IH Faculty and Students Make Major Contribution to the WHO Global Action Plan for the Prevention and Control of Pneumonia (GAPP)

Articles published in the 60th anniversary volume of the WHO Bulletin
Acute respiratory infections are the most important cause of global child deaths, more than 2 million deaths annually. Department faculty have a long record of contributions on the epidemiology and control of these infections and have recently been in the forefront of efforts to raise the priority given to reduction of deaths from childhood pneumonia and other acute respiratory infections. A recent development is the formation of the Global Action Plan for the Prevention and Control of Pneumonia (GAPP) led by the World Health Organization and UNICEF, along with partners in universities and other non-governmental organizations.

The GAPP initiative is building the case for control of childhood pneumonia as an urgent and achievable goal. Proven interventions are available to make this possible. Case management, i.e. the identification of cases of pneumonia and prompt treatment with an appropriate antibiotic, is the cornerstone of efforts to reduce pneumonia mortality. Department faculty led by Carl Taylor in their Narangwal, India studies pioneered the use of community health workers to provide this treatment close to the children’s homes, and proved that it was a safe and effective approach. The full evidence from 9 large-scale trials of community-based management of pneumonia was summarized in a meta-analysis by faculty member Sunil Sazawal and myself several years ago, providing new momentum to this approach. As part of a series of papers providing the evidence for GAPP recently published in the Bulletin of WHO, faculty member Kate Gilroy, along with other colleagues, reported that half of the 54 countries with high rates of child mortality were implementing this approach to some degree and the hope that it had now reached the “tipping point” for being done much more widely.

There are also powerful preventive interventions available to control pneumonia mortality. In the series of papers for GAPP, Dan Roth along with Laura Caulfield and myself provided the evidence for nutritional interventions to reduce pneumonia, particularly promotion of breastfeeding and zinc supplementation. In another paper of the GAPP series, faculty Orin Levine and Rana Hajjeh with others provide a strong basis for the use of vaccines against Hemophilus influenzae type b and Streptococcus pneumoniae. Another paper in this series on the cost-effectiveness of interventions to reduce childhood pneumonia, prepared by faculty member Louis Niesse, will appear in a future issue of the Bulletin.

A powerful set of interventions is ready now for wide implementation and others, such as those to control indoor air pollution, justify urgent research. Just because we have proven interventions it does not mean we no longer need research. There is a compelling need for implementation research to bring these interventions to those in need, to integrate them with other health services and to maximize equitable effects on mortality and morbidity. This is the work of many more of our students, alumni and faculty. The department will continue to make important contributions in the control of the most important cause of child deaths worldwide.

Finally, I would like to provide my congratulations to the master’s and doctoral graduates of the Department of International Health and to those of other departments. The potential to improve global health has never been greater than today and you will be the leaders who will help realize that potential. Best wishes for your future career challenges and opportunities.
A s part of the special 60th anniversary volume of the WHO Bulletin, Department of International Health faculty and students, along with experts from across the globe, produced a series of articles on the prevention and control of childhood pneumonia. These papers, commissioned by the Global Action Plan for the Prevention and Control of Pneumonia (GAPP), expose the extent of the burden of disease caused by pneumonia and make a clear case for scaling up international efforts to combat it.

While pneumonia causes few childhood deaths in developed countries, it is still the leading single cause of death in children under 5 worldwide, accounting for greater than 20% of mortality among that age group. The vast majority of these deaths occur in Southeast Asia and sub-Saharan Africa. The articles led by IH faculty focus on an array of prevention and treatment efforts, including, vaccines, nutritional interventions, and community case management.

Hib and pneumococcus vaccines

With nearly all of child pneumonia deaths occurring in the developing world, the establishment of strong vaccine programs in countries most affected is of paramount importance. In their article, Drs. Orin Levine and Rana Hajjeh review the large overall role vaccines can play in improving child survival. The paper focuses on Hib and pneumococcus vaccines that protect against the two leading bacterial causes of pneumonia. Despite some challenges, the authors are optimistic that these vaccines—in conjunction with others including pertussis and measles—can continue to reduce the number of pneumonia-related deaths.

Several clinical trials and case-control studies have established the effectiveness of the Hib conjugate vaccine (Hib) and pneumococcus conjugate vaccines (PCVs). They protect against the bacteria that account for over 50% of pneumonia-related deaths of children between 1 month and 5 years old. WHO recommends both in routine immunization programs, and, if applied everywhere, they are expected to prevent over a million child deaths each year.

Because the burden of pneumonia is extremely high in sub-Saharan Africa, the authors also reviewed data on the benefits of Hib and PCVs to HIV-infected children. For example, children living with HIV or AIDS account for 45% of childhood pneumonia morbidity and 90% of mortality in South Africa. While less effective in children who are not on antiretrovirals, the evidence shows little cause for concern with using the vaccines. Moreover, because HIV-positive children are at greater risk, WHO recommends that countries with high HIV prevalence include PCV in their vaccine regimens.

Although significant progress has been made, the authors conclude that political will and health systems still need to be strengthened. The GAVI Alliance, for instance, has been instrumental in making vaccines financially accessible to poorer countries and the Advance Market Commitment, which requires a co-payment from participating countries, has helped instill a sense of national ownership. However, there is a worry that middle-income countries might be left out because they are too wealthy to qualify for funding but not wealthy enough to purchase the vaccines on their own. Furthermore, vaccines will not prevent all cases of pneumonia and strong health systems must be maintained to not only distribute vaccines but to treat those who do become ill.
and child zinc supplementation interventions. The authors estimate that about a quarter of ALRI cases could be prevented with routine supplementation and that scaling up supplementation in zinc deficient regions could avert 7 percent of ALRI deaths and disability-adjusted life years (DALYs). In addition, the authors note that the two-week course of zinc supplementation recommended by the WHO for children with acute gastroenteritis also reduces the burden of severe ALRI. Scaling up of this approach would be an effective strategy for improving zinc status.

**Zinc and breastfeeding promotion**

Building on the evidence from the *Lancet Undernutrition Series*, Dr. Daniel Roth, a PhD candidate in the Department, Dr. Laura Caulfield and Department Chair Robert Black reviewed the efficacy and effectiveness of nutritional interventions to reduce the incidence, morbidity and mortality associated with acute lower respiratory infection (ALRI). While data on several types of nutritional interventions were analyzed, including breastfeeding promotion and vitamin A, iron, folic acid, and zinc supplementation, only two were clearly found to reduce the burden of disease caused by ALRI: zinc supplementation and breastfeeding promotion.

**Community case management**

Dr. Kate Gilroy was an author of the article reviewing the policies, implementation and plans for community case management (CCM) of pneumonia in countries with the highest levels of child mortality. While experts have reached near consensus on the viability of CCM as a vital component in the fight against childhood pneumonia, the article highlights some of the challenges still remaining in its acceptance and implementation.

A previous meta-analysis by Dr. Black and Dr. Sunil Sazawal found that CCM reduced mortality by 24 percent and pneumonia-specific mortality by 36 percent among children under 5. However, only half of the 54 countries surveyed here reported some level of implementation. Moreover, the scale of CCM programs was reported to be very limited in many countries. Of the 35 countries with the highest pneumonia burden, only 14 reported a policy supporting CCM.

To invigorate efforts to prevent and treat pneumonia in communities, the authors propose a “pneumonia treatment gap” indicator. The indicator would help highlight the scale of the problem of untreated pneumonia by providing a simple and straightforward number that experts and non-experts alike would understand. It would also provide a standard figure to track the progress made and challenges remaining across countries.

Another existing challenge is the concern that community health workers (CHWs) will not accurately dispense antibiotics. The authors posit that this fear may be misplaced since expanding CCM would require additional training and therefore should lower improper treatment of coughs and common colds with antibiotics. Furthermore, the current push to expand community-based treatment of malaria could be a prime opportunity for introducing CCM of pneumonia.

**Reinvesting in pneumonia prevention and control**

UNICEF and WHO have called pneumonia the “forgotten killer of children.” Although still the largest single cause of childhood mortality in the world, its toll has been overshadowed in recent years. Department faculty are playing an influential role in reversing this situation. Along with other internationally renowned experts, IH faculty and students were authors on over a third of the research articles in this special issue of the WHO Bulletin. Their contributions are a valuable first step toward GAPP’s goal of renewing the international commitment to fight childhood pneumonia. For free access to all the papers in this issue (Volume 86, Number 5, May 2008), visit http://www.who.int/bulletin/volumes/86/5/en/index.html
Faculty Recognition

Mathu Santosham, Professor, Health Systems, gave the 2008 Jeryl Lynn Hilleman Endowed Lecture at the CDC Foundation. The title of his address was, “The Global Control of Infectious Disease Mortality--Contributions of Native American Populations.”

Carl Taylor, Professor emeritus, Health Systems, will receive the inaugural Global Health Council Lifetime Achievement Award for his dedication to improving the health care of the world’s most marginalized people through innovative community-based interventions.

Laura Murray-Kolb, Assistant Professor, received a Faculty Innovation Fund Award for her project entitled, “Iron status and daily functioning in young women of reproductive age.”

For her many contributions in the field of vaccines and commitment to life-saving medical discoveries, Katherine O’Brien, Associate Professor, Deputy Director of the Center for American Indian Health, received the inaugural Albert B. Sabin Young Investigator Award at the 11th Annual Conference on Vaccine Research, May 6, 2008.

Dr. Mathu Santosham presents Dr. Kate O’Brien with the Sabin Young Investigator Award.

Orin Levine, Associate Professor, Health Systems, gave the first Robert Austrian lecture at the 11th Annual Conference on Vaccine Research, May 6, 2008.

Drs. Orin Levine and Kate O’Brien at the Department’s Sabin Award reception. The award was presented at the Conference on Vaccine Research where Dr. Levine gave the Robert Austrian Lecture.

Congratulations
Successful Thesis Defense

Nagesh Borse, Health Systems, The Silent Outbreak of Childhood Drowning in Matlab, Bangladesh: Epidemiology, Risk Factors and Potential Interventions

Liwei Chen, Human Nutrition, Effects of Beverage Consumption on Body Weight and Blood Pressure among Adults in the United States

Amy Medley, Social and Behavioral Interventions, Antenatal HIV Counseling and Testing in Uganda: Women’s Experiences, Counselors’ Challenges, and Men’s Attitudes

Holger Mayta, Global Disease Epidemiology and Control, Cloning and Characterization of Two Novel Taenia solium Antigenic Proteins and Applicability to the Diagnosis and Control of Taeniasis/Cysticercosis

Christine Stewart, Human Nutrition, Antenatal Micronutrient Supplementation, Newborn Size and Biomarkers of Metabolic Syndrome in 7-Year-Old Children: Exploring the Developmental Origins of Health and Disease in Rural Nepal

Jaenisch Thomas, Global Disease Epidemiology and Control, Geotemporal Population Dynamics of Multiple P. falciparum Infections in a Cohort of Children on Pemba Island, Tanzania
Scholarships and Fellowships

Baker, Taylor, Reinke Scholarship in International Health
Manjunath Shankar and Sachiko Ozawa

Established in 2004, this scholarship commemorates over 100 combined years of dedicated public health service by Drs. Timothy D. Baker, William Reinke and Carl E. Taylor. The efforts of these three men were instrumental in establishing the field of international health as a distinct discipline. This fund supports graduate students in the Department of International Health at the Bloomberg School of Public Health and is targeted toward students working in the following areas: organization of health delivery systems, community-based healthcare or injury control in less developed countries.

Henry and Lola Beye Scholarship
Willem Van Panhuis

This fund was established in 2001 through the estate of Lola Beye, widow of Henry Beye, MD. Dr. Beye received his MPH degree from the School in 1942 and was an authority on tropical diseases. He spent many years at the U.S. Public Health Service where he was the director of the Middle America Research Unit. He conducted intensive studies on elephantiasis, hemorrhagic fever, filariasis and schistosomiasis, and during his career worked in such countries as Bolivia, British Guinea, Thailand, and Panama. Mrs. Beye, a nurse, often worked in the field with Dr. Beye. This fund supports an outstanding student who has completed a medical degree and is pursuing a graduate degree in the Department of International Health.

Georgeda Buchbinder Award
Kathryn Berndtson

Dr. Georgeda Buchbinder received her MPH from the School in 1984. She then moved to Hawaii and began a public health career by teaching Population Science and International Health. Her career was progressing extraordinarily well when she was diagnosed with cancer. This fund was established by friends and colleagues after her death to celebrate her all-too-brief career in public health. This fund annually supports students, junior faculty, or other priority projects in international health.

Global Health Yahoo! Group

Join the new Global Health Yahoo! Group (it’s free!) to stay in touch with your fellow Hopkins students, alumni, and faculty. Network, share ideas, discuss current issues, find jobs, keep in touch, and get to know each other.

Visit www.hopkinsglobalhealth.org and click on the link to the Yahoo! Group in the green box on the left-hand side of the homepage.

Clements – Mann Fellowship
Andrea Jones and Jennifer Scott

Mary Lou Clements-Mann, MD, MPH ’79, professor of International Health, and her husband Jonathan Mann, MD, MPH, visiting professor of Health Policy and Management, died in September 1998 when Swiss Air Flight 111 to Geneva crashed into the North Atlantic. The Manns were at the forefront of the worldwide struggle against AIDS. Dr. Clements-Mann was an internationally known physician who devoted most of her career to developing and testing vaccines to combat respiratory viruses, AIDS, and diarrheal diseases. As professor of International Health, she was the founding director of the Center for Immunization Research, where she worked with colleagues to develop the master’s and doctoral programs in vaccine sciences. Dr. Jonathan Mann founded the World Health Organization’s AIDS program and was one of the first scientists to bring the international AIDS crisis to the world’s attention. The Clements-Mann Fellowship was established by family members, friends, and colleagues as a tribute to Mary Lou and Jonathan’s tireless devotion to vaccine development, research, and human rights. The fund supports outstanding graduate students working in vaccine sciences.

Diana Hess Scholarship
Prabu Selvam

In 1983 the Diana Hess Memorial Fund was established with contributions from her family and friends. Diana Hess, a former Peace Corps volunteer in Kenya, was devoted to improving public health in Africa. The Hess Fund provides an annual scholarship to students in the Department of International Health. The award is based on academic and professional accomplishments and need for financial support. Preference is given to those planning to work in Africa, but this is not a requirement for receipt of the award.
**John Snow, Inc. Award**
Michelle Mergler and Heather Danysz

John Snow, Inc.’s mission is to provide an extensive range of research and consulting services to the health care and service sectors. The International Division provides technical assistance designed to enhance the effectiveness and quality of public health programs. The John Snow, Inc. Award, an annual award created in 2001 provides financial assistance to outstanding, second-year MHS students in the Department of International Health who are engaged in internships in the field.

**Nancy Stephens Fund**
Lauren Kleutsch and Danielle Tuller

Established in 1970 as the International Health Fund, this fund provides grants to master’s or doctoral students in the Department of International Health who are completing their degrees. For 37 years Nancy Stephens was the immensely popular student coordinator in the Department of International Health. At her retirement in 2001, Dr. Robert Black, chairman of the Department honored her by renaming this fund the Nancy Stephens Student Support Fund.

**Procter & Gamble Fellowships**
Amanda Palmer
Rebecca Merrill
Monica Mispireta

Established by Proctor & Gamble in 2003, this fund supports master’s, doctoral and post-doctoral students committed to advancing the health and well-being of women and children through the provision of clean water and improved nutrition.

**Robert & Helen Wright Fund**
Abdulgafoor Bachani and Adetayo Omoni

This fund was established in 1983 with donations from family members and friends of former International Health faculty member Robert Wright, MD, MPH ’40. The Fund provides support for continuing doctoral students who expect to contribute to the improvement of public health in Africa, particularly in Nigeria.

**MPH Capstone Awards**

**Christina Chang**
Reducing Maternal Mortality One District at a Time – A District-Level Analysis of the Utilization of Skilled Birth Attendants in Four Districts of Bihar. Capstone Supervisor: Hugh Waters; Advisor: Orin Levine

**Dana Kindermann**
Evaluating the Impact of a Nutrition Education Program in Baltimore City Schools. Capstone Supervisors: Roni Neff & Anne Palmer; Advisor: Elli Leontsini

**Katherine Westphal**
The Effectiveness and Sustainability of a Low-cost Water Filter in Removing Pathogens during Long-term Household Use. Capstone Supervisor/Advisor: Earl Wall
Congratulations New Delta Omega Members

Stephen Stake, MHS, Social and Behavioral Interventions

Amanda Palmer—Teaching Assistance Award

Katherine Fritz, Assistant Professor, Social and Behavioral Interventions—Advising, Mentoring & Teaching Recognition Award (AMTRA)

Andrea Ruff, Associate Professor, GDEC, AMTRA Award

Thoai Ngo—Student Award

Framework Program in Global Health Fellowships

Each semester, the Center for Global Health teams with the National Institutes of Health’s Fogarty International Center to award 12 to 17 students a Framework Program in Global Health fellowship. These awards are given to undergraduate and graduate Hopkins students to help support an international research experience. Students work with faculty mentors to complete their projects.

Theodore Alcorn, Social and Behavioral Interventions, Ethnographic investigation of the implementation of a demand-driven community-based water system near Accra, Ghana

Emily Ciccone, Global Disease Epidemiology and Control, Assessing the Utility of Dried Blood Spots to Determine Eligibility of HIV-infected Individuals for Antiretroviral Therapy in Resource-Limited Settings


Jewel Gausman, Social and Behavioral Interventions, Examining Microcredit’s Impact on Health Through Intra-Couple Decision-Making in Rural Bangladesh

Lauren Kleutsch, Social and Behavioral Interventions, Qualitative Assessment of Project Accept

Melinda Munos, Global Disease Epidemiology and Control, Identifying Risk Factors for Neonatal Infection in a Rural Community in Bangladesh

Savitha Subramanian, DrPH candidate, Evaluation of a Cost-Effective Maternal, Newborn, Child and Reproductive Health (MNCRH) Services Delivery System for Urban India

Sarah Wampold, Global Disease Epidemiology and Control, Adherence to Antiretroviral Therapy Among Pregnant and Post-Partum HIV-infected South African Women

Student Association Awards

Student Assembly Honors & Awards Committee

Amanda Palmer—Teaching Assistance Award

Katherine Fritz, Assistant Professor, Social and Behavioral Interventions—Advising, Mentoring & Teaching Recognition Award (AMTRA)

Andrea Ruff, Associate Professor, GDEC, AMTRA Award

Thoai Ngo—Student Award
Countdown to 2015 for Maternal, Newborn and Child Survival

Few priority countries on track to reach Millennium Development Goals on maternal and child mortality

A special issue of the *Lancet* was published recently on the progress towards reaching the Millennium Development Goals (MDGs) for reducing maternal and child mortality. Four articles focused on coverage, equity, financing, and policy. Dr. Jennifer Bryce of the Department was a leading member of the Coverage Writing Group and the Equity Analysis Group. Dr. Cesar Victora, a visiting professor in the Department, was the chair of the Equity Analysis Working Group.

Dr. Bryce and the Coverage Writing Group produced “Countdown to 2015 for maternal, newborn, and child survival: the 2008 report on tracking coverage of interventions.” The report focuses on the 68 countries that account for 97% of maternal and child deaths worldwide. Despite gradual progress, only 16 of these 68 priority countries are on track to reach Millennium Development Goals. Even within countries that are on track, children from poor families lag well behind their better-off peers, as shown in the equity analyses led by Prof. Victora.

The report did find, however, that many factors are in place to make rapid progress towards these goals, including country and donor commitment and a consensus on priority interventions. The authors conclude, “In the 7 years until 2015, the next 2 years before the next Countdown Report will be the most crucial. With strategic decisions and investments, and a focus on partnerships for results, we have the opportunity to see unprecedented progress in these 68 countries. Or will the 2010 report show more of the same gaps and lives lost?”

The special issue was launched at a press conference in London on Thursday, April 10. The Countdown to 2015 Conference took place in Cape Town, South Africa, April 17–19. The complete issue is available online: [http://www.thelancet.com/journals/lancet/issue?issue_key=S0140-6736(08)X6017-9](http://www.thelancet.com/journals/lancet/issue?issue_key=S0140-6736(08)X6017-9)
Earlier this year, Elizabeth Haytmanek became a senior program associate for the Institute of Medicine’s Committee on the U.S. Commitment to Global Health. Beth finished her coursework last spring and returned from Nepal in December after completing her internship there. Because there is no winter commencement, she will officially graduate in May with a Master of Health Science in Global Disease Epidemiology and Control.

I recently spoke to Beth about her new position and about her experience as a master’s student in the Department of International Health. She was quick to praise the MHS program. “My job was almost made for a Hopkins International Health graduate.” She explained that she provides research advice and support to an expert committee conducting a year-long study on the U.S. commitment to global health. The committee’s findings are intended to inform the next Presidential administration’s global health agenda. “My coursework touched on almost all aspects of international health that I currently work on. I feel very prepared, for instance, when I do research for the committee and need to interpret data from the peer-reviewed literature.” She also wanted to mention that she found the job on the student listerv that Charlotte Gaylin, Academic Manager, and Carol Buckley, Academic Coordinator, maintain.

One aspect of the Department’s MHS program she thinks makes it a cut above the rest is the internship component, which can last longer than the standard two or three months in programs at many other universities. Beth interned with the Nepal Nutrition Intervention Project-Sarlahi (NNIPS), which is based in the Department and funded by the Gates Foundation and the National Institute for Child Health and Human Development. Originally funded by USAID, the project has operated in Nepal for many years. Beth not only worked in the field collecting data for the program, she also used the study data for her thesis. While NNIPS assesses a broad range of effects of early antenatal-to-postpartum micronutrient supplementation, she focused on cognition and motor skills. “The internship component of the program was one of the biggest draws for me, and I’ve noticed that it’s something that sets me apart from other recent grads from other schools.”

Although no longer at Hopkins, Beth still feels connected to the School and the Department. Earlier this year she helped her committee convene a meeting of global health experts where former dean Al Sommer presented. Professor Tim Baker, whose research team is studying U.S. funding to global health over the past 10 years, also attended. The Institute’s committee eagerly anticipates his team’s findings. Department Chair Bob Black and Associate Professor Adnan Hyder have been invited by the committee to provide expert opinion later this summer on nutrition and injury prevention, respectively.

Before her diploma is even framed, Beth has become a valuable part of the global health community. She credited Hopkins for training her well and pointed out that many of her classes, such as International Nutrition, were very practical and applicable to her field work. And while she chose the Department in part because of the internship opportunity, she herself has been a little surprised by how favorably global health professionals view that experience. For more information on Beth’s work and the Institute of Medicine’s Committee on the U.S. Commitment to Global Health, visit www.iom.edu/usandglobalhealth.