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SPRING 2015

We are grounded in a life course framework with domestic and international focal areas including: sexual and reproductive health, perinatal and maternal health, child health, adolescent health, women's health, family health, urban health, population and health and the interface of biology and behavior.

From the Chair

It is a pleasure for me to welcome you to the spring edition of the Population, Family and Reproductive Health Newsletter. It is hard to imagine that the last time we circulated our newsletter it was the start of the academic year and now with spring in the air, graduation is just a few weeks away. And what a year it has been! On May 19, 20 masters students will receive their diplomas and 8 doctoral students from our Department will be awarded PhD and DrPH degrees. These are extraordinary accomplishments. Our Master students have completed internships ranging from Baltimore-based community organizations and Baltimore City agencies to the US federal government and international organizations as well, working in remote and challenging corners of the world. They truly make us shine!

Likewise, I just finished reading a few of the doctoral dissertations where thesis research ranged from exploring biological embeddedness of early life adversity to pregnancy-related obesity and mortality estimation in humani-

tarian emergencies. The range, depth, and expertise reflected in this doctoral work is absolutely extraordinary!

It has also been a year where we have greatly strengthened both child health and population and health focal areas. Li Liu, PhD joined our department as an Assistant Professor focusing on child mortality internationally and now domestically as well. William Mosher, PhD came on after many years of leading the US National Survey of Family Growth. Stephane HELLERINGER, PhD accepted our invitation to join the faculty and will be coming this summer as an Assistant Professor from Columbia University (see the article by Sally Dunst). Likewise, in child health Christy Bethell, PhD joined our department coming from Oregon State Health University. Christy is the founding Director of The Child and Adolescent Health Measurement Initiative (CAHMI) and the National Data Resource Center for Child and Adolescent Health; which is the national resource on a vast array of child health at the state and community level child health data.



It has been a year where new studies have been launched, such as the Global Early Adolescent Study which explores gender norms, acquisition, and transitions into early adolescence. PMA 2020 which is research and monitoring the uptake and achievement of the Family Planning 2020 goals of increasing contraception to 120 million additional women by the year 2020 has been scaled up tremendously (see an article on PMA 2020 in this newsletter).

It has been a year where we have begun planning for the November International Conference on Family Planning that will be held in Indonesia where we are anticipating an even larger response than the 3300 people who came to Addis Ababa two years ago.

From an education perspective we have shifted our structure from the three tracks that any of

our graduates are familiar with, to focal areas in Maternal and Perinatal Health, Child Health, Adolescent Health, Women's Health, Population and Health, and Sexual and Reproductive Health. We have expanded our work in Urban Health with new faculty like Amanda Latimore, PhD and Kathy Edin, PhD the inaugural Bloomberg Distinguished Professor who is also heading up the JHU initiative on the 21st Century City. We have strengthened our work at the interface between biology and behavior; and we have been expanding our focal area around family health as well. This new structure will be fully in place when the incoming class of 2015 arrives in August. And finally, this past year we launched an Evidence-based Advocacy Institute under the leadership of Oying Rimón, MA and Beth Fredrick, BA. This Institute will focus on the effective transla-

tion of research into programs and policies and strategies to influence policymakers at every level from the local community to national ministries and departments.

For us in the Department of Population, Family and Reproductive Health it is the interface between research, teaching, and effective translation that we see the ability to achieve our goals of improving the health of world's population. We are thrilled with what has been accomplished this past year and extremely excited about the year ahead. I hope you enjoy catching up on some of the activities going on in the Department as reflected in this newsletter. Please stay in touch.

Robert Wm. Blum MD, MPH, PhD

Date	Event
Friday, April 24, 2015 1:00pm - 5:30pm 615 N. Wolfe Street - W1020 & W2008	10th Annual Research Day Students and Faculty Presentations contact Rachel Bass rbass@jhu.edu
Wednesday Seminars April 22 – May 13, 2015 12:15pm-1:20pm 615 N. Wolfe Street - W2030	Masters Students Presentations contact Jasmine Gillus jgillus3@jhu.edu
Wednesday, May 6, 2015 4:00pm - 7:30pm 615 N. Wolfe Street - Feinstone Hall	“Griswold” at 50: Looking Back and Looking Forward See Page 16 for more information
Monday, May 18, 2015 8:30am - 2:30pm 615 N. Wolfe Street - Becton Dickinson	8th Annual Symposium Women's Research Group Register at: https://docs.google.com/forms/d/1vxeC83fA9_PdcmYQdmUCnz-reP5TNQDKZmtD1ERQ4M58/viewform contact Janie Gordon jlordon@jhu.edu

PFRH PROJECT UPDATES

GEAS - THE GLOBAL EARLY ADOLESCENT STUDY

PI: Robert Blum, MD, MPH, PhD – Co-PI: Caroline Moreau, MD, MPH, PhD

The Global Early Adolescent Study is a fifteen-country study with the goal of understanding the factors in early adolescence that predispose young people to subsequent sexual health risks and promote healthy sexuality, so as to provide the information needed to promote sexual and reproductive well-being. The study is led by a partnership of Johns Hopkins Bloomberg School of Public Health, The World Health Organization (WHO), the United Nations Population Fund (UNFPA).

The study is underpinned by two principles. One, if we can understand the conditions that lead to inequities, we can create communities that are not only more just but are also more health promoting. Second, if we really believe that youth are our future then we need to advance gender equitability as a strategy to advance national development.

In December 2014, 4 countries joined the study to bring the number of countries global collaborators to 15 (Belgium, Bolivia, Burkina Faso, China, Democratic Republic of Congo, Ecuador, Egypt, India, Kenya, Malawi, Nigeria, Scotland, South Africa, USA, Vietnam). Phase 1 of the two-phase study is well underway. Launched in Fall 2014, *Phase 1-Development and testing*

of four instruments assesses gender norms and sexuality for use among early adolescents and explores the ways gender norms are related to different domains of sexuality in the 10-14 year old group. To date, a working group has developed a framework for the first instrument. This *health instrument* will include not only physical and mental health domains, but also: healthy sexuality, sexual health, gender-based violence, socio-demographic information, family, peer/friends, school, individual perceptions of neighborhood, and empowerment. The second instrument, developed by a multi-site team explores gender norms, through coding narrative interviews across all sites, extracting messages that relate to gender norms, beliefs, and behaviors. That information will frame the domains of the *gender instrument*. Currently all extant measures of masculinity and femininity have been identified into an instrument and question bank. We anticipate the first draft of the gender instrument to be ready for face validity testing in the Summer, 2015 along with the health instrument.

The third instrument being developed is a measure of context and this will include a “transit walk” using young people and

adults in each of the sites to identify risk and protective factors in the catchment area where the study is being undertaken. It will also integrate extant data into the context measure. We anticipate the draft for the *context instrument* to be ready for site review by early Summer.

Finally, the fourth instrument, of *vignettes measure of gender equitability*, is in progress. Specifically, the following sites have completed the vignettes workshop and have prepared draft vignettes and response options: Assiut, Baltimore, Cape Town, Edinburgh, Gent, Ile-Ife, Nairobi, and Shanghai. Blantyre will hold the vignettes workshop in May 2015 and the remaining sites will complete the workshops by July 2015. The first draft of the vignettes instrument will be prepared by June 2015; and using an iterative process, the vignettes instrument will be revised on an ongoing basis once the remaining sites complete their vignettes workshops.

We anticipate to pilot test the gender norms instrument, the context instrument, and the health instrument in the second half of 2015.

For more information, please visit: <http://www.geastudy.org/>





INTERNATIONAL CONFERENCE ON FAMILY PLANNING 2015

Oying Rimon, MA, Director, Bill & Melinda Gates Institute for Population and Reproductive Health

In November 9-12, 2015, the Gates Institute for Population and Reproductive Health and the National Population and Family Planning Board of Indonesia (BKKBN) will host the fourth International Conference on Family Planning (ICFP). Thousands of scientists, policy-makers, program implementers, and passionate family planning advocates from all over the world will gather in Nusa Dua, Indonesia, to celebrate successes in family planning and identify hurdles that prevent women from accessing family planning resources and services.

The conference will be centered on the theme of Global Commitments, Local Actions. Expected

to draw the highest numbers of attendees in the conference's history—including the largest-ever youth contingent—the 2015 ICFP will build on the energy and momentum generated by the past three conferences. It will also boost the family planning movement's visibility at the international level at a critical time, when the Sustainable Development Goals (SDGs) are being formulated by the United Nations to set the global development agenda beyond 2015. Among the events planned for this year's conference is recognition of Global Humanitarian Award winners—high net-worth individuals who have pledged their personal wealth to support

reproductive, maternal, newborn and child health issues, especially family planning.

Since the first ICFP in 2009, the family planning movement has gained significant momentum. At the London Summit on Family Planning in 2012, 69 countries made commitments to family planning; since then, many countries have held their own symposia to develop strategies to achieve these commitments. The 2015 ICFP will build on this momentum and continue the efforts to increase access to family planning around the world.

For more information about the 2015 ICFP, please visit: fpconference.org.

PMA 2020

PI: Scott Radloff, PhD

Performance Monitoring and Accountability 2020 (PMA2020) is a five-year project that uses a mobile-assisted data collection system to contribute to global monitoring and evaluation for family planning.

PMA2020's innovative data collection system supports routine, low-cost, rapid-turnaround, nationally representative surveys on family planning as well as water and sanitation at both household and health facility levels. PMA2020 data provide rich information useful for reporting, planning, operational

decisions and advocacy at the local, national and global levels. The project has collected data in Burkina Faso, the Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Nigeria and Uganda, with additional countries launching within the next year.

PMA2020 responds to the need for more regularly data to measure progress with respect to the goals and principles of Family Planning 2020 (FP2020), a global initiative aimed at expanding access to family planning services to an additional 120 million by

2020. Traditional surveys like the DHS are conducted every 5 years and can take up to a year to produce actionable results. By utilizing mobile technologies, PMA2020 can generate data on a more frequent and timely basis. Specifically, PMA surveys are conducted within a six-week period with results produced within another six-weeks. Mobile-assisted surveys are constructed to reduce errors in data collection employing automated skip patterns and constraints that minimize erroneous data entry. Once an interview is com-

pleted, it can be transmitted through cell-phone networks to a cloud-based server, enabling real-time data capture, cleaning, and analysis – greatly improving the speed of generating results.

Partnering with local universities and research organizations, the project recruits female resident enumerators from their communities, training them to use smartphones to administer the survey on a repeated basis. In the first two project years, PMA2020 has already trained over 1,000 resident enumerators. After 13 rounds of data collection in eight countries over 100,000 surveys have been completed, providing critical data for tracking needs and progress in extending needed health services to women and their families. With survey rounds scheduled every six months for the first two years following country launch and annually thereafter, the project is providing unprecedented levels of data on a regular basis, showing patterns and trends in close to real time to inform health policy and program decisions.

Survey results are already informing policy decisions at both national and sub-national levels. Local stakeholders are currently using the data to inform family planning strategies, track national family planning progress, and inform budget allocations for family planning resources at both the national and sub-national levels. In the

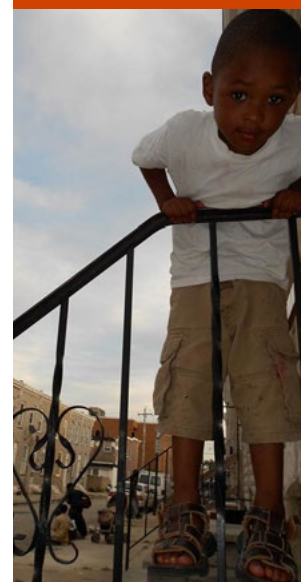
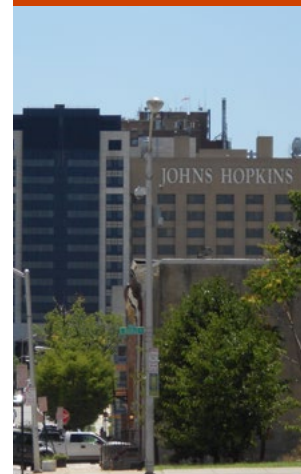
Democratic Republic of the Congo, the Ministry of Health has used PMA2020 data to monitor family planning progress in Kinshasa and presented results at two national family planning conferences, while the Federal Ministry of Health in Ethiopia has revised the national family planning strategies in line with the real-time data for increased policy impact. In Kenya, the data are being used to inform decisions at both national level and in 9 counties where data collection has been focused. These are just a few examples. In addition, the data are being used by service delivery organizations to track their progress, including for tracking the availability and use of emergency contraception and Sayana Press (a new sub-cutaneous injectable) as these methods become more widely available. In Indonesia, where the survey is just now being launched, this cutting-edge data gathering approach is being adopted by the National Family Planning Coordinating Board (BKKBN), to replace an annual survey that has up until now been conducted using traditional paper and pencil data gathering.

PMA2020 seeks to establish a sentinel data collection platform that transforms the way survey data are collected – a sustainable platform that can be utilized for other health program areas. While the project is initially focused on gathering

family planning and a battery of water and sanitation data, once the platform is established, it can be utilized to collect data for other health and development program areas. The platform has already been utilized to collect information for a surgical conditions survey in Uganda and for collecting an expanded facility survey encompassing maternal health services. Plans are underway for expanding into new modules, including maternal, newborn, and child health and adolescent health.

Overall direction and support of PMA2020 is provided by the Bill & Melinda Gates Institute in the Department of Population, Family and Reproductive Health in collaboration with national partners in each project country. The project is made possible by generous support from the Bill & Melinda Gates Foundation.

For more information, please visit: <http://pma2020.org/>



NEW GRANTS AND PROJECTS

Bringing more evidence into contraceptive counseling: Building a new provider tool to tailor predictions of contraceptive outcomes to patient sub-populations

PI: Caroline Moreau, MD, MPH, PhD

Misperceptions about patients' susceptibility to pregnancy and the health risks related to each contraceptive option represent critical barriers to evidence based practices. This project aims to improve contraceptive decision-making by constructing a support tool to deliver information on method-specific health risks stratified across age, time on method, and pre-existing conditions (obesity). The 2-year project involves building

a Markov model to predict frequency of contraceptive failures and related pregnancy complications, frequency and timing of early discontinuation, and frequency of other major health events associated with the use of each contraceptive options among women in the US population. The model will support the development of a decision-making support instrument in the form of a digital interface for providers who will assess the

usefulness of the interface for clinical practice.

This study provides the groundwork for improving evidenced based clinical decision-making and has the potential to be adapted to inform contraceptive choices from a user perspective. The project is funded by an award from the Society for Family Planning.

Early life determinants of Autism Spectrum Disorders (ASD) and other Developmental Disorders (DD) in the Boston birth cohort

PI: Xiaobin Wang, MD, MPH, ScD

This newly awarded MCHB funded study on Developmental Disabilities (DD) and Autism Spectrum Disorders (ASD) is a collaboration between Xiaobin Wang (PI) and Dani Fallon Chair of Mental Health and the Director of the Wendy Klag Center for Autism & Developmental Disabilities here at the Bloomberg School of Public Health. Based

on the Boston Birth Cohort with over 8,500 mother-baby pairs of predominantly low-income, urban-minority families, this is the largest U.S. prospective birth cohort study on ASD and other DD. The multi-disciplinary team will analyze ASD and other DD status in relation to a broad spectrum of risk and protective factors during critical develop-

mental windows (preconception, in-utero, and early childhood). This study is expected to provide urgently needed data to inform early risk prediction and early prevention for ASD and other DD in US urban low income minority setting.

Fetal learning

PI: Janet DiPietro, PhD

Do babies learn before birth? There is no doubt that as the fetus approaches delivery, they exhibit all of the same behaviors that newborn infants do and some behaviors start quite a bit earlier. Fetal information processing capabilities also emerge as the fetus nears the end of gestation. To date, the majority of studies on prenatal learning (for example, do fetuses learn their mother's voice?) are based on postnatal testing. We have recently launched a new study, funded by the Johns Hopkins

University Science of Learning Institute, to evaluate whether we can identify learning prior to birth. To do this, we use an associative learning procedure when fetuses reach 36 weeks gestation that pairs a maternal change in posture with presentation of a short melodic (9 notes) sound using a small loudspeaker. When women stand up and sit down, most fetuses naturally increase their heart rate. If we are able to condition a fetus to "expect" specific tones to be paired with the maternal movement,

we should expect to see a fetal heart rate response when we present the tones **WITHOUT** the maternal movement. To make sure that they are really learning an association with that specific sound, we also test on another similar musical passage. If successful, this project will yield novel discovery regarding the origins of human learning and will provide a new methodology that will allow a wide-ranging series of questions to be asked about prenatal sensory discrimination and language development.



Maternal sleep and the fetus

PI: Janet DiPietro, PhD

What happens to the fetus when mothers sleep in general, and what happens to the fetus when mothers experience periods of apnea when they sleep? This study, funded by NICHD, will examine the association between maternal physiological measures recorded during a standard overnight sleep study (i.e., polysomnography) and fetal heart rate, using newly developed fetal monitoring technology that makes this possible. Maternal-fetal pairs will also be evaluated during two daytime

periods in the second trimester to evaluate how disordered sleep may affect fetal neurobehavioral maturation which is an indicator of the developing nervous system. We are interested in how variation in maternal sleep quality and duration, as well as sleep disorders such as apnea, may affect fetal development, which includes fetal motor behavior as well as heart rate patterning. To maximize observation of periods of disordered sleep, including apnea, we are focusing on a sample of

obese pregnant women for this study given their heightened risk for sleep disorders. In addition, obesity is associated with greater risk for poor pregnancy outcomes and sleep issues have been identified as potential mediating mechanisms. Thus this project will provide information regarding maternal and fetal well-being at the interface of obesity and sleep disorders, both of which are independently recognized as important current issues in maternal and child health.



SUMMARY OF THE WAVE STUDY

by Bob Blum, MD, MPH, PhD

The Well-being of Adolescence in Vulnerable Environments (WAVE) was a study completed in 2014 supported through AstraZeneca and imbedded in an international initiative called the Young Health Programme. There were multiple components of the initiative, some of which we in the Department of Population, Family and Reproductive health lead and others that were spearheaded by Plan International. We had the responsibility for convening an invitational conference to identify the emerging issues in adolescent health and to publish those papers and deliberations as a special supplement of the *Journal of Adolescent Health*. [*Emerging Issues in Adolescent Health. J Adolesc Health (2013)52:2:Supl2:A1-A4:B1-B6:S1-S46*]

Secondly, we compiled and analyzed the existing adolescent health data worldwide with a goal of describing the health of adolescents in various contexts. There were intervention components that were led by Plan International, but the largest collaborative effort was the WAVE Study completed in five cities: Baltimore, New Delhi, Ibadan, Johannesburg, and Shanghai. The goal of the WAVE Study was to better understand the health and health needs of adolescents 15-19 years of age who live in

the lowest income sections of the target cities. We wanted to determine the factors that influence health and to look at similarities and differences across sites. The study included young people who were both in and out of school, who lived with families and in households as well as those who were unstably housed and homeless. Regarding health issues, we were specifically interested in sexual and reproductive health, substance use and abuse, mental health, and perceptions of safety and violence.

There were multiple phases to the WAVE Study, the first of which was qualitative data collection where we gathered information about youth in the focal area of the community, by walking and mapping the community, as well as by doing key informant interviews with providers and directors of youth service organizations. Subsequently, we gathered information with youth through a variety of methodologies that included: a photovoice project in each site with youth to document their “lens” on health issues. We also did a community mapping activity with youth to obtain their perspectives on community-level resources.

Additionally, we held focus groups with youth in each of

the five communities to identify shared views of needs and resources, and finally we did in-depth interviews with youth to obtain their personal perspectives and experiences. For the qualitative analyses five main areas were selected for focus: violence and safety, discrimination, gender differences, goals and aspirations, and availability of resources.

What we saw was that in Baltimore the primary issues centered on violence and safety—a concern greater than in any other city. Likewise, in Baltimore gun and sexual violence are the most pervasive issues while other sites described property crimes and harassment. As one 19-year-old young woman in Baltimore said, “Me and all my home girls have been in a domestic violence relationship... at the end of the day that is nowhere one would what to be, a man beating on you 24/7...or when you get into an argument he feels like he can just put his hands on you whenever he feels like it...”. In Delhi both boys and girls spoke of sexual violence and in Johannesburg they talked property theft.

In most all sites (with the exception of Baltimore), discrimination was seen as one of the most pervasive themes in a qualitative analysis. As one 19-year-old



young woman in Shanghai said, “Local people feel repulsion for migrants.”

All sites spoke of gender differences and particularly in Delhi and Shanghai where boys were seen as having more freedom than girls. In Baltimore, young people talked of boys more likely to be involved with the drug trade and girls more likely to be sexually victimized; and in Johannesburg they talked of the greater challenges being a girl.

The next phase of the study was quantitative where respondent-driven sampling was used with over 400 young people from each of the 5 city neighborhoods. The results were summarized in a special edition of the *Journal of Adolescent Health* published in December, 2014. [*The Well-Being of Adolescents in Vulnerable Environments Study. J Adolesc Health (2014) 55:6:Supl6:S1-S67*] In that volume Michele Decker and colleagues described the respondent-driven sampling methodology and the challenges that were faced and overcome using similar protocols in five different cities in very different cultural contexts. As far as we know, this was the first time

RDS was used with a population such as ours.

The second article by Kristin Mmari and colleagues reported qualitative data described above with a particular focus on the environment and specifically physical deterioration, social cohesion of the neighborhood, and perceptions of safety in observed violence. Despite its status as being in a “high income country” Baltimore young people rated their community as less safe and more deteriorated than in any other site.

Beth Marshall and colleagues looked at social supports for adolescents from caring adults, parents, teachers, trusted friends, neighborhood networks. The surprising lack of variation across sites was not anticipated suggesting structural constraints driven by urban poverty. What was seen is that social capital was strongly associated with positive health and well-being. This was especially true for adolescent girls. In Ibadan our colleagues led a collaborative effort looking at sexual and reproductive health; and the tremendous variation of sexual experience among young people

across the sites was striking. In New Delhi, Ibadan, and Shanghai, the prevalence rates of ever having had sexual intercourse ranged from less than 1% in New Delhi among 15-19 year olds, to 16% in Ibadan and 26% in Shanghai—significantly lower than what was seen in Johannesburg and Baltimore. As a consequence, analyses focused on the latter two cities. The researchers found that being out of school, greater community violence, and poor physical environment scores were significant predictors of ever having been pregnant.

The study is now being used for doctoral dissertations and further both in Baltimore and across our partner sites. Likewise, masters students are analyzing these data to better understand the common factors faced by young people who live in some of the poorest communities of the world. The goal is that by identifying the factors associated with poor health status and health risk we will be able to better put into place protective supports that improve the health and well-being of young people throughout the world.



FACULTY PROMOTION

HEENA BRAHMBHATT

Heena Brahmhatt, PhD was recently promoted to Associate Professor. Much of Heena's research career has focused on prevention of HIV infection in children, adolescents and women in sub-Saharan Africa. With over a decade of work in Rakai, Uganda she has been able to direct her attention on prevention of mother-to-child HIV transmission (pMTCT) and child mortality. Adolescents are increasingly highlighted as a high-risk population due to high rates of pregnancy and HIV and STIs. Currently Heena is leading two adolescent studies in South Africa where she and her research team are focusing on the impact of economic interventions

such as conditional cash transfers and HIV infection as well as the use of mobile technology to improve health and wellbeing of vulnerable youth in inner city Johannesburg. In addition, there is growing concern about the high incidence rates of HIV and STIs among adolescents, and especially young women, living in urban cities in South Africa. One of the factors shown to increase the risk of HIV infection among women is injectable contraception which is quite popular among young women in South Africa. To understand this relationship, with support from the NIH (R01) Heena is leading a study in Johannesburg, South Africa, where young women will be

followed prospectively for 3 years to examine the impact of hormonal contraception on the risk of HIV and HSV-2, as well as other common STIs.

Heena's research interests are based on her life experiences. She was born and raised in Tanzania and Kenya and now resides in Johannesburg, South Africa where she, her husband and three lovely children live. As she notes: "I continue to be humbled by the passion, activism, compassion, intelligence and love among the people Nelson Mandela helped free and look forward to continuing my work in improving health outcomes among people in this continent."

MICHELE DECKER

Michele Decker, ScD was recently promoted to Associate Professor. Michele joined our faculty in 2010 with expertise in women's health and gender inequity. Her research addresses the epidemiology, sexual/reproductive health impact and prevention of gender-based violence, through a social determinants lens. Originally from the Boston area, she struck up collaborations quickly with local partners including House of Ruth Maryland, Turnaround, and Planned Parenthood of Maryland, as well as Baltimore City

Health Department and Maryland Department of Health and Mental Hygiene. She maintains active international collaborations as well. She directs the Women's Health & Rights program of the Center for Public Health and Human Rights. Through a faculty development award from the Johns Hopkins Center for AIDS Research, Michele is conducting a feasibility trial for a gender-based violence support intervention for women who trade sex. With support from NIDA, she is working with the Women's In-

teragency HIV Study (WIHS), the largest and longest-running cohort study on women & HIV in the US, to understand the clustering and collective health impact of partner violence, childhood sexual abuse, and transactional sex over the lifecourse. Michele enjoys teaching our core Women's Health course and a newly-developed course on Gender-based Violence. In addition to her academic pursuits, she enjoys hiking, biking, and outdoor adventures with family and friends.

SUSAN GROSS

Susan Gross, PhD was recently appointed to Assistant Scientist. She is an expert in maternal and child nutrition. Her research focuses on breastfeeding, evaluation of

school-based nutrition education programs and children with special needs. Recently she has been dedicated to research related to her work as a high-risk nutritionist with the

Johns Hopkins WIC (Special Supplemental Nutrition Program for Women, Infants and Children) Program. She is part of a research effort to assess the impact of extending



WIC services for obese postpartum women to prevent weight retention through an integrated health services approach to promote healthy lifestyles with the Johns Hopkins Outpatient Nutrition in Pregnancy Clinic. In addition, Susan is undertaking research related to evaluating school-based nutrition education in low-income families especially the evaluation of school-based nutri-

tion education cooking programs. In the evaluation of the Food Bank of New York City's CookShop program Susan used digital photography and food intake methodology to assess dietary intake of very young elementary school students as well as the entire school nutrition environment. Additionally, she continues to work on projects to promote breastfeeding with the Maryland

Breastfeeding Coalition and was also instrumental in the creation of the Maryland "Right to Breastfeed" law that protects a woman's right to breastfeed in public places. Outside of the office, Susan enjoys hiking in National Parks with her family and learning about other cultures through cooking.

AMANDA LATIMORE

Amanda Latimore, PhD is a social epidemiologist who was recently appointed to Assistant Scientist in PFRH with a joint appointment in the Department of Epidemiology. Amanda's primary interests are in the social, psychological and ecological factors that contribute to disease and disorders, particularly in urban youth. She received her doctoral training in Epidemiology from JHSPH during which time she developed a data-informed, agent-based simulation of sexual behavior to demonstrate the impact of community gender

ratios on the high-risk partner selection of inner-city females. Her postdoctoral training involved evaluating the extent to which a community-based mental health intervention for high-risk youth in Baltimore improved mental health, employment, literacy, numeracy and incarceration outcomes. Amanda continues to channel her interests in urban health and social determinants through her current work evaluating the individual and contextual factors influencing family engagement in home visiting programs for the State of New Jersey.

She is also the Director of Data and Evaluation for the Baltimore City Opportunity Youth Collaborative (www.bcoyc.org) a Baltimore City-wide collaboration to address the needs of disconnected youth through multi-agency systemic change. In her free time Amanda enjoys cooking, chasing after her 2-year old son (occasionally doing both at the same time) and experiencing the great new restaurants that Baltimore City has to offer.

KRISTIN VOEGTLINE

Kristin Voegtline, PhD was recently appointed to Assistant Scientist in PFRH. Her research interests lie in developmental psychobiology, with a focus on the organizing role of the maternal endocrine milieu on early human development spanning the prenatal to early childhood periods. With receipt of a K99 award, Kristin's current work is focused on the prediction of self-regulation capacity and executive functions at

age 5 by maternal testosterone during pregnancy. An upcoming study will extend this work to examine the functional significance of the hormonal transition associated with birth. In particular, Kristin is interested in associations between infant hormone levels observed during a phenomenon known as mini-puberty and reactivity and regulatory capacity. The goal of this work is to inform targeted interventions

to promote young children's socio-emotional health. When Kristin is not busy analyzing salivary data or measuring young kids' self-control she enjoys spending time outdoors hiking or kayaking with her husband and dog. And what only a few people know is that she once spent a summer as an undergraduate living in a treehouse in northeast Australia doing field research on rainforest ecology.



FACULTY APPOINTMENT

STEPHANE HELLERINGER

by Sally Dunst



Stéphane Helleringer, PhD is a demographer who will join PFRH as an Assistant Professor this summer. His work focuses on improving the measurement of the burden of disease in low and middle income countries. Stéphane is particularly interested in the role of networks in the spread of diseases, such as HIV and Ebola, as well as in the diffusion of protective factors, such as knowledge and understanding of disease prevention.

A French native, Stéphane earned a MS in Economics from Université Paris-Nanterre then moved to Geneva to work at the International Labor Organization. At the ILO, Stéphane analyzed data on labor migration worldwide. This work led him to pursue a PhD focusing on demography at the University of

Pennsylvania. As a doctoral student, Stéphane researched sexual networks and the transmission of HIV in Likoma, a small island in Lake Malawi. During this project, Stéphane and his team took a census of all adults living on the island, surveyed them using audio computer-assisted self-interview (ACASI), and used these data to map the population's sexual networks. Findings from Likoma showed that the majority of islanders were linked within one sexual network, and suggested that this high degree of connectivity, rather than high risk behaviors, drive the spread of HIV in this rural setting.

Stéphane has also worked in West Africa to develop new techniques to improve the measurement of adult mortality in

countries with weak vital registration systems. In a randomized controlled trial in Senegal, Stéphane showed that use of a new questionnaire drastically improved the reporting of mortality during surveys. This methodology has the potential to be used on a large scale to more accurately measure adult and maternal mortality.

Stéphane will continue to work on these issues. He looks forward to collaborating with faculty and students in the department and the School. In particular, he is excited to mentor doctoral students and to be a part of their progress from year one to their final defense. Stéphane will teach courses in demography and hopes to develop a class on the role of networks in public health.

IAN SALAS



J.M. Ian Salas, PhD will join us this summer as Assistant Scientist with the Bill & Melinda Gates Institute for Population and Reproductive Health.

He received his PhD in Economics in 2013 from the University of California, Irvine. Ian brings to the Institute a unique and rare combination of skills and expertise as an economist with primary research interest in family planning and building

causal factors that shape fertility behavior in developing countries, with the aim of influencing policy options that help women and couples achieve their fertility desires.

He has extensive training and hands on expertise in estimating economic life cycles using the National Transfer Accounts (NTA) framework, which is a building block in determining the strength of the demographic

dividend that a developing country can benefit from.

Current recipient of the highly competitive David E. Bell Postdoctoral Research Fellow at Harvard's Center for Population and Development Studies, Ian will strengthen the Gates Institute's work on the economic front as well as the department's work on the economics of population, family, and reproductive health.

CONVERSATION WITH ALUMNA CHELSEA POLIS, PhD

with Bob Blum

Chelsea let's start with your most current position and work backward. You moved to the Guttmacher Institute about 6 months ago. What are the kinds of projects you are working on now?

There are three main projects I am currently working on. Through support from the Hewlett Foundation, I am working on development of sexual and reproductive health indicators relevant to the Sustainable Development Goals [the follow-on to the Millennium Development Goals]. The Guttmacher Institute has technical expertise in its Research Division, and policy/advocacy expertise in its Public Policy Division, and this project brings the two together. We are facilitating conversations with the broader SRH community to try to reach consensus around indicators that strike a balance between being technically feasible and being sufficiently forward-looking and which could be used to monitor progress towards major development goals in sexual and reproductive health.

Another project I am working on is a study focused on estimating the incidence of abortion in Malawi. The Guttmacher Institute has done this kind of study in over 20 countries around the world. In Malawi, estimating abortion incidence is extremely challenging because abortion is very highly restricted – it is only legal to save a woman's life. Given the sensitivity of the topic, the legal implications, and the underreporting that would occur, we can't simply ask women (or providers) if they have had (or have performed) abortions to get a sense of

the overall incidence of abortion in the country. So, instead, we have to use indirect estimation techniques.

Could you elaborate a bit on how you go about doing this work?

We use a method called the Abortion Incidence Complications Method. In brief, we begin by surveying health facilities to estimate the number of women who have had a complication from an abortion procedure and who have reached a medical facility to obtain treatment for that complication. That number represents a subset of all women who had an abortion, since many women undergoing abortion will not have a complication, and among those that do, only some will seek or reach a health facility for treatment. We then estimate the likelihood of abortion complications according to various characteristics of women and of providers, as well as the likelihood of reaching a facility in the event of complications. All of that information is used to work backwards towards an overall estimation of abortion incidence in the country.

Very interesting. You mention three projects initially and you talked about two. Is there a third that you are focused on?

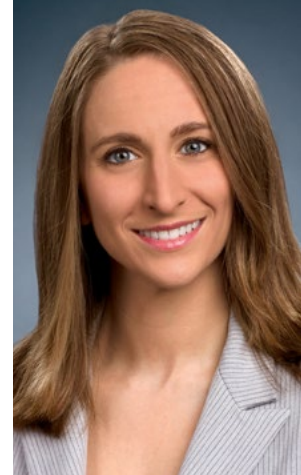
The third is to look more closely at failure rates of various contraceptive methods around the world. We are using data from Demographic and Health Surveys to develop global, sub-regional, and country-level estimations for contraceptive failure at 12, 24, and 36 months. We are also looking at contraceptive failure patterns among specific population

sub-groups, for example, among people in different wealth quintiles, people with different educational levels, or by factors such as age, marital status, parity, etc. We are in the analysis phase of this work right now and it will be written up shortly.

Is there other work as well with which you are engaged?

Yes. As you know, an issue that has been near and dear to my heart ever since I was a doctoral student relates to various biomedical intersections between methods of hormonal contraception and various HIV-related risks.

Some of the questions I've worked on include: are women using certain hormonal contraceptive methods at greater risk of acquiring HIV infection? If a woman is living with HIV and using a certain method of hormonal contraception, is she at greater risk of transmitting her infection to her sexual partner, or having faster clinical disease progression? If she is living with HIV and also using antiretroviral medications, are any drug-drug interactions expected to reduce the efficacy of either her contraceptive method or her antiretroviral treatment? I focused my dissertation research on these questions, extended that work during my post-doctoral fellowship, and worked quite extensively on these issues during my time at USAID – so it has been a running theme for me for quite some time now!





You indicated this is work that began when you were a doctoral student and at USAID. Take me back to that time and that work and share a bit more about that.

After I finished my dissertation, I stayed at Johns Hopkins to do a post-doctoral fellowship with Ron Gray and Maria Wawer and the Rakai Health Sciences Program team. I worked on three main projects during that fellowship. One was designing and implementing a randomized crossover trial to assess the comparative acceptability of a new, subcutaneous formulation of Depo-Provera in a pre-loaded, single use injection system - now called Sayana Press - versus regular intramuscular Depo-Provera among HIV positive women in Rakai, Uganda and their healthcare providers. Another project involved using data from the Rakai Community Cohort Study to look at drug-drug interactions between hormonal contraceptive methods and antiretroviral medications, as I alluded to earlier, to see whether simultaneous use of these products impacted efficacy of HIV treatment medications. For the third major project, I had a chance to work with Laurie Zabin, assessing the magnitude and implications of what I call “perceived infertility” among young adults in the United States.

Perceived Infertility? What do you mean?

Perceived infertility, as we defined it, is somebody’s belief that she is unable to conceive (or for a man, a belief that he is unable to impregnate someone), regardless of whether that belief is actually medically accurate. As it turns out, the proportion of young, unmarried adults aged 18-29 in the United States who think that they are unlikely to either be able to get pregnant or impreg-

nate somebody was higher than expected. One of several possible reasons for this is that some young people assume that if they have had sex without contraception – even just once – and didn’t get pregnant, then they must be infertile. I was curious how common perceived infertility was among young American adults, and whether this belief might mean that they’d be less motivated to use contraception.

This was a fascinating area of study to me, because it links beliefs about the likelihood of pregnancy with how motivated people are to protect themselves. In theory, if somebody inaccurately perceives themselves to be infertile, they could be at greater risk of unintended pregnancy if they are less motivated to use contraception because they don’t think they are at risk of pregnancy.

How do you explain this?

I think we inadvertently feed into some of these misperceptions when we try to warn teens that “it only takes one act of unprotected sex to get pregnant”. While that’s technically true, the probability of pregnancy occurring any given day of the menstrual cycle is only between 2-5%. But the vast majority of young adults think the chances of pregnancy after one act of unprotected sex is at least 50% or even higher! So, this makes me think that how we talk about probability of pregnancy might sometimes backfire, incorrectly influencing how people understand their own risk of pregnancy and potentially putting them in a situation where they might become paradoxically less motivated to protect themselves.

We need to find better ways to help people understand their own fertility and to accurately communicate the actual likelihood of pregnancy,

so that people have more balanced understanding.

So this was work you did while you were a post-doc and some of this did carry over into work into the Guttmacher Institute but between being a post-doc and moving to New York you were at USAID. Can you talk a bit more about that?

I started at the Office of Population and Reproductive Health, in the Bureau for Global Health at USAID in September 2011. Amazingly, the issues I had been doing my dissertation and post-doctoral research on at Hopkins fell right into my lap again at USAID. Literally, a matter of days after I started at USAID, a presentation was made at a major HIV conference suggesting that using injectable contraception might double women’s risk of getting HIV, or if they were already HIV positive, of passing HIV to a male sexual partner. We know that HIV rates are high in sub-Saharan Africa. We also know that injectable contraceptives are the most commonly used modern contraceptive method in sub-Saharan Africa, so they are incredibly important in that region and others for prevention of unintended pregnancy and its consequences, such as maternal and infant morbidity and mortality. So, the idea that one of our major tools for protecting women’s health in Africa might also put women’s (and possibly men’s) health at risk in a different way is incredibly concerning! And since the evidence to date is all based on observational data instead of randomized trials, it is extraordinarily difficult to tease out whether the effects reported are actually due to physiological or immunological effects of injectables or to issues of confounding, such as lower condom use among women using injectables. These findings wound up

on the front page of the New York Times and really sent shockwaves through the global health community. At USAID, I had an opportunity to help clarify the evidence on this issue, and was invited by the World Health Organization to conduct several systematic reviews which fed into contraceptive policy-making at the global level.

It was absolutely thrilling to be able to work on this issue and it was exactly what my dissertation research had prepared me to do but it was also a bit intimidating, since it very suddenly became an extremely hot-button and controversial issue, and since many people had a lot of misunderstandings about what the data did and did not say. It highlighted for me that there really needs to be more interplay between the contraceptive field and the HIV field, and I think this issue has actually helped to improve that interplay over the last few years. Because the issue was squarely at the intersection of research and contraceptive policy, I quickly came to realize how essential good science communication can better the public understanding and assist in formation of sound, evidence-based policy.

This experience greatly sensitized me to the importance of clearly framing the issues and succinctly translating science so it can be understood with minimal misinterpretation. It was a fascinating experience and I learned an enormous amount from it.

It certainly was and I recall distinctly your presenting on that topic. Let's go back further. What led you to go into public health in the first place?

I was an anthropology major at Brown University, and I focused specifically on medical anthropology. I

had an interest in health and a lot of it came from when I was very young and interested in herbal medicine. At Brown that interest grew into ethnobotany. I took a class called "Plants, Food, and People" with a fabulous professor, Peter Heywood. One day he told us if we were interested in doing a research project in Africa, we should write a two page proposal on what we would study there. I wrote a proposal to study issues in ethnobotany and was selected, along with five other students, to go with four professors to a small village called Ifaty on the southwest coast of Madagascar during the summer of 2000.

When we arrived, we realized we should really ask the people who lived there what topics they thought would be most useful for our team to work on. The community wanted us to assess the impact of tourism on the natural and cultural environment, and my area of responsibility became looking at the health effects of tourism. This led me to look into issues such as child prostitution, which was becoming sadly common in other areas where tourism was a major source of income.

I also worked on issues related to cholera, worked with some of the midwives in the village, and even spent some time working with the local ombiasa, or shaman. Before going, I'd read Paul Farmer's work, and being in Madagascar really helped me reach a much deeper understanding of what he wrote about. In other words, I saw the impacts of what Farmer calls "structural violence" play out in various health issues for individuals I spoke with. Before that trip I was leaning towards public health, but that experience really cemented my trajectory, because I wanted to try to address issues occurring at

the structural and population levels that had wide-ranging effects on the health of individual people.

So clearly that led to your decision to pursue a career in public health.

Yes. Also important to me was a focus on women's issues, especially sexual and reproductive health, and particularly whether public health policies are based on sound scientific evidence. During college I worked part-time with the Rhode Island Department of Health on teen pregnancy which was much higher in Rhode Island at that time compared to the rest of New England. We were not sure why this was, so I did some work looking at how various policies around teenage pregnancy.

That work ultimately led me to do my undergraduate honor's thesis on anthropological perspectives of teenage female sexuality and reproduction in the United States. Learning about how certain policies, particularly those related to sex and reproduction, can be so tragically disconnected from evidence-based public health perspectives really lit a fire within me to try to bridge those divides, by bringing scientific evidence more to the forefront.

Soon after college, I joined Ibis Reproductive Health and worked on issues like abortion, contraception and HIV. So there have been a couple of major themes that began when I was an undergraduate and have continued to the present day especially sexual and reproductive health, particularly contraception, abortion, and HIV, and the interplay of evidence and policy on these issues.





What an exciting career you have had to date. I can't even begin to imagine what the future holds in store. Thinking back on your doctoral experience, what were the things that you feel trained and positioned you well for where you wanted to go?

Both the coursework and the connections with students and faculty at Hopkins are unparalleled. The passion that the institution has for both research and for positively influencing policies and programs is infectious. The courses I took on conducting high quality systematic reviews and meta-analyses has been of tremendous value to me, and that learning was really driven home by participating in specific activities like co-authoring a systematic review on whether abortion impacts long-term mental health [<http://www.ncbi.nlm.nih.gov/pubmed/19014789>].

That really brought me into that space I love, where scientific evidence meets public health policy. All of the methodologic courses I took in epidemiology, statistics, and demography were incredibly helpful. Working with the Rakai Health Sciences Program team, including folks in Uganda as well as here in Baltimore, was a huge part of my development in understanding international health. They have an incredible model and was exciting to work with Ugandan scientists at the cutting edge of a wide range of research questions.

Finally, I also think about the many professors at Hopkins like Laurie Zabin, Michael Koenig, Bob Blum, and others with whom I had the chance to work on various projects, as well as Ron Gray and Maria Wawer and their Ugandan colleagues, who I worked with so closely for my dissertation and post-doc.

The issue of research translation is so important to me and I am very pleased to learn that the department and school have now launched an Evidence-based Advocacy Institute focused squarely at the interface research translation and policy impact. This is an area that I think needs to be emphasized.

The final observation I would make is that I found the department responsive on student needs. So, for example, when the doctoral students wanted to have a series of sessions on developing CVs, effective presentations, interviewing approaches etc, you were willing to work with us to put together a fantastic program.

Chelsea, thanks very much for spending part of your Sunday morning with me. It has been great to catch up and very exciting to learn all that you have done. We look forward to so much more in the future.

JHBSPH Departments of Population, Family, and Reproductive Health & Health Policy and Management

"Griswold" at 50: Looking Back and Looking Forward

Wednesday, May 6, 2015

4:00PM-6:00PM, Reception to follow

Johns Hopkins Bloomberg School of Public Health, Feinstone Hall

Join us, our faculty, students, friends, and alumni, for a special program. In 1965, the Supreme Court decided *Griswold v. Connecticut*, the landmark case in which the Court ruled that Connecticut's prohibition on the use of contraception by married couples violated their right to privacy under the Constitution. Since then, a number of groundbreaking cases, including *Roe v. Wade*, have been based on the privacy right recognized in *Griswold*. The symposium will explore this historic case on its 50th anniversary and will discuss the implications of *Griswold* in the future.

RSVP by Friday, May 1, 2015

<https://docs.google.com/forms/d/1uXDQJd3DVS9T39uTzPnLLjPdusRPGDytti2mHK4lIE/viewform>

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