person behind you will inevitably want to see the sneezing panda). Students in one recent study rated other students' laptop usage as having the most (negative) impact on their ability to concentrate and learn (Fried, 2008). I will know if you are wandering the internet. You might not think so, but you make a face that says "I am checking my Facebook News Feed or chatting with someone right now".

No phone calls, texting, instant messaging, or emailing during class. We will take a break every half hour, so please plan accordingly.

# RESOURCES

## Primers (not required)

### Maternal and Child Health

Richardson, L. J. et al. (2013). A life course perspective on maternal and child health. In

Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

Singh, K. et al. (2013). Global maternal and child health. In Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

Cassidy, T. (2006). Birth: The Surprising History of How We Are Born. New York: Atlantic Monthly Press. Chapters 2 and 3. (gated and on reserve)

Tsui, A. et al. (2013). Family planning. In Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

## MCH Research

Wingate, M. S. et al. (2013). Research issues in maternal and child health. In Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

Peoples-Sheps, M. D. et al. (2013). Assessment and program planning in maternal and child health. In Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

Speizer, I. S. et al. (2013). Monitoring and evaluation for global maternal and child health programs. In Kotch, J. B. (Ed.), Maternal and Child Health. Burlington, MA: Jones & Bartlett Learning. (gated and on reserve)

## Health Financing

Gupta, I. et al. (2010). Demand side financing in health. How far can it address the issue of low utilization in developing countries. World Health Report.

# Additional Resources on MCH

Via Delicious:

- [Journals](#)

- [Current issues](#)

- [Data sources](#)

- [Organizations](#)

# CLASS SCHEDULE

M Jan 13, [Class 1](#), Introduction

| Maternal Health | | Child Health | |
|---|---|---|---|
| M Jan 20 | No class | M Mar 10 | No class |
| M Jan 27 | Class 2 | M Mar 17 | Class 8 |
| M Feb 3 | Class 3 | M Mar 24 | Class 9 |
| M Feb 10 | Class 4 | M Mar 31 | Class 10 |
| M Feb 17 | Class 5 | M Apr 7 | Class 11 |
| M Feb 24 | Class 6 | M Apr 14 | Class 12 |
| M Mar 3 | Class 7 | | |

# ASSIGNMENTS

## Class 1: Introduction

**Assigned Readings**

None. Consider reviewing primers.

# Class 2: Maternal Mortality

## Session 2a: Data and measurement

*It's been said that we only try to fix what we can count. So what counts as maternal mortality, and where do the data come from? And what happens when countries do not have any data?*

### Assigned Readings

Loudon, I. (1992). Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950. Oxford: Clarendon Press. (course resources, gated)

Hoyert, D. L. (2007). Maternal Mortality and Related Concepts.

Cross, S. et al. (2010). What you count is what you target: the implications of maternal death classification for tracking progress towards reducing maternal mortality in developing countries. Bulletin of the World Health Organization, 88(2), 147-153.

Hogan et al. (2010). Maternal mortality for 181 countries, 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5. Lancet, 375(9726), 1609-23.

Loudon, I. (2000). Maternal mortality in the past and its relevance to developing countries today. The American Journal of Clinical Nutrition, 72(1), 241s-246s.

### In-Class Activity: Where do the data come from?

1. Use the IHME mortality visualization tool to display data for your two countries. Record the number and type of data sources. See also the web appendix of the

Hogan et al. article and search for your countries.

2. Find the original data source.

# Session 2b: The who, when, where, and why of maternal mortality

*In this session we will move beyond country-level mortality statistics to understand who is most likely to die, the timing of maternal deaths, and where and why these deaths occur. You should come away with a sense that too many women are still dying from preventable causes, even if the situation is improving in many parts of the world.*

## Assigned Readings

Why did Mrs. X die (retold) (video)

Ronsmans, C. & Graham, W. J. (2006). Maternal mortality: Who, when, where, and why. The Lancet, 368(9542), 1189-1200.

Thaddeus, S., & Maine, D. (1994). Too far to walk: maternal mortality in context. Social Science & Medicine, 38(8), 1091-1110.

Rosenfield, A., & Maine, D. (1985). Maternal mortality-a neglected tragedy: Where is the M in MCH?. The Lancet, 326(8446), 83-85.

## In-Class Activity: Revisiting history

It's November 1933. FDR has only been in office for a few months, and the country is gripped by the Great Depression. World War II is just around the corner. A new weekly magazine called "News-Week" hit the newsstands for the first time on February 17. The 32-page magazine cost $0.10. The November 18th issue (Vol II, Issue 16) will feature Hitler on the cover and devote one page to "Science". You have been asked to write an article for this issue about a new report called Maternal Mortality in New York City (gated). This report followed a White House Conference on Child Health and Protection report published the same year (gated). Your editor wants a 300-word article and a

figure.

# Class 3: Preventing Maternal Mortality

## Session 3a: What works?

*For the most part, we know why women die in childbirth. In this session we'll learn about evidence-based maternal health and what works to prevent maternal deaths.*

### Assigned Readings

Campbell, O. M. R. & Graham, W. J. (2006). Strategies for reducing maternal mortality: getting on with what works. Lancet, 368(9543), 1284-1299.

The Partnership for Maternal, Newborn & Child Health (2011). A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH). Geneva, Switzerland: PMNCH.

IHME (2010). Building Momentum: Global Progress Toward Reducing Maternal and Child Mortality. (Chapter 1)

### In-Class Activity: Case analysis

Saving Mothers' Lives in Sri Lanka. Levine, R. (2007). Case Studies in Global Health: Millions Saved. Washington: Center for Global Development.

## Session 3b: Health systems and implementation challenges

*But just because we know what works, it does not mean that it's easy to turn this knowledge into action. We'll talk about the challenges of "scaling up" efficacious programs, and we will learn about the health systems in which these programs are embedded. We'll also consider cost-effectiveness and the hard choices facing policy*

*makers.*

## Assigned Readings

Prata, N., Passano, P., Sreenivas, A., & Gerdts, C. E. (2010). Maternal mortality in developing countries: challenges in scaling-up priority interventions. Women's Health, 6(2), 311-327.

Gerein, N. et al. (2009). Health system impacts on maternal and child health. In Ehiri, J. H. (Ed.), Maternal and Child Health. New York: Springer. (gated and on reserve)

Adam, T. et al. (2005). Cost effectiveness analysis of strategies for maternal and neonatal health in developing countries. BMJ, 331(7525), 1107.

Prata, N. et al. (2010). Setting priorities for safe motherhood interventions in resource-scarce settings. Health Policy, 94(1), 1-13.

## In-Class Activity: How many mothers' lives can you save?

Prior to class, install Spectrum and download the projection file for your group's assigned low-income country (instructions). Or plan to use the version we have installed on a virtual machine. Read about the Safe motherhood module and think about what decisions you will make as a policymaker charged with eliminating preventable maternal deaths in your country.

# Class 4: Pregnancy

## Session 4a: Antenatal Care

*Is antenatal care effective? What is the optimal number of ANC visits? In this session we will discuss the results of an influential multi-center randomized trial of the standard ANC model at the time vs "focused ANC" and follow the research trail through the oughts.*

**Assigned Readings**

Villar, J. et al. (2001). WHO antenatal care randomised trial for the evaluation of a new model of routine antenatal care. The Lancet, 357(9268), 1551-1564.

Dowswell, T. et al. (2010). Alternative versus standard packages of antenatal care for low-risk pregnancy. Cochrane Database Syst Rev, 10.

Vogel, J. P. et al. (2013). Antenatal care packages with reduced visits and perinatal mortality: a secondary analysis of the WHO Antenatal Care Trial. Reproductive Health, 10(1), 19.

## In-Class Activity: Plan a professional meeting about slavery and antenatal care

Imagine that you are an ambitious member of the newly formed American Medical Association living in the Antebellum South. You have decided to organize a professional meeting about antenatal care issues among slaves. You need to line up a keynote speaker and organize five additional talks on current (at the time) research and practice. Please create presentation titles and 80 word summaries for the keynote and five talks. Include in the schedule one "progressive" speaker who might challenge the establishment. The chapter on pregnancy (gated) in *Birthing a Slave* by Schwartz, M. J. (2006) will get you started.

# Session 4b: Diseases during pregnancy

*Diseases like HIV, TB, and malaria contribute to indirect maternal deaths. In this session we will survey recent literature on how these diseases affect pregnant women in low-income countries.*

## Assigned Readings

Calvert, C., & Ronsmans, C. (2013). The contribution of HIV to pregnancy-related mortality: a systematic review and meta-analysis. AIDS, 27(10), 1631.

Grange, J. et al. (2010). Tuberculosis in association with HIV/AIDS emerges as a major nonobstetric cause of maternal mortality in Sub-Saharan Africa. International Journal of Gynecology & Obstetrics, 108(3), 181-183.

Hill, J. et al. (2013). Factors Affecting the Delivery, Access, and Use of Interventions to Prevent Malaria in Pregnancy in Sub-Saharan Africa: A Systematic Review and Meta-Analysis. PLoS Medicine, 10(7), e1001488.

### In-Class Activity: Case analysis

Sullivan, E. et al. (2011). Botswana's Program in Preventing Mother-to-Child HIV Transmission. Harvard Medical School. (gated)

# Class 5: Childbirth

## Session 5a: Childbirth

*The majority of maternal deaths are caused by direct obstetric complications that are hard to predict and require life-saving treatment. Having access to emergency obstetric care can mean the difference between life and death when there are complications. That said, most women do not have complications and do not want to deliver at a facility where the quality of care may be questionable ([prime exampl*e]
(http://www.youtube.com/watch?v=Pev4r1C16-0)*). In this session we will review the evidence for emergency obstetric care and consider the reasons why facility deliveries are not common in all places.*

### Assigned Readings

Paxton, A. et al. (2005). The evidence for emergency obstetric care. International Journal of Gynecology & Obstetrics, 88(2), 181-193.

Knight, H. E., et al. (2013). Why Are Women Dying When They Reach Hospital on Time? A Systematic Review of the 'Third Delay'. PloS One, 8(5), e63846.

Kruk, M. E., Paczkowski, M., Mbaruku, G., de Pinho, H., & Galea, S. (2009). Women's preferences for place of delivery in rural Tanzania: a population-based discrete choice experiment. American Journal of Public Health, 99(9), 1666-1672.

### In-Class Activity: Innovation review

In 2011, USAID and partners launched the first "grand challenge" for maternal and child health called "Saving Lives at Birth". The same year, the WHO Innovation Working Group published a thematic report on maternal and child health innovation entitled "Innovating for Every Woman, Every Child". Since then, a number of great resources for MCH innovation have been developed, including the Center for Health Market Innovations and Maternova. Peruse resources like these and identify one promising safe motherhood innovation to share with the class.

# Session 5b: Maternal health financing

*Is money what is stopping women from using maternal health services? Should health systems abolish fees for maternity care? Should this care be subsidized? In this session, we will consider the impact of user fees and demand-side interventions on the use of maternal health services.*

## Assigned Readings

Dzakpasu, S., Powell-Jackson, T., & Campbell, O. M. (2013). Impact of user fees on maternal health service utilization and related health outcomes: a systematic review. Health Policy and Planning.

Bellows, N. M. et al. (2011). The use of vouchers for reproductive health services in developing countries: Systematic review. Tropical Medicine & International Health, 16(1), 84-89.

Mohanan et al. (2014). Effect of Chiranjeevi Yojana on institutional deliveries and neonatal and maternal outcomes in Gujarat, India: a difference-in-differences analysis. WHO Bulletin, online first.

**In-Class Activity: Research design**

In 2013, Kenya abolished fees for maternity care. How could we study the impact of this decision now? If you could go back in time and advise the Ministry of Health prior to implementation this policy change, how would you have suggested that they roll out the change to maximize learning opportunities?

# Class 6: Reproductive Health

## Session 6a: Population Growth

*The world population surpassed 7 billion in 2011. Where are we headed and what are the implications? Can we do anything to change course?*

### Assigned Readings

Ezeh, A. C., Bongaarts, J., & Mberu, B. (2012). Global population trends and policy options. The Lancet, 380(9837), 142-8.

See also this slide deck

Banerjee, A. V. & Duflo, E. (2012). Poor Economics. A Radical Rethinking of the Way to Fight Global Poverty. New York: Public Affairs. Chapter 5 (gated)

### In-Class Activity: Exploring population data

Prior to class, download and install R and RStudio on your computer, in that order.

## Session 6b: Family Planning

*Do family planning programs improve health outcomes and slow population growth? And what is "unmet need" for family planning? In this session we will review the evidence for family planning programs and discuss recent developments to advance*

*"preconception care".*

## Assigned Readings

Peterson, H. B. et al. (2013). Meeting the unmet need for family planning: now is the time. The Lancet, 381(9879), 1696-1699.

Bongaarts, J. et al. (2012). Family Planning Programs for the 21st Century: Rationale and Design. Population Council.

Dean et al. (2013). Setting Research Priorities for Preconception Care in Low- and Middle-Income Countries: Aiming to Reduce Maternal and Child Mortality and Morbidity. PLoS Med 10(9): e1001508.

## In-Class Activity: Case analysis

Reducing Fertility in Bangladesh. Levine, R. (2007). Case Studies in Global Health: Millions Saved. Washington: Center for Global Development.

# Class 7: Book Club

## Assigned Readings

Holloway, K. (2007). *Monique and the Mango Rains: two years with a midwife in Mali.* Long Grove, Il: Waveland Press. (available as an ebook)