

Instructors: Margaret McConnell and Stéphane Verguet
Office hours: Appointments by email
Email for appointments: MM: mmcconne@hsph.harvard.edu
SV: verguet@hsph.harvard.edu

Teaching fellow: Ece Ozcelik: eozelek@mail.harvard.edu

Class time: Monday & Wednesday, 2:30-4pm
Recitation: TBD
Location: Sever Hall 214
Course Website: Ec1389 I-Site at my.harvard

Overview:

This class examines health issues in developing countries from the standpoint of applied economics. Specific topics include: (1) identifying the bi-directional relationship between health and economic growth; (2) understanding key challenges to improving individual and global health; and (3) recognizing differences between optimal health decisions from an individual, national and global perspective. We will examine the empirical evidence in support of interventions affecting health, including the success and failure of interventions that target infant mortality, diarrhea, worms, AIDS, and malaria. We will also investigate the role of health insurance as well as different approaches to deliver health care in resource-constrained settings.

Prerequisites:

Formally, the course has a prerequisite of API 202 and API 102, or their equivalent in Harvard Yard. The class is open to doctoral students or MPAID students conditional on prior permission by the instructor. We will assume familiarity with intermediate economic theory and econometrics—including consumer theory, income and substitution effects, producer theory, experimental design, instrumental variables, and difference-in-differences estimation. We will review some of these concepts, but this review will not provide sufficient coverage to allow a proper understanding of the reading material for someone who has never taken classes in this area before.

Class:

This class is centered on two or three readings from the health and economics literatures chosen for each session. Students are required to complete the readings prior to class and will need to answer short quizzes prior to each session to demonstrate their understanding of the readings. The deadline for the submission of short quizzes is the beginning of each class – zero credit will be given for late submission.

Grading:

The grade of this class has the following four components:

Homeworks (short quizzes)	20 percent
Class attendance and participation:	20 percent
Midterm exam:	25 percent

Final project presentation	10 percent
Final project/paper:	25 percent

The midterm will be a closed-book in-class exam and will include true/false/uncertain questions as well as short-answer questions that test the understanding of the readings covered in class.

The final project will be a paper in which students will need to apply the materials and concepts learned during the course. Each student will need to pick a low or middle income country, assess its current health conditions, and make specific recommendations on how the health outcomes in the country of choice could be improved most effectively.

The final paper will have five main components:

1. Introduction (~ 1 page)
2. Country health background: A description of the current burden of disease of the country as well as current resource allocation: what does the government spend its money on? What do donors (if there are any) spend their money on? (about 2-3 pages)
3. Proposed intervention: A description of the proposed intervention and about what is known regarding its impact. E.g. if you propose to invest into HIV prevention, you need to describe what kind of prevention you will do and conduct a PUBMED search to find all studies which have proved these interventions to be effective as well as to get a point estimate of the expected impact (2-3 pages)
4. Estimated impact: Combine parts 1) and 2) to compute the expected health impact of your intervention (most likely, lower bound, upper bound (1-2 pages)
5. Summary and Discussion: Justify the main recommendation you made; discuss alternative interventions, and also the feasibility of the intervention you propose given the overall budget of the government (1-2) pages.

The overall length of the proposal cannot exceed 5000 words. The final document will use font size 12, 1.5 line spacing, and standard one inch margins. Proposals will be evaluated with respect to their overall structure and quality of presentation as well as with respect to the scientific rigor of the argument presented. Students are expected to choose their country by March 12. A preliminary outline (~ 3 pages) needs to be submitted for review by April 9. All students need to present their main idea and preliminary conclusions in the last weeks of class – this will be a short (3-5 minutes) presentation with slides to be shared with everyone.

The final paper is due on Thursday, May 18, 11:59pm.

Academic Honesty:

You are expected to abide by the Harvard University policies on academic honesty and integrity as given in the Student Handbook. Violations of these policies will not be tolerated and are subject to severe sanctions. The midterm examination, the final paper report and presentation submitted by you and that bears your name is presumed to be your own original work that has not previously been submitted for credit in another course unless you obtain prior written approval to do so from your instructor.

If you are not clear about the expectations for completing an assignment or taking a test or examination, be sure to seek clarification from your instructors or teaching fellow beforehand. You should keep in mind that as a member of the campus community, you are expected to demonstrate integrity in all of your academic endeavors and will be evaluated on your own merits. The consequences of cheating and academic dishonesty—including a formal discipline

file, possible loss of future internship, scholarship, or employment opportunities, and denial of admission to graduate school—are simply not worth it.

Collaboration in Final Paper: Discussion and the exchange of ideas are essential to academic work. For your final paper, you are encouraged to consult with your classmates on the choice of paper topics and to share sources. However, you should ensure that any written work you submit for evaluation is the result of your own research and writing and that it reflects your own approach to the topic. You must also adhere to standard citation practices in this discipline and properly cite any books, articles, websites, lectures, etc. that have helped you with your work. If you receive any help with your writing (e.g. feedback on drafts), you must also acknowledge this assistance.

Citation: Students must observe Harvard University rules regarding the citation of sources. Any sentences or paragraphs taken verbatim from the writing of (or interviews with) any other person or persons, or from your own writing that has been published elsewhere, must be placed in quotation marks and their source must be clearly identified. Changing the wording of a sentence or passage slightly does not evade the requirement for citation. Indeed, whenever you are drawing an important argument or insight from someone else, even if you reword it into your own words, a reference to the source is required. Including material from others in the assignments without appropriate quotation marks and citations is regarded, as a matter of School and University policy, as a serious violation of academic and professional standards and can lead to a failing grade in the course, failure to graduate, and even expulsion from the University.

Course Structure and Overview

Week	Mo	Topic	Wed	Topic
1	1/23	Introduction to Course, Global Health Background	1/25	Aid and Development
2	1/30	Early Childhood Health and Long-Term Consequences	2/1	Returns to Pre-School and Childhood Investment
3	2/6	Safe Drinking Water	2/8	Health for Development: The Economic Debate (Canning)
4	2/13	Health Insurance in Developing Countries	2/15	Malaria: International Efforts and Sustainability
5	2/20	President's Day (No Class)	2/22	Malaria: Subsidies for Prevention and Treatment Subsidies
6	2/27	HIV – New Frontiers	3/1	HIV CCT
7	3/6	Review I	3/8	Mid-term Exam
8	3/13	Spring Break	3/15	Spring Break
9	3/20	Air Pollution	3/22	Smoking & Obesity
10	3/27	Pricing and Use	3/29	Pricing and Demand
11	4/3	Conditional and Unconditional Cash Transfers	4/5	Community Health Workers and Incentives
12	4/10	Health for Development:	4/12	Family Planning

		The Population Debate		
13	4/17	Maternal Health	4/19	Sanitation //
				Final Paper Presentations I
14	4/24	Final Paper Presentations II	4/26	Final Paper Presentations III
15	5/1	Final Paper Presentations IV		

Required Readings:

Week 1, Wednesday Session: Aid and Development

Jeffrey D. Sachs, John W. McArthur, Guido Schmidt-Traub, Margaret Kruk, Chandrika Bahadur, Michael Faye & Gordon McCord. (2004). "Ending Africa's Poverty Trap." Brookings Papers on Economic Activity 35. Pages 117-147.

<http://www.unmillenniumproject.org/documents/BPEAEndingAfricasPovertyTrapFINAL.pdf>

Aart Kraay and David McKenzie. "Do Poverty Traps Exist? Assessing the Evidence." Journal of Economic Perspectives 2014. 28(3). 127-148.

<http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.28.3.127>

Week 2, Monday Session: Early Childhood Health and Long Run Consequences

Grantham-McGregor, S., Y. B. Cheung, et al. (2007). "Developmental Potential in the First 5 years for Children in Developing Countries." Lancet 369 (9555): 60-70.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2270351/>

Hoyt Bleakley (2007). "Disease and Development: Evidence from Hookworm Eradication in the American South". The Quarterly Journal of Economics (2007) 122 (1): 73-117.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3800113/pdf/nihms514097.pdf>

Fetal origins

Almond, Doug, "Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Exposure in the Post-1940 US Population," *Journal of Political Economy*, 2006, 114(4), 672-712.

<http://isites.harvard.edu/fs/docs/icb.topic1377262.files/Health%20and%20Mortality/almond.pdf>

Week 2, Wednesday Session: Returns to Pre-School and Childhood Investment

Baird, S. et al (2012). "Worms at Work: Long Runs Impacts of Child Health Gains." Working paper.

http://cegadev.org/assets/cega_research_projects/1/Long-Run-Impacts-on-Child-Health-Gains.pdf

Heckman, J., Pinto, R., & Savelyev, P. (2013). “Understanding the Mechanisms Through Which an Influential Early Childhood Program Boosted Adult Outcomes.” *American Economic Review* 2013, 103(6): 2052–2086

https://economics.sas.upenn.edu/sites/economics.sas.upenn.edu/files/u21/0_PerryFactorPaper_AER_2012-09-07_sjs.pdf

Jayachandran, S., and Pande, R. 2015 “Why Are Indian Children So Short?” NBER Working Paper

http://scholar.harvard.edu/files/rpande/files/malnutrition_112516_resubmit.pdf

Week 3, Monday Session: Safe Drinking Water

Devoto, F., Duflo, E., Dupas, P., Pariente, W., Pons, V. (2012) “Happiness on Tap: Piped Water Adoption in Urban Morocco.” *AEJ: Economic Policy* 4(4): 68-99.

<http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/pol.4.4.68>

Erica Field, Rachel Glennerster and Reshmaan Hussam (2011). “Throwing the Baby out with the Drinking Water: Unintended Consequences of Arsenic Mitigation Efforts in Bangladesh.”

http://scholar.harvard.edu/files/field/files/arsenic_infantmortality_feb10.pdf

Kremer, Michael, Jessica Leino, Edward Miguel, and Alix Peterson Zwane, “Spring Cleaning: A Randomized Evaluation of Source Water Improvement,” *Quarterly Journal of Economics*, 2011, 126(1), 145-205.

http://cega.berkeley.edu/assets/miscellaneous_files/wgape/11_Miguel.pdf

Week 3, Wednesday Session: Health for Development: The Economic Debate

Acemoglu, D. and S. Johnson (2007). “Disease and Development: The effect of life expectancy on economic growth.” *Journal of Political Economy* 115(6): 925-985.

<http://economics.mit.edu/files/4478>

Bloom, D. E., D. Canning, et al. (2013). “Disease and Development Revisited.” Forthcoming *Journal of Political Economy*.

<http://ftp.iza.org/dp7391.pdf>

Week 4, Monday Session: Health Insurance in Developing Countries

Thornton, R., L. Hatt, et al. (2010). “Social Security Health Insurance for the Informal Sector in Nicaragua: A Randomized Evaluation.” *Health Economics* 19(S1): 181-206.

https://deepblue.lib.umich.edu/bitstream/handle/2027.42/77966/1635_ftp.pdf?sequence=1&isAllowed=y

Fink G, Robyn PJ, Sie A, Sauerborn R. (2013). Does health insurance improve health? Evidence from a randomized community-based insurance rollout in rural Burkina Faso. *Journal of Health Economics* 2013; 32(6):1043-56.

http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613001021/1-s2.0-S0167629613001021-main.pdf?_tid=103d4bf6-e9b2-11e6-a741-00000aab0f6b&acdnat=1486086346_d1bdcdb29b2f37898874a964ee060eff

Week 4, Wednesday Session: Malaria: International Efforts and Sustainability

Nájera J. A., González-Silva M., Alonso P. L. (2011). “Some Lessons for the Future from the Global Malaria Eradication Programme (1955–1969).” *PLoS Med* 8(1): e1000412. doi:10.1371/journal.pmed.1000412

<http://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1000412&type=printable>

Sedlmayr R, Fink G, Miller JM, Earle D, Steketee RW. (2013): Health impact and cost-effectiveness of a private sector bed net distribution: experimental evidence from Zambia. *Malar J*. 2013 Mar 18;12:102. doi: 10.1186/1475-2875-12-102.

<http://malariajournal.biomedcentral.com/articles/10.1186/1475-2875-12-102>

Week 5, Monday Session: No Class – President’s Day

Week 5, Wednesday Session: Malaria: Subsidies for Prevention and Treatment Subsidies

Alessandro Tarozzi, Aprajit Mahajan, Brian Blackburn, Dan Kopf, Lakshmi Krishnan, Joanne Yoong (2014): “Micro-loans, Insecticide-Treated Bed nets and Malaria: Evidence from a Randomized Controlled Trial in Orissa (India).”

<http://www.econ.upf.edu/~tarozzi/TarozziEtAl2013RCT.pdf>

Cohen, Jessica, Pascaline Dupas, and Simone Schaner. 2015. "Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment: Evidence from a Randomized Controlled Trial." *American Economic Review*, 105(2): 609-45. DOI: 10.1257/aer.20130267

<https://www.aeaweb.org/articles.php?doi=10.1257/aer.20130267>

Week 6, Monday Session: HIV – New Frontiers

Tanser, F., Barnighausen, T., Grapsa, E. Zaidi, J. & Newell, ML (2013). High Coverage of ART Associated with Decline in Risk of HIV Acquisition in Rural KwaZulu-Natal, South Africa *Science* 22 February 2013: 339 (6122), 966-971.

<http://www.sciencemag.org.ezp-prod1.hul.harvard.edu/content/339/6122/966.full.pdf?sid=7d6b6638-f7c5-460b-9f46-5e34e12e7fb2>

England, R. (2007). “Head to Head: Are we spending too much on HIV?” *BMJ: British Medical Journal*, 334(7589), 344.

<http://www.bmj.com.ezp-prod1.hul.harvard.edu/content/334/7589/344>

Rosen, S., I. Sanne, et al. (2005). “Hard choices: rationing antiretroviral therapy for HIV/AIDS in Africa.” *The Lancet* 365(9456): 354-356.

http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0140673605177927/1-s2.0-S0140673605177927-main.pdf?_tid=a5a1762c-e9b2-11e6-b1b5-00000aab0f6c&acdnat=1486086597_e04f2719f5c18be420fc961d64179b18

Week 6, Wednesday Session: HIV: CCTs

deWalque D, Dow WH, Nathan R, et al (2012). “Incentivising safe sex: a randomised trial of conditional cash transfers for HIV and sexually transmitted infection prevention in rural Tanzania” *BMJ Open* 2(1): e000747.

<http://bmjopen.bmj.com/content/2/1/e000747.full>

Kohler, H. P., & Thornton, R. L. (2012). “Conditional Cash Transfers and HIV/AIDS Prevention: Unconditionally Promising?” *The World Bank Economic Review*, 26(2), 165–190.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3849819/pdf/nihms499943.pdf>

Thirumurthy H, Masters SH, Rao S, et al. (2014) “Effect of Providing Conditional Economic Compensation on Uptake of Voluntary Medical Male Circumcision in Kenya: A Randomized Clinical Trial”. *JAMA*.2014;312(7):703-711. doi:10.1001/jama.2014.9087.

<http://jama.jamanetwork.com/article.aspx?articleid=1890398>

Nyquist, M., Corno, L., de Walque, D., Svenson, J., (2016) “Using Lotteries to Incentivize Safer Sexual Behavior Evidence from a Randomized Controlled Trial on HIV Prevention.” *World Bank Policy Paper*

<https://openknowledge.worldbank.org/bitstream/handle/10986/21654/WPS7215.pdf?sequence=1>

Week 7: Review and Midterm

Week 8: Spring break

Week 9, Monday Session: Air Pollution

Greenstone, Michael, and Rema Hanna. 2014. "Environmental Regulations, Air and Water Pollution, and Infant Mortality in India." *American Economic Review*, 104(10): 3038-72.

DOI: 10.1257/aer.104.10.3038

<https://www.aeaweb.org/articles?id=10.1257/aer.104.10.3038>

Hanna, R., Duflo, E., & Greenstone, M. (2016). Up in smoke: the influence of household behavior on the long-run impact of improved cooking stoves. *American Economic Journal: Economic Policy*, 8(1), 80-114.

<https://www.aeaweb.org/articles?id=10.1257/pol.20140008>

Week 9, Wednesday Session: Smoking and Obesity

Verguet S, et al. (2015) “The consequences of tobacco tax on household health and finances in rich and poor smokers in China: an extended cost-effectiveness analysis”. *Lancet Global Health* 3(4):e206-e216.

[http://www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X\(15\)70095-1.pdf](http://www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X(15)70095-1.pdf)

Volpp, K. et al (2008) “Financial Incentive-Based Approaches for Weight Loss- A Randomized Control Trial” JAMA 300(22): 2631-2637.

<http://jamanetwork.com/journals/jama/fullarticle/183047?resultClick=1>

Charness, G., & Gneezy, U. (2009). Incentives to exercise. *Econometrica*, 77(3), 909-931.

<http://onlinelibrary.wiley.com/doi/10.3982/ECTA7416/abstract>

Week 10: Monday Session: Pricing and Use

Ashraf, N., J. Berry, et al. (2010). “Can Higher Prices Stimulate Product Use? Evidence from a Field Experiment in Zambia.” *American Economic Review* 100(5): 2383-2413.

<https://www.aeaweb.org.ezp-prod1.hul.harvard.edu/articles.php?doi=10.1257/aer.100.5.2383>

Cohen, J. and P. Dupas (2010). “Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment.” *Quarterly Journal of Economics* 125(1): 1-45.

<http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/125/1/1.short>

Week 10, Wednesday Session: Pricing and Demand

Dupas, P. (2014) “Short-Run Subsidies and Long-Run Adoption: Evidence from a Field Experiment.” *Econometrica*, 82, No. 1 (January, 2014), 197–228. doi: 10.3982/ECTA9508

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4193678/pdf/nihms580530.pdf>

Fischer, G., Karlan, D., McConnell, M. and Raffler, P. (2016) “To Charge or Not to Charge: Evidence from a Health Products Experiment in Uganda.”

<http://karlan.yale.edu/sites/default/files/fkmr-tcontc-june2016.pdf>

Week 11, Monday Session: Conditional and Unconditional Cash Transfers

Baird, S., McIntosh, C., & Ozler, B. (2011). “Cash or Condition? Evidence from a Cash Transfer Experiment.” *The Quarterly Journal of Economics* 126(4): 1709–1753.

http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1334870720628/8597105-1334870813980/Malawi_Evaluation_Report.pdf

Haushofer, J. and Shapiro, J. (2013) “Household Response to Income Changes: Evidence from an Unconditional Cash Transfer Program in Kenya.”

http://www.princeton.edu/~joha/publications/Haushofer_Sapiro_UCT_2013.pdf

Week 11, Wednesday Session: Community Health Workers and Incentives

Bjorkman, M., and Svensson, J., (2009). “Power to the People: Evidence from a Randomized Experiment on Community-Based Monitoring in Uganda.” *Quarterly Journal of Economics* 124(2): 735-769.

<http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/124/2/735.full.pdf+html>

Nava Ashraf, Oriana Bandiera and Kelsey Jack (2014). “No margin, no mission? A field experiment on incentives for public service delivery.”

http://www.people.hbs.edu/nashraf/NoMarginNoMission_JPubE.pdf

Week 12, Monday Session: Health for Development: The Population Debate

Ehrlich, P. R., & Ehrlich, A. H. (2009). “The Population Bomb Revisited.” *The Electronic Journal of Sustainable Development*, 1(3), 63–71.

<http://www.mrtavani.com/Mr. Tavanis World Cultures %26 AP Human Geography Site/AP Human Geography - Archive - Mr. Tavanis World Cultures Site - Cheltenham High School 1 files/The Population Bomb Revisited.pdf>

Lam, D. (2011). “How the World Survived the Population Bomb: Lessons from 50 Years of Extraordinary Demographic History.” *Demography*, 48, 1231–1262.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3777609/>

Canning, David; Raja, Sangeeta; Yazbeck, Abdo S.. 2015. *Africa's Demographic Transition : Dividend or Disaster?*. Africa Development Forum;. Washington, DC: World Bank; and Agence Française de Développement.

<https://openknowledge.worldbank.org/handle/10986/22036>

Week 12, Wednesday Session: Family Planning

Bongaarts, J. (1994). “The Impact of Population Policies: Comment.” *Population and Development Review* 20(3): 616-620.

<http://www.jstor.org.ezp-prod1.hul.harvard.edu/stable/pdfplus/2137604.pdf?acceptTC=true>

Pritchett, L. (1994). “Desired Fertility and the Impact of Population Policies.” *Population and Development Review* 20(1): 1-55.

<http://www.jstor.org.ezp-prod1.hul.harvard.edu/stable/pdfplus/2137629.pdf?acceptTC=true>

Ashraf, N., Field, E. and Lee, J. (2014) “Household Bargaining and Excess Fertility: An Experimental Study in Zambia.” *American Economic Review*, 2014, 104(7): 2210–2237

<http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/aer.104.7.2210>

Week 13: Monday Session: Maternal Health

Lim, S. S., L. Dandona, et al. (2010). “India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: An impact evaluation.” *The Lancet* 375(9730): 2009 -2023.

<http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science/article/pii/S0140673610607441>

Jayachandran, S. and Lleras-Muney, A. “Life Expectancy and Human Capital Investments: Evidence from Maternal Mortality Declines.” *Quarterly Journal of Economics* 124(1): 349-397.

<http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/124/1/349.full.pdf+html>

Glassman, Amanda et al. "Impact of Conditional Cash Transfers on Maternal and Newborn Health." *Journal of Health, Population, and Nutrition* 31.4 Suppl 2 (2013): S48–S66.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4021703/>

Week 13, Wednesday Session: Sanitation

Gertler, P., Shah, M., Alzua, M. L., Cameron, L., Martinez, S., & Patil, S. (2015). *How does health promotion work? Evidence from the dirty business of eliminating open defecation* (No. w20997). National Bureau of Economic Research.

<https://www.povertyactionlab.org/sites/default/files/publications/Dirty%20Biz%20Lit%20Review%20NBERMarch2015.pdf>

Michael Geruso and Dean Spears (2014). Sanitation and health externalities: Resolving the Muslim mortality paradox. Working paper.

<https://laits.utexas.edu/~mlg2296/images/MuslimSanitation.pdf>

Dreibelbis R, Freeman MC, Greene LE, Saboori S, Rheingans R. (2014). The impact of school water, sanitation, and hygiene interventions on the health of younger siblings of pupils: a cluster-randomized trial in Kenya. *Am J Public Health* 2014;104(1):e91-7.

https://libres.uncg.edu/ir/asu/f/Rheingans_richard_2013_impact%20school%20water.pdf