



The Department of Global Health is a great resource for journalists. With more than 100 faculty working on projects around the world and more faculty joining the department every month, our expertise is continually growing. In a quick poll to faculty, we came up with 25 story ideas and a list of recent journal articles to give you a glimpse of what's happening in global health at the University. The list is in no way complete but allows journalists a quick look at some of the current projects. If you want more information, please contact the department's communication's specialist, Bobbi Nodell (bnodell@u.washington.edu, 206.543.8309).

Story Ideas

1. Failure of clinical trials (AIDS vaccine, microbicides) looking for a "magic bullet." What are the tradeoffs inherent in investing in the "magic bullet" technology vs. implementation or delivery of those services? Why are donors more interested in the "magic bullets." What about the "technology bottleneck" and implementation. How will new technologies help when we are failing so miserably to deliver already existing technologies?
2. How are different disciplines (e.g., engineering and business) changing how we treat global health? Engineers Without Borders, for example, is helping communities provide decent water, sanitation, housing, and cooking tools and requires projects to measure health outcomes.
3. UW has two large service organizations that receive millions in President's Emergency Plan for AIDS Relief (PEPFAR) funding -- International Training and Education Center on HIV and Health Alliance International. These groups, far from parachuting in to solve a problem, are working very closely with partners and Ministries of Health in-country. How has this funding changed the HIV/AIDS landscape from their perspective?
4. An entrepreneur experienced in Internet connectivity has a dream to wire Africa and is working with UW to bring submarine cables to Africa and bring connectivity to the many UW sites.
5. While nurses constitute 87% of the international health care workforce (International Council of Nurses, 2006) and provide primary care for 80% of all health systems, they have been largely ignored by many health systems that remain (male) medically dominated in their decision-making processes. Just as the HIV/AIDS epidemic transformed the role of nurses in North America and Europe, the epidemic is transforming the role of nurses in Africa and Asia.
6. Strengthening health systems in poor countries: Do we need an NGO code of conduct? In response to the recent growth in the number of international non-governmental organizations (NGOs) associated with increase in aid flows to the health sector, a code of conduct may be necessary. Consensus is growing that gains in some areas, such as HIV treatment, are severely limited while in other areas, like maternal child health, ground is being lost due to weak public health systems and, most critically, the severe shortage of qualified health workers in the poorest countries. Health Alliance International and other partner organizations (Partners in Health, Health GAP, ActionAid International, Physicians for Human Rights among others) have developed guidelines for NGOs wanting to maximally contribute to building sustainable health systems in the developing world. (See related article).

7. WHO says there is a shortage of 4 million health care workers worldwide. There's many "local" angles on the health care worker shortage, including brain-drain and the way we staff rural and underserved urban health care settings in this country.

8. The role of the International Monetary Fund and high debt in keeping developing countries from investing in their own health systems. Most developing countries, especially in Sub-Saharan Africa, have loan agreements with the IMF that limit their ability to invest in their own health infrastructure and health workforce. Now the IMF is asking the U.S. government to approve sales of its gold reserves, opening the door to make these sales conditional on changing some of the more problematic and harmful IMF policies.

9. UW researchers are collaborating with industry in pre-clinical development of therapeutic vaccine for Herpes simplex virus-2 (HSV-2). (See related article).

10. UW researchers are collaborating with vaccine experts from Europe and Canada on next-generation poxvirus-based HIV-1 Vaccine. (See related article).

11. UW and Seattle Biomedical Research Institute researchers are identifying liver-stage antigens in discovery phase research for a preventative vaccine for falciparum malaria. (See related article). *Note:* The Bill & Melinda Gates Foundation sponsored an international meeting in April on drug development to address the liver stages of malaria. Also, the Medicines for Malaria Venture (www.mmv.org) has a call for applications for funding in this area of drugs for liver stages of malaria.

The background is that the malaria parasite goes through development in the liver after being transmitted by the mosquito. These liver stages are generally "insensitive" to the drugs used to treat malaria, as the drugs generally act on the blood stages. Blood stages, not liver stages, are generally responsible for the disease of malaria, fevers, chills, etc. In some forms of malaria, such as "vivax" malaria, the liver stages can exist ('hibernate') for up to four years before they emerge to the blood stages. This is a difficult problem for eradication. If you eliminate all the blood stage malaria from people, but it keeps emerging from liver stages and reinfects mosquitos, eradication will be difficult or impossible. The drug available for liver stage therapy (primaquine) has toxicity issues and parasites are becoming resistant to primaquine and alternatives are needed for the eradication campaign.

12. The Harborview Injury Prevention and Research Center has been doing some interesting work on road safety globally. In particular, one of our Fogarty injury fellows, James Damsere-Derry is from Ghana and is getting an MPH at UW. He has done some fascinating work looking at vehicle speed control issues in Ghana. He has completed a study of over 20,000 vehicle speed measurements, the largest and most in-depth study that may have ever been done in Africa. (See related article).

Note from researcher: In 2006, there were 1856 traffic fatalities, and 14,492 (nearly 14,500) traffic injuries of varying magnitude in Ghana. Pedestrians constitute over 40% each year due to the excessive speeding in small towns on the highways. Due to the paucity of traffic data in neighboring countries in the sub-region, it is pretty hard to make any meaning inter-country comparison. We think our figures are high if we standardized our figures to per 10,000 registered vehicles or per 100,000 population.

13. UW researchers found that Silymarin, an extract from the Milk Thistle plant, which has been used for centuries for its purported liver-health-promoting effects, is helpful for hepatitis C (HCV) patients. In a study, Silymarin inhibited: in vitro HCV infection, T cell inflammatory cytokine expression, and NF- κ B transcription. The data indicate that Silymarin has antiviral, immunomodulatory, and anti-inflammatory actions in vitro. These studies are important because many patients with chronic hepatitis C cannot afford, tolerate, or are ineligible for current standard of care therapy with pegylated interferon (IFN) plus ribavirin, which only cures about half of all infected patients. Because of these reasons, many patients consume botanical medicines to improve their liver health, and a recent study from the HALT-C trial showed that of all herbal

medicines, Silymarin was by far the most frequently administered. Our studies are beginning to understand the mechanisms of action of botanical medicines used to fight virus infection and liver disease. (See related article).

14. What are the politics of intervention in regards to female genital cutting?

Note: The international campaign to eliminate female genital cutting (FGC) has, since the early 1990s, actively attempted to divorce itself from a health framework, adopting instead a human rights framework to justify intervention. Several key questions emerge regarding the prominent placement of FGC in the international human rights movement: What are the ramifications of framing FGC as a human rights violation? What actions are mandated by a human rights approach? What perils and pitfalls potentially arise from the adoption of a rights-based framework, and how might they be avoided? In exploring these questions it becomes clear that, while a human rights approach is promising, careful deliberation is required to develop action strategies that offer both protection and respect for the culture and autonomy of those women and families concerned. (See related article).

16. Why is a highly educated African-American woman twice as likely to deliver a preterm and low-birth-weight baby than a white woman who dropped out of high school? Why do Latino immigrants enjoy a higher health status than any population when they arrive in the United States but suffer a rapid decline the longer they remain? This country spends about as much on health care as the rest of the world combined, but our life expectancy is below that of 41 other countries, according to the Census Bureau. Inequality is killing us, says Stephen Bezruchka, a doctor and a University of Washington professor.

17. What's it really like to work in a rural African clinic, such as Mozambique, with a raging disease epidemic and patients coming in with multiple symptoms? Doctors on the front line can paint a real picture of what they are up against.

18. How are cell phones being used to create disease surveillance systems in resource-poor countries, as well as to provide messages (e.g. "It's time for your life") to HIV patients to remind them to take their antiretroviral medications.

19. Just how much aid money is being dispersed? Where is the money being spent?

20. Is behavior change even possible? How do you reach gay men in Peru seeking sex on the Internet to use precautions?

21. UW's use of high-speed networking in the Asia Pacific region for virtual symposia is cutting edge. In spring, we have 18 of 21 economies participating (including China and Taipei since it is APEC); this is the only health forum where representatives from these two sit down together.

22. The Lampe laboratory investigates the control of cell growth both at the cell biological/mechanistic level and through cancer biomarker discovery. The advent of new screening methodologies has expanded our efforts into broad proteomic screens for potential cancer biomarkers using mass spectrometry (MS) and recombinant antibody array technologies. We are currently collaborating with several Seattle, national, and international colleagues to study potential biomarkers for ovarian, colon, and breast cancer – both early detection biomarkers and those that can be influenced by risk factors such as obesity and a sedentary life style in humans. (See related article).

23. UW researchers studied the cell biology connecting gap junctions and intercellular communication (GJIC) with the control of cell growth, the cell cycle and, how the relationship is disrupted during disease – both carcinogenesis and cardiac function. In the latter case, this involves heart failure, ischemia and tachycardia. (See related article).

24. What are lessons learned in cross-cultural clinical mentoring?

25. Why can't some countries spend aid money?

A Sampling of Current Journal Articles

* A new initiative and invitation for health monitoring, tracking, and evaluation. By Horton R, Murray C, Frenk J. *Lancet*. 2008 Apr 5;371(9619):1139-40.

* Access, use and perceptions regarding Internet, cell phones, and PDAs as a means for health promotion for people living with HIV in Peru. By Curioso WH, Kurth AE. *BMC Med Inform Decis Mak*. 2007 Sep 12;7:24.

* Are you on the market?: A capture-recapture enumeration of men who sell sex to men in and around Mombasa, Kenya. By Geibel S, van der Elst, EM, Kingola N, Luchters S, Davies A, Getambu EM, Peshu N, Graham SM, McClelland RS, Sanders EJ. *AIDS 2007-In press*.

* Assessment of vehicle speeds on different categories of roadways in Ghana. By J Damsere-Derry, F Afukaar, P. Donkor, C Mock. *Injury Control and Safety Promotion - In Press*.

* Breastmilk α -defensins are positively associated with subclinical mastitis, HIV-1 RNA, and CC chemokines in breastmilk. By Bosire R, John-Stewart G, Mabuka J, Warirua G, Gichuhi C, Wamalwa D, Ruzinski J, Goodman R, Lohman B, Mbori-Ngacha D, Overbaugh J, Farquhar C. *AIDS Res Hum Retro* 2006 -- In press.

*Can we ensure health is in reach for everyone? Christopher J. Elias (CEO of PATH), *Lancet*, December 2006. 368: S40–S41.

* Clandestine induced abortion in a Latin-American country: incidence, prevalence, and risk factors. By Bernabe-Ortiz A, White PJ, Carcamo CP, Hughes JP, Gonzales MA, Garnett GP, Garcia PJ, Holmes KK. [Work in progress 2008]

* Clinical and therapeutic issues for herpes simplex virus-2 and HIV co-infection. *Drugs*. By Lingappa JR, Celum C. 2007;67(2):155-74. Review. Erratum in: *Drugs*. 2007;67(8):1147.

* Developing capacity in health informatics in a resource poor setting: a case study from Peru. By Kimball AM, Curioso WH, Arima Y, Fuller S, Garcia PJ, Segovia-Juarez J, Leon-Velarde F, Holmes KK. [Work in progress 2008]

* Dominance and diversity in the primary human CD4 T cell response to replication-competent vaccinia virus. By L Jing L, TM Chong TM, B Byrd B, CL McClurkan CL, J Huang J, BT Story BT, KM Dunkley, L Aldaz-Carroll, RJ Eisenberg, GH Cohen, Kwod WW, A Sette, DM Koelle DM. *J Immunol*. 2007 May 15;178(10):6374-86.

* Evaluation of the QuickVue Advance Ph And Amines Test[®] for the rapid diagnosis of bacterial vaginosis in women attending an STD clinic in Nairobi, Kenya. By Bukusi E, Cohen C, Njeri A, Weiss N, Sang N, Spiegel CD, King K. Holmes KK. [Work in progress 2008]

*From health to human rights: Female genital cutting and the politics of intervention. By Bettina Shell-Duncan. In Publication: *American Anthropologist*, June 2008.

*Gap junction remodeling and cardiac arrhythmogenesis in oculodentodigital dysplasia. By N. Kalcheva, J. Qu, J., N. Sandeep, N., L. Garcia, L., J. Zhang, J., W. Zhiyong, P.D. Lampe, S.O. Suadicani, D.C. Spray, G.I. Fishman, (2007) *Proc. Nat. Acad. Sci.*, 104, 20512-20516

* Global health in medical education: a call for more undergraduate training and opportunities. By Drain PK, Primack A, Hunt D, Fawzi WW, Holmes KK, Gardner P [Work in progress 2008]

* Herpes simplex virus (HSV) suppression with valacyclovir reduces rectal and blood plasma HIV-1 levels in HIV-1/HSV-2-seropositive men: a randomized, double-blind, placebo-controlled crossover trial. By Zuckerman RA, Lucchetti A, Whittington WL, Sanchez J, Coombs RW, Zuñiga R, Margaret AS, Wald A, Corey L, Celum C. *J Infect Dis.* 2007 Nov 15;196(10):1500-8.

*Herpes simplex: insights on pathogenesis and possible vaccines. By DM Koelle, Larry Corey. *Annu Rev Med.* 2008;59:381-95.

* HIV-1, sexually transmitted infections, and sexual behavior trends among men who have sex with men in Lima, Peru. By Sanchez J, Lama JR, Kusunoki L, Manrique H, Goicochea P, Lucchetti A, Rouillon M, Pun M, Suarez L, Montano S, Sanchez JL, Tabet S, Hughes JP, Celum C. *J Acquir Immune Defic Syndr.* 2007 Apr 15;44(5):578-85.

* Hormonal contraceptive use and HIV-1 disease progression among postpartum Kenyan women. By Richardson BA, Otieno PA, Mbori-Ngacha D, Overbaugh J, Farquhar C, John-Stewart GC. *AIDS* 2007 -- In press.

* Improving vaginal health in women at risk for HIV-1: results of a randomized trial. By McClelland RS, Richardson BA, Hassan WM, Chohan V, Lavreys L, Mandaliya K, Kiarie J, Jaoko W, Ndinya-Achola JO, Baeten JM, Kurth AE, Holmes KK. [Work in progress 2008]

* Initiation of antiretroviral therapy leads to a rapid decline in cervical and vaginal HIV-1 shedding. By Graham SM, Holte SE, Peshu NM, et al. *AIDS* 2007 Feb 19;21(4):501-7.

* Intent to migrate among nursing students in Uganda: measures of the brain drain in the next generation of health professionals. By Nguyen L, Ropers S, Nderitu E, Zuyderduin A, Luboga S, Hagopian A. *Hum Resour Health.* 2008 Feb 12;6(1):5.

* Malaria: progress, perils, and prospects for eradication. By BM Greenwood, DA Fidock, DE Kyle, SH Kappe, PL Alonso, FH Collins, PE Duffy. *J Clin Invest.* 2008 Apr 1;118(4):1266-1276.

* Male circumcision in Siaya and Bondo Districts, Kenya: Prospective cohort study to assess behavioral disinhibition following circumcision. By Agot KE, Nguyen HQ, Odhiambo JO, Onyango TM, Weiss NS. *J Acquir Immune Defic Syndr.* 2007 Jan 1;44(1):66-70.

* Migration and health. *Jonathan Santiago takes an in-depth look at Haitian migration to the Dominican Republic. Lancet student, March 28, 2008. (Note: Santiago is a UW Peace Corps Master's International MPH student who is currently in the field.)*

* Novel paradigms for drug discovery: computational multitarget screening. By E Jenwitheesuk, JA Horst, KL Rivas, WC Van Voorhis, R Samudrala. *Trends Pharmacol Sci* -- In Press.

* Pandemic policy and planning considerations for universities: findings from a tabletop exercise. By Beaton R, Stergachis A, Thompson J, Osaki C, Johnson C, Charvat SJ, Marsden-Haug N. *Biosecur Bioterror.* 2007 Dec;5(4):327-34.

*Prevention of cardiovascular disease in high-risk individuals in low-income and middle-income countries: health effects and costs. By *Stephen S Lim, Thomas A Gaziano, Emmanuela Gakidou, K Srinath Reddy, Farshad Farzadfar, Rafael Lozano, Anthony Rodgers. Lancet. Dec. 15, 2007. 370: 2054–62. (Note: This lead to a call for action in Lancet.* Prevention of chronic diseases: a call to action. By *Robert Beaglehole, Shah Ebrahim, Srinath Reddy, Janet VoÙte, Steve*

Leeder, on behalf of the Chronic Disease Action Group. *Lancet*, Dec. 22/29, 2007; 370: 2152–57).

* Recruiting primary care physicians from abroad: is poaching from low-income countries morally defensible? By Amy Hagopian. *Ann Fam Med*. 2007 Nov-Dec;5(6):483-5.

* Regional differences in prevalence of HIV-1 discordance in Africa and enrollment of HIV-1 discordant couples into an HIV-1 prevention trial. By Lingappa JR, Lambdin B, Bukusi EA, Ngure K, Kavuma L, Inambao M, Kanweka W, Allen S, Kiarie JN, Makhema J, Were E, Manongi R, Coetzee D, de Bruyn G, Delany-Moretlwe S, Magaret A, Mugo N, Mujugira A, Ndase P, Celum C; Partners in Prevention HSV-2/HIV Transmission Study Group. *PLoS ONE*. 2008 Jan 9;3(1):e1411.

* Salivary HIV-1-specific IgA in HIV-1-exposed, uninfected infants in Kenya. By Farquhar C, VanCott T, Bosire R, Bermudez C, Mbori-Ngacha D, Lohman-Payne B, Nduati R, Otieno P, John-Stewart G. *Clin Exp Immunol* 2007 - In press.

* Sexually transmitted and reproductive tract infections in symptomatic clients of pharmacies in Lima, Peru. By Garcia PJ, Carcamo CP, Chiappe M, Holmes KK. *Sex Transm Infect*. 2007 Apr;83(2):142-6.

* Strengthening health systems in poor countries: Do we need an NGO code of conduct? By James Pfeiffer, Wendy Johnson, Meredith Fort, Aaron Shakow, Amy Hagopian, Steve Gloyd, and Kenneth Sherr. In Publication: *The American Journal of Public Health* (expected Oct/Nov 2008.)

* T-cell inflammatory cytokines, hepatocyte NF-kappaB signaling, and HCV infection by standardized Silymarin. *Gastroenterology*. By SJ Polyak, C Morishima, MC Shuhart, CC Wang, Y Liu, DY Lee. 2007 May;132(5):1925-36.

* Use of high density antibody arrays to validate and discover cancer serum biomarkers. By C.M. Loch, A.B. Ramirez, Y. Liu, C.L. Sather, J.J. Delrow, N. Scholler, B.M. Garvik, N.D. Urban, M.W. McIntosh, and P.D. Lampe. (2007) *Molecular Oncology*, 1, 313-320.

* What if we decided to take care of everyone who needed treatment? Workforce planning in Mozambique using simulation of demand for HIV/AIDS care. By Hagopian A, Micek MA, Vio F, Gimbel-Sherr K, Montoya P. *Hum Resour Health*. 2008 Feb 7;6:3.

* 2-Oxo-tetrahydro-1,8-naphthyridines as selective inhibitors of malarial protein farnesyltransferase and as anti-malarials. By S Olepu, PK Suryadevara, K Rivas, K Yokoyama, CL Verlinde D Chakrabarti, WC Van Voorhis, MH Gelb MH. *J Med Chem*. 2008 18:494-7.