PITT iiii PUBLIC HEALTH

PUBLIC PARTNERSHIP

of
JONAS
SALK

RESEARCH Highlights and more "It [was] a proud moment in the city and the region's history. And it changed the course of biomedical science. The development of the polio vaccine is important to remember, because it became our scientific future." Margaret McDonald, associate vice chancellor

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Inspiration for

OUT WORK at Pitt Public Health comes from all over the world. I recently had the privilege of exploring the archives of Jonas Salk in California. Salk's creation of the inactivated polio vaccine here at the University of Pittsburgh was a spectacular contribution to global health. But his thoughtful writings reminded me that his ultimate goal was improving not only physical health, but also the economic and social conditions of the human family.

The global reach of the University is one of the key strengths of our program. We draw on outstanding research in all the health sciences, as well as energy, sustainability, education, social work, and law. Both our upper and lower campuses can engage in the work that Salk correctly deemed our most important task.

That work begins at our doorstep. For the past five years, I have served on the board of directors of the Allegheny County Health Department. Serving a community of 1.2 million, the department's mandate is daunting. The agency is responsible for everything from measuring the effects of air pollution to preventing sexually transmitted disease. I have just chaired the effort to draft a new strategic plan that will deploy the department's resources strategically and effectively over the next decade. I invite those of you living and working in the region to learn more about our goals and tell me what you think.

Despite having some of the best medical expertise in the world, our neighboring community ranks surprisingly poorly in a number of health metrics. Our infant mortality rate is unacceptably high: Babies born to minorities here die more frequently than babies in China or or Mexico. Homicide is the leading cause of death among our young African American men. Heart disease causes one of every four deaths in the region.

All three of these problems have complex roots in behavior and socioeconomic conditions. But all are preventable. I believe

that Pitt Public Health has the considerable talent to change those outcomes and an obligation to the community to demand health equity for all residents.

By providing biostatistical analysis and metrics to judge progress on the targeted outcomes, Pitt Public Health can support the health department's epidemiological efforts. Our community and behavioral health experts can offer evidence of best practices to change health behaviors. For our students—many of whom volunteer in community health projects through SPHERE, our Student Public Health Epidemic Response Effort—the community is the best possible real-life lab.

Peter Salk, who hosted my visit to the Jonas Salk archives, came to Pittsburgh to address the graduating Class of 2012 last April. He drew a clear connection between our work in our own backyard and across the globe.

"We are at a point in our history where public health has become indistinguishable from global health, and where global health necessarily comprises more than the traditional framework of contending with diseases and influences primarily afflicting the body," he told the audience.

His father Jonas Salk understood six decades ago that public health faced an era of momentous change. We are living through that era. If we can be mindful of the deep intellectual resources of this University, and the discoveries we can make in collaboration with our colleagues in other disciplines, I believe we will help to fulfill Jonas Salk's hopes for the local community—and the global one.

Derald S. Bull

Donald S. Burke, Dean

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Bernard D. Goldstein (left), professor of environmental and occupational health and former dean of the University of Pittsburgh Graduate School of Public Health, was named professor emeritus.

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School Highlights

To learn more about the achievements, news, and research of Pitt Public Health, go to www.publichealth.pitt.edu/news

Inaugural Peace Corps Master's International Volunteer Returns

This fall, Pitt Public Health welcomed back **Sarah Sisaye**, inaugural enrollee in the Peace Corps Master's International (PCMI) Track within the Department of Behavioral and Community Health Sciences. From May 2010 through June 2012, Sisaye volunteered in Navakholo, a village in western Kenya near Kakamega, where she worked with a local school to build a wheelchair-accessible latrine, delivered HIV/AIDS education to the broader community, and collaborated with Vestergaard Frandsen, a French corporation, on a project to distribute LifeStraw Family, an intervention designed to reduce carbon emissions from burning wood to clean drinking water for individual homes.

Sisaye, whose mother was also a Peace Corps volunteer in El Salvador in the 1970s, wanted to do this her entire life and jumped at the chance to be part of a dynamic organization. "Upon arrival in Navakholo, I worked quickly to integrate myself by learning Swahili and attending community events.

"Through the guidance and support of local community health workers, I was able to identify food security, HIV risky behaviors, malaria, and female empowerment as issues important to the community. We were then able to conduct trainings with the full support of the area chief and the administrative officials. These experiences have given me a deeper insight into the drivers behind behavior change and the steps necessary for it to stick."

Sisaye's next steps are to complete the final year of coursework in the PCMI Track, which is designed to be completed with a preliminary and intense academic year at Pitt Public Health, two years on assignment abroad, and one final year of coursework back on campus, culminating in a thesis or master's essay. After completing her degree, she is interested in pursuing a doctorate in political science and a career in foreign affairs.

The PCMI Track, started at the school in 2008, currently has five students enrolled: Two are serving in active Peace Corps duty out of the country, and three are studying locally at Pitt. PCMI students acquire a nuanced understanding of the challenges and opportunities of improving health when working with communities around the world. These students are bright, highly motivated, and committed to addressing the world's health challenges. Sisaye had the benefit of returning to Pitt Public Health with her final year's tuition and fees covered through scholarship support, but this funding source will soon be depleted. The school aims to offer future PCMI students the same funding opportunities that the first cohort received. You can help support the work of tomorrow's global health leaders by making a donation to the PCMI scholarship fund administered by the Center for Global Health. Please contact Kristen de Paor at 412-624-5639 or kwd128@pitt.edu for more information or to make a contribution.













Construction Update

Significant progress has been made on the four-story laboratory pavilion that will house state-of-the art, open-format labs. Window installation is under way, and crews have begun installing the exterior stone. The floor of the 215-seat auditorium has been constructed, and, on the second floor, walls of the procedure room and tissue culture rooms are in place. The progress on the new 58,000-square-foot research space is evident with the final stages of Phase I on the horizon.

The recent wind and rain brought in by Hurricane Sandy temporarily halted the exterior stone installation. Crews are now racing to apply the vapor barrier before winter sets in. "Cold temperatures will slow us down," said Steve Wisniewski, senior associate dean, professor, and Epidemiology Data Center codirector. Wisniewski, the school's administrative liaison to the construction and design teams, has been heavily involved in the building and renovation process. He has led several building tours to highlight the project's headway and explain the vision for the new collaborative lavout.

Planning meetings for Phase II of the project—renovation of Parran and Crabtree halls—have begun. Administrators continue to work to secure the funds required to successfully finish the building and renovation. The total budget for Phase II of the project is \$55 million, with \$40 million provided by the Commonwealth of Pennsylvania and the University of Pittsburgh.



View our construction webcam online at www.publichealth.pitt.edu/webcam

Send Us Your Story! We're now accepting your submissions for Pitt Public Health magazine. Send us stories about faculty, staff, students, or alumni performing public health service anywhere in the world to phcomm@pitt.edu for consideration. Include your name and a high-resolution photo.

Family Health in India Study

Meet Jamie Eastman, doctoral candidate in epidemiology, who traveled this fall for the fifth time to India to conduct research on the Longitudinal Indian Family Health (LIFE) Study under the direction of Clareann H. Bunker, associate professor of epidemiology. The project, designed to learn more about risk factors during pregnancy that cause low birth weight and infant mortality, is a collaboration between the University of Pittsburgh and the MediCiti Institute of Medical Sciences in Medchal, Andhra Pradesh, India.

LIFE closely mirrors the National Children's Study in the United States in order to get a better understanding of the burden and risk factors for early childhood morbidity and mortality in rural India. To date, the project has enrolled more than 1,200 women and followed more than 800 pregnancies. Women are enrolled prepregnancy (or early in the first trimester) and followed routinely until they conceive. Additional visits are scheduled at the first and third trimester, delivery, and 28 days postpartum. Children are followed additionally at multiple time points throughout their development.

While on site in India, Eastman develops and teaches courses in epidemiology, biostatistics, medical literature review, and manuscript writing, which she delivers to faculty at MediCiti Institute of Medical Sciences so that they can design and implement their own studies. She will be returning once more to India in February 2013 under Bunker's Fogarty International Center Training Grant to deliver one final course before completing her dissertation.

Eastman began work on this project in May 2009 after receiving a Master of Public Health from Pitt's Department of Behavioral and Community Health Sciences. Said Eastman, "I have enjoyed this research project immensely because it is a great opportunity for me as an epidemiologist to see a study from inception through the data analysis stage. It has also been a great way to integrate my interest and background in behavioral and community health since, with this study, I'm not just crunching the data but also taking into account the cultural norms of the population I'm educating and studying." •



Capital Campaign Boost

September was an exciting month for Pitt Public Health. A \$1 million gift from alumna Becky Surma (MPH '81) and her husband John Surma was announced as part of the school's Building for a Healthier World capital campaign. The campaign supports the construction of a new laboratory facility and renovations to the school's existing facilities. The Surmas' pledge, the largest single gift received since Pitt Public Health initiated the campaign in 2009, will be used to provide matching funds for other major donations. Offered as a dollar-for-dollar match, the Surmas' donation will allow participating donors to double the value of their gifts and to take advantage of increased naming opportunities.

"I am proud to be an alumna of Pitt Public Health and to support the school as it grows. In order to recruit and retain outstanding faculty and to develop students into health care leaders, the school must have modern, attractive, and technologically advanced classrooms. I am pleased to be a small part of the future success of the school."

DIANE PETERSON

With the new laboratory building set to open in fall 2013, Phase II renovations are on target to begin immediately afterward. Now is the time to lend your support. From a new auditorium and student lounge to renovated classrooms and conference rooms, plus an outdoor courtyard, this project will benefit the entire Pitt Public Health community. Take advantage of the Surma match today, and invest in the future of Pitt Public Health.

Within weeks of the Surmas' gift, two donors stepped up to take advantage of this special opportunity. The school is pleased to confirm \$100,000 in support from the Jewish Healthcare Foundation and a \$25,000 gift from alumna Diane Peterson (MPH '75).

(MPH '75).
Peterson, a member of
Pitt Public Health's Board of
Visitors along with Surma,
recognizes the positive impact
that her education in health
administration has had on
her career. Thanks to the
Surma match, her gift will be
valued at \$50,000, giving her
the opportunity to name a
classroom in the renovated

building.



Diane Peterson Alumna



Learn more about the Building for a Healthier World campaign at www.publichealth.pitt.edu/capitalcampaign, or take advantage of the Surma match by contacting Kristen de Paor, director of development, at 412-624-5639 or kwd128@pitt.edu.



Pitt Public Health One Book, One Community

Shared experiences draw people together. Share a book. Share an experience.

This year's book is Rachel Carson's *Silent Spring*. More information is available online at www.publichealth.pitt.edu/1bk1com.

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Research Briefs



Read more about
Pitt Public Health research at
www.publichealth.pitt.edu/news

Pitt Study Finds Weight-Loss Surgery Increases Risk of Alcohol Use Disorders

Pitt Public Health researchers have discovered that people who receive the most popular weight-loss surgical procedure are at an increased risk of developing symptoms of alcohol use disorders. The findings are the first to draw a clear link between Roux-en-Y gastric bypass (RYGB) surgery and symptoms of alcohol use disorders and could have implications for patient screening before surgery.

Lead author Wendy King, assistant professor in Pitt Public Health's Department of Epidemiology who presented the results at the American Society for Metabolic and Bariatric Surgery's annual meeting in San Diego, Calif., said, "Patients should be educated about the potential effect of bariatric surgery, in particular RYGB surgery, increasing the risk of alcohol use disorders. Alcohol screening should be included in routine pre- and postoperative care."

King and her Pitt Public Health colleagues investigated alcohol consumption and alcohol use disorder symptoms in 1,945 study participants in the Longitudinal Assessment of Bariatric Surgery study. Nearly 70 percent of study participants underwent the popular RYGB surgery, and among them, 7 percent reported symptoms of

alcohol use disorders prior to surgery. Although there was not a significant increase in alcohol use disorders after one year, by the second postoperative year, there was a greater than 50 percent relative increase.

"Among RYGB patients, there was a significant decrease in alcohol consumption in the first year after surgery, compared to the year before surgery, but not in the second year. Thus, the increase in alcohol use disorder symptoms following RYGB surgery was likely a result of an increase in alcohol sensitivity following surgery combined with resumption of higher levels of alcohol consumption in the second postoperative year," King said.

King's study found several patient characteristics that could help predict whether a patient is more likely to develop alcohol use disorders following surgery. These included a lower sense of interpersonal support, smoking, recreational drug use, consumption of alcohol at least two times per week, and prior alcohol disorders. Men and younger adults were more likely to develop alcohol use disorders.





order.]

Wendy KingAssistant professor in Pitt Public Health's Department of Epidemiology

By the second postoperative year, 10.7% of patients reported symptoms of alcohol use disorder. [Anita Courcoulas, chief of minimally invasive bariatric and general surgery at UPMC (left)]

Low Vitamin D Levels Early in Pregnancy Associated with Lower Birth Weights

New research by Pitt Public Health researchers reveals that women deficient in vitamin D early in their pregnancies are more likely to deliver babies with lower birth weights. The study, funded by the National Institutes of Health, is reported in the January print edition of the *Journal of Clinical Endocrinology & Metabolism* and is available online.

"A mother's vitamin D level early in pregnancy may impact the growth of her baby later in pregnancy," said lead author Alison Gernand, postdoctoral associate in the Department of Epidemiology. "Also, if the mother was deficient in vitamin D during the first trimester, her baby had twice the risk of suffering from growth restriction in utero."

Gernand and her coauthors discovered that mothers with levels of vitamin D in their blood of less than 0.015 parts per million (37.5 nmol/L) in their first 26 weeks of pregnancy delivered babies who weighed an average of 46 grams less than their peers. Only full-term babies—those delivered between 37 and 42 weeks of pregnancy—were included in the study. In addition, women who were vitamin D deficient in the first trimester of pregnancy—14 weeks or less—were twice as likely to have babies who fell in the lower 10th percentile for weight when compared to other full-term babies born in the same week of pregnancy, a condition known as "small for gestational age." Babies born small for gestational age are at five to 10 times greater risk for death in their first month and have a higher risk of chronic diseases, such as heart disease, hypertension, and type 2 diabetes later in life.

"This is one of the largest studies to examine a mother's vitamin D levels and their relationship with birth weights," said senior author Lisa M. Bodnar, assistant professor in the Department of Epidemiology. "It shows that clinical trials to determine if you can improve birth weights by giving women of reproductive age vitamin D supplements may be warranted."

Vitamin D is unique in that our bodies can make it from sunlight, though it is also in fortified foods, such as dairy products and breakfast cereals, and can be taken as a supplement. People with darker skin are more likely to be deficient in vitamin D. Applying the same conservative standard used in this study, researchers have found that nearly half of Black women and about 5 percent of White women in the United States are vitamin D deficient.

The Pitt Public Health study used a random sample of 2,146 pregnant women who participated in the Collaborative Perinatal Project, which was conducted in 12 U.S. medical centers from 1959 to 1965. The blood samples collected by the project were well-preserved and able to be tested for vitamin D levels half a century later.

"Although the blood samples were in remarkably good condition, it would be beneficial to repeat our study in a modern sample," Bodnar said. "Today women smoke less, weigh more, have less sun exposure, and get more vitamin D in their foods—all things that could impact their vitamin D levels and babies' birth weights."

The researchers report that maternal vitamin D deficiency could cause low birth weight by impeding the typical increase in calcium absorption by pregnant women, which could reduce fetal bone growth. It could also lead to a decrease in the hormones necessary to produce the glucose and fatty acids that provide for fetal energy needs. •



Assistant professor in the Department of Epidemiology



Alison GernandPostdoctoral associate in the Department of Epidemiology



Medicare Beneficiaries Overspend by Hundreds

Medicare beneficiaries are overpaying by hundreds of dollars annually because of difficulties selecting the ideal prescription drug plan for their medical needs, an investigation by Pitt Public Health researchers reveals.

Only 5.2 percent of beneficiaries chose the least-expensive Medicare prescription drug benefit (Part D) plan that satisfied their medical needs in 2009, overspending on Part D premiums and prescription drugs by an average of \$368 a year. The evaluation, published in the October issue of the journal Health Affairs, takes a national look at how well beneficiaries were making plan choices in the fourth year of the Medicare Part D program and could help guide changes to health insurance programs.

"People need assistance in choosing the least expensive plan for their medical needs," said lead author Chao Zhou, a postdoctoral associate at Pitt Public Health. "Educational programs that help people navigate the dozens of plans available would make it easier to select plans that best meet their health care needs without overspending."

"In particular, government officials could recommend the three most appropriate Part D plans for each person, based on their medication history," said coauthor Yuting Zhang, associate professor of health economics at Pitt Public Health. "Alternatively, they could assign beneficiaries to the best plan for them based on their medication needs, while offering them the option to choose another plan instead."

The results of this study could be useful in designing health insurance exchanges, which are state-regulated organizations created under health care reform to offer standardized health care plans.

"In designing health insurance exchanges, models with more active assistance would be more helpful than models with large numbers of plans and information," Zhang said. "For example, health insurance exchanges could actively screen plans on quality and negotiate premiums to reduce the number of plans."

Implemented in 2006, Part D cost the federal government \$65.8 billion in 2011, according to the Congressional Budget Office.

The researchers looked at the difference in a patient's total spending, including the plan premium and out-of-pocket payment for the prescriptions filled,

between the plan the patient chose and the cheapest alternative option in the region that would satisfy the patient's medication needs. The study looked at data for 412,712 people, with an average age of 75.

Beneficiaries tend to overprotect themselves by purchasing plans with more generous features, such as generic drug coverage in the coverage gap.

A few other trends emerged: As beneficiaries aged, they increasingly chose more expensive plans, with people older than 85 overspending by \$30 more than people 65-69 years old. Blacks, Hispanics, and Native Americans chose less expensive plans than Whites.

People with common medical conditions, such as diabetes and chronic heart failure, were not significantly more likely to choose more expensive plans. People with cognitive deficits or mental health issues, such as Alzheimer's disease, tended to choose less expensive plans, spending an average of \$10 less than those without such conditions. The researchers could not determine if those people had assistance from caregivers.

As the number of plan options increased in a region, the amount of overspending increased by \$3.20 for every additional plan available.

"A previous study showed that, in 2006, beneficiaries could have saved nearly 31 percent of their total drug spending by switching to the lowest-cost plan," Zhou said. "Since our results are similar, this suggests people are not learning to reduce overspending."

One possible explanation for these consistent results over time is the impact of inertia and bias toward maintaining the status quo, she noted.

"When Medicare Part D started in 2006, the majority of beneficiaries did not choose the least expensive plan," Zhou said. "Over time, they may have simply stuck to their original plan and never switched to a better one. Beneficiaries might not spend much time researching and adjusting their plan choices based on changes in their medication needs and in plan options."

Findings from the private health insurance market support the authors' conclusion that people keep their current plan instead of spending time researching and optimizing their plan choices based on their insurance use and prescription spending in the previous year.



Yuting Zhang Associate professor of health economics at Pitt Public Health

Chao Zhou Postdoctoral associate at Pitt Public Health





Last summer, 10 interns from the Graduate School of Public Health detoured from their usual commutes to Parran and Crabtree halls to the nearby headquarters of the Allegheny County Health Department (ACHD). The group was mining a trove of public health gold: the results of the recent Allegheny County Health Survey (ACHS) of local residents. They paused at some troubling results.

The students were taking part in the inaugural Pittsburgh Summer Institute—Public Health in Action internship program, a collaboration between the health department and the Pennsylvania

Public Health Training Center in the Center for Public Health Practice. They were mentored by epidemiologists at the health department to gain practical skills in applying their learning to reallife public health issues.

Among other findings, the students noticed that 33 percent of Allegheny County respondents admitted to

at least one episode of binge drinking in the past 30 days. That matched the rate of adults who reported growing up with an adult who was abusive or had drug and alcohol dependencies. Overall, 15 percent reported physical or sexual abuse as children. What was

the connection, the interns wondered, between the rates of alcohol abuse, child abuse, and overall health status?

The interns' analyses added to the ongoing collaboration on

the ACHS, which was developed by a group of faculty and graduate students from Pitt Public Health and ACHD. Faculty members under contract to the department had helped to design the survey format, and they continue to study the resulting mosaic of the county's health challenges.

Only five bustling city blocks separate ACHD from Pitt Public Health. But despite their compelling mutual interests in advancing community health, the intellectual distance between the institutions has waxed and waned in the six decades since they were founded.

"We especially need to get much better at supporting infants and young families to get a healthy start in life."





Now the two are rebuilding the digital and practical bridges that connect public health research and practice.

Under new leadership, the county agency is determined to address stubborn problems like infant mortality and cardiovascular disease, where the region ranks unacceptably high among other major cities. At the same time, it must find solutions for issues like obesity and air pollution, which require a concerted approach among many entities—city planners, industries, schools, and health agencies.

Donald S. Burke, dean of Pitt Public Health and the UPMC-Jonas Salk Chair in Global Health, believes that funding pressures and a new era of challenges combine to create an opportunity for a stronger relationship with the county health department. A member of the agency's board since 2007, he has headed its five-year strategic planning effort. The board, chaired by professor Lee Harrison of the University's schools of medicine and public health, will unveil the recommendations this winter.

While Pitt Public Health has evolved into a research powerhouse, forging strong collaborations with the city's medical community, the

surrounding community has lagged behind other metropolitan areas in public health standards, particularly in preventing premature mortality. Pitt Public Health faculty members are already engaged in these topics. But for ACHD, which receives only \$5 million in taxpayer funding each year, attention to those big-picture issues has become

a luxury.

"It is a very, very small health department for the population," says Ronald E. Voorhees, who became acting director of the department in June 2012. Although federal and state funds increase the department's overall budget to \$36 million a year, "there is not a lot of capacity within the health department to take on much beyond the basics of disease control and environmental regulation. Public health needs to be proactive in addressing chronic and behavioral conditions. We especially need to get much better at supporting infants and young families to get a healthy start in life."

Burke believes that Pitt Public Health can lend capacity to the health department effort and believes it's time to do so.

"My own view is that the health department is underfunded,

underappreciated, and arguably not as terribly effective an organization in serving the public health as it might be because of those constraints," he says. "Our health in Allegheny County is less than our peer index counties across the United States. Our life expectancy is less. As a community, we need to change things; we need to make it better."

Collaborative History

Improving community health was, of course, the impetus for the creation of both the Graduate School of Public Health in 1948 and ACHD eight years later. As Burke points out, the dean of the school also served as health department director in its early years. In an era of infectious epidemics-measles, influenza, and of course, poliothe department was crisis-oriented.

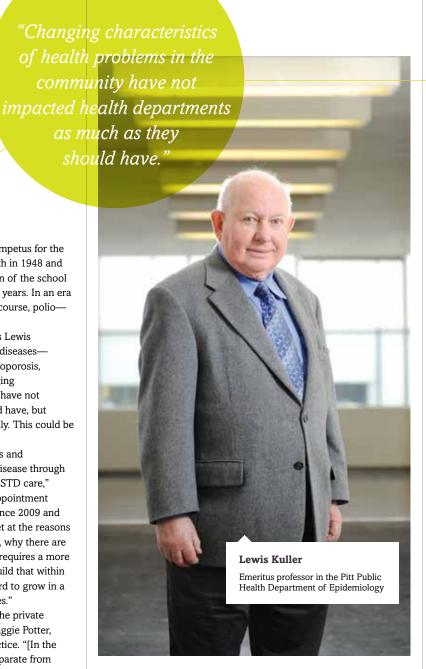
"Diseases have changed over time," acknowledges Lewis Kuller, emeritus professor of public health. "Chronic diseasesheart disease, diabetes, cancer, dementia, aging, osteoporosis, emphysema—have become primary diseases. Changing characteristics of health problems in the community have not impacted health departments as much as they should have, but they've impacted schools of public health dramatically. This could be the reason why the two have grown apart."

"We still play a crucial role in identifying outbreaks and preventing disease and in controlling the spread of disease through clinical activities such as tuberculosis (TB), HIV, and STD care," says Voorhees, an epidemiologist who has held an appointment as visiting associate professor at Pitt Public Health since 2009 and recently was appointed as professor. "But to really get at the reasons why people become ill, why we have infant mortality, why there are periods when people die younger than they need to, requires a more sophisticated assessment function. We're trying to build that within epidemiology. But being a public sector entity, it's hard to grow in a climate where there's a lot of pressure to reduce taxes."

Connecting publicly funded health agencies with the private U.S. health care system poses obstacles, too, says Maggie Potter, director of the school's Center for Public Health Practice. "[In the U.S.] the personal delivery of health is completely separate from the population health side—research, enacting policies, infectious diseases. In other countries where health care systems are centralized and uniform, those kinds of things are much more tied into what's going on with individuals," she explains. "The private health care system in the United States operates independently from government records. For example, why do we have high rates of asthma for kids near bus stops? To the extent Allegheny County can move in that direction, bring all parties to the table, it will go a long way" toward effectively solving problems.

For its part, Pitt Public Health continues to seize opportunities to make its research and teaching relevant to the community.

"Schools of public health, ours included, have for decades been striving to improve relationships with public health practitioners in the public and private sectors," says Potter. "If you don't interact with the profession or the practice community, you don't get a clear focus. Every public health jurisdiction at the local level struggles to measure progress toward excellence. Study after study says that takes leadership: a scientific basis for decision making that academic involvement with the health department can bring."



Targets for Lowering Premature Mortality

Public health and community leaders already agree on three issues that urgently need their combined attention, says Burke: infant mortality, violence, and hypertension and heart disease. All have significant impacts on African American families.

The statistics are sobering.

The infant mortality rate for Black residents of Allegheny County was 20.7 in 2009, a slight decrease from 21 in 2000 but still worse than the rates in China or Mexico. A second spike in mortality occurs among young adults. For young men aged 18-30, homicide is the leading cause of death in the county; the rate for young Black men is 14 times higher than for Whites, and homicide is the leading cause of death among African American men. In Pittsburgh alone, the homicide rate for young Black men is 60 times the city average and 50 times the national average. Among adults aged 45-60,

cause of death in the county in 2008, accounting for nearly 27 percent of all deaths. "We need to look hard at those three areas, ask what we can do

hypertension and heart disease again have a disproportionate

effect on African American males. Heart disease was the leading

to reduce mortality, and have that be a major metric of success or failure of the health department. That's a tough assignment," Burke admits.

The Urban League of Greater Pittsburgh prompted public discussion on health disparities between various

communities with its 2002 "Black Papers," comprehensive reports on African American public health; another set of reports was published in 2011. These reports emphasized how socioeconomic conditions affect local health. Pitt Public Health's Center for Health Equity, the successor to the school's Center for Minority Health, continues to focus on disparities based on race, income, and education. Director Patricia Documet says equity encompasses "more than race. In addition to racial and ethnic minorities, it's people who are chronically poor, poorly educated, or people with disabilities—everyone who experiences

inequities."

Voorhees believes that there needs to be partnership on assessing the problems and the objectives. "Let's get the health department, the universities, the Department of Human Services, and other community organizations together," he says. "To succeed, we all need to work together."

Other U.S. regions face similar challenges, and Voorhees points out strong university-government partnerships elsewhere.

"There are good collaborations. The Minnesota health department and the University of Minnesota do survey work together. In New Mexico, STD and TB clinics are staffed by both university faculty and in-house staff."

Burke emphasizes that benchmarking will lead Allegheny County to the best practices. "I look at the bottom line," he says. "What are the mortality rates for these three target areas in the 34 U.S. counties with over 1 million people?"

To bolster the health department's resources, Burke suggests creating a new nonprofit to leverage research and interventions.

"My preference is to have a new entity that would work closely with the health department and could get funding from other organizations and be the rallying point for interventions and a combination of research and evaluation of programs. We need a new mechanism with more flexibility than the county currently has," he observes. During a 23-year career at Walter Reed Army Institute of Research, Burke created a similar support program.

Burke sees Pitt Public Health as a catalyst that can effectively attack local health care challenges. "But it's not just about us," he cautions. "That's a valuable role for the University as a whole: pharmacy, nursing, dentistry, medicine, education, and law. We can help launch the process."

> "It's going to take a long time to turn around the current figures, and not just by the health department acting by itself," says Potter. "It's going to take bringing leadership to bear on issues. Communities who are most seriously impacted by mortality rates need to be participants—and so does the health care system."



Pitt Public Health at Work in Allegheny County

From its contribution to public immunization campaigns with the Salk vaccine to the present, Pitt Public Health research has served the local community.

Researchers are already at work on projects to understand the county's challenges in the areas identified by Dean Donald S. Burke. An **infant mortality group** convened by Assistant Professor Jessica Burke, and comprising University researchers, health department staff members, and doula program repersentatives, has begun monthly brainstorming sessions. With a grant to map starting points for violence prevention, an effort to reduce homicides among young African American men is under way. Community participation is an important component in an effort that "goes beyond police reporting facts" to pinpoint underlying causes, says Center for Health Equity Director Patricia Documet.

High rates of hypertension and heart disease in African American men are being addressed through a health education effort by the Center for Health Equity. An outgrowth of a program to reach adult men through local barbershops, the **Healthy Family Project** targets the city's East End neighborhoods as a health empowerment zone. Documet says outreach to Hispanic communities will adopt the best practices of the project.

Pitt Public Health not only designed and analyzed the second Allegheny County Health Survey (ACHS) for the Allegheny County Health Department in 2009–10; the school also helped to raise funds to conduct the study and intends to reprise it in several years. The Department of Behavioral and Community Health Sciences continues to analyze results. Student interns will continue to participate in the health department's summer institute in applied public health, many working with ACHS data.

With the second-oldest population in the country, the Pittsburgh region is a natural laboratory for research on healthy aging. Community volunteers have enlisted to promote the "10 Keys to Healthy Aging," simple behaviors developed by the University's Center for Aging and Population Health (CAPH). Reducing the risk of falls—the main reason older people go to emergency departments—is the focus of ongoing work by Steven Albert, chair of behavioral and community health sciences and codirector of CAPH. Albert's group is currently testing prevention trials among elderly Pennsylvanians.

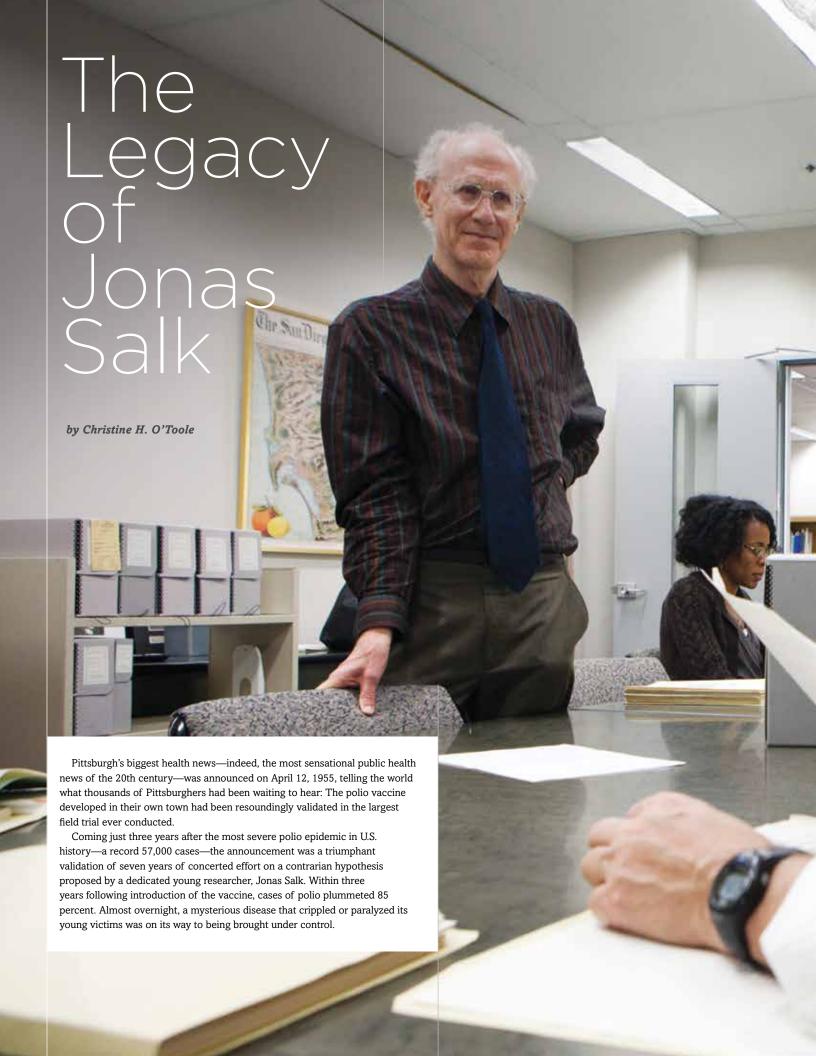
A long-term partnership between the region's gay, bisexual, lesbian, and transgender communities and Pitt Public Health supports HIV/AIDS research and health services in the Pittsburgh region. Anthony Silvestre, coinvestigator of the study and professor of infectious diseases and microbiology, established the nation's first **HIV Community Advisory Board**. Founded in 1984, the board continues to meet.

Through the Department of Environmental and Occupational Health, which houses the Center for Healthy Environments and Communities, Pitt Public Health is assessing the **regional impact of Marcellus shale drilling**, comparing baseline tests of drinking

wells in areas with and without gas drilling operations.

Students continue to volunteer in community preparedness through **SPHERE**, the Student Public Health Epidemic Response Effort. They have also responded enthusiastically to help the county health department deliver mass immunizations. Jamie Sokol (MPH '07), emergency preparedness training and exercise coordinator for the department, says students have shown interest in becoming involved with the **Medical Reserve Corps**, a group of 700 county residents registered to respond in public health emergencies. "We want to get students excited about working for a health department," she says.







The scientific future of the country and the world continues to be forged at the University, and Pitt Public Health, founded as Salk began work at the University, continues to attack significant problems in global health. As the centennial of Salk's birth

every day of the rest of his life, 'Why can't this happen about other things? Why can't this happen about poverty? Why can't this happen about public health in a whole lot of ways?' We have so many answers."

The Foundations of Optimism

Rising above Fifth Avenue, the green-and-glass skeleton of Pitt Public Health's new laboratory space embodies Salk's spirit of optimism. It represents the first phase of a multiyear \$85 million expansion and upgrade of the school's physical plant. The new four-story laboratory addition will open in late 2013, designed to meet the highest standards of sustainability and foster strong collaborations among users in 58,000 square feet of research labs, open space, and offices.

The spacious new lab facility stands in clear contrast to the modest lab facility just up the hill where both the Graduate School of Public Health and Salk's labs were established shortly after World War II. At what was then Pittsburgh Municipal Hospital (now Salk Hall), Salk's team worked in first-floor labs a short distance from the new Graduate School of Public Health, which was led by Dean Thomas Parran.

Salk's work on an inactivated influenza vaccine at the University of Michigan had impressed Pitt leaders; William McEllroy, dean of the School of Medicine, recruited him to Pitt in 1947 to head a new virus research laboratory. In 1948—the same year that the Pitt Graduate School of Public Health was founded—the National Foundation for Infantile Paralysis (now the March of Dimes) asked Salk to begin work on polio.

Early in his medical education, Salk was puzzled by comments from a professor who contended that while chemically inactivated

vaccines could be used to immunize against the bacterial diseases tetanus and diphtheria, vaccines against viral diseases needed to contain living viruses in order to be effective.

"My father didn't understand that," recalls his eldest son Peter, president of the Jonas Salk Legacy Foundation. "He felt that both statements couldn't be true. That apparent contradiction set him on his course. All subsequent injected flu vaccines have derived from pursuing that paradox. And then he was

pulled into the fight against polio. He held fast to the concept that it should be possible to use an inactivated virus to make a vaccine. And that story is still unfolding today."

Salk's team, which included Julius Youngner, now a distinguished service professor in the Department of Microbiology and Medical Genetics at Pitt's School of Medicine, began by verifying that there were only three immunological types of poliovirus and continued with studies of viruses isolated from patients being treated on the hospital's third floor. The work was time-consuming and often tedious. But Salk had a clear vision of how the research could translate into an elegant solution to the polio threat and was able to communicate that to his staff-and to his young family, then living in the Wexford suburb of Pittsburgh.

Peter Salk recalls an experience from his ninth summer, in 1953: "I remember sitting with my father on a blanket on the front lawn

and his talking about his work. He explained about antibody responses produced by the vaccine he was testing. I still remember being struck by the clarity and beauty of what he was talking about. That was the moment the idea first came to me that I wanted to work with him someday."

Whether it was that afternoon or on another occasion during those early years, Peter Salk remembers his father showing him graphs of the antibody responses to three different virus types. "The shapes of the curves for each type were different, but when my father put them all together, they formed one coherent curve. Each type fell on a portion of the overall curve. They were different slices of the same thing. It made sense."

It made sense to his team of researchers, too. "He was a miracle worker in a white coat on the one hand," says David Oshinsky, the Texas author who won the 2006 Pulitzer Prize for history for Polio: An American Story, "but on the other, he was an incredibly hardworking, devoted scientist for whom people were willing to sacrifice."

The combination of intense drive and an insistence on distilling essential relationships among disparate ideas remained a hallmark of his father's work, Peter Salk believes. In his polio research, Jonas Salk was driven by two things. "The first was, get a vaccine: We need to have something available that will make a difference. The other was a theoretical interest in how nature works and how one can take best advantage of a deeper understanding of fundamental

mechanisms."

"To take something

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By 1952, Salk was enlisting the Pittsburgh community to test the vaccine. Among the earliest recipients were polio patients at what was then the D.T. Watson Home for Crippled Children. By immunizing youngsters already stricken with the disease, Salk was able to test whether the experimental vaccine would boost the children's existing antibody levels against the virus. It did, indicating that he and

Larger tests followed. By 1954, some 15,000 students in Pittsburgh public, private, and parochial schools had also received the vaccine. University of Pittsburgh undergraduates lined up, too. Finally, a massive nationwide study with 1.8 million subjects conclusively demonstrated the efficacy of the Salk vaccine. The results announced at the University of Michigan on April 12, 1955, were hailed by Newsweek magazine as "a summit moment in history."

his team were on the right track.

Emboldened by his vaccine's success, Salk next set out to create a new institute that would fuse research in biology and experimental medicine with ideas from the humanities and social sciences. His noble aim was to address not only problems of disease but also problems "that arise from man's relationship to man." While the institute was originally proposed for Pittsburgh, Salk ultimately chose to locate it in La Jolla, Calif., where it was founded in 1960.





Over the next 35 years, he would undertake research on applying immunological methods to the treatment of cancer and autoimmune diseases and the prevention and treatment of HIV/AIDS.

Peter Salk, who worked alongside his father at the Salk Institute, observed the combination of fierce concentration and contemplation that continued to define the scientist's career.

"To take something unclear and make the relationships visible—that gave him great pleasure," the son recalls. In addition to his scientific inquiries, Salk authored four books on human nature and development and on humanity's role in the evolutionary scheme. He also collaborated with famed architect Louis Kahn on the design of the La Jolla facility. With sunlit laboratories and flexible workspace, the iconic structure "is a living building," his son says proudly.

The work of the California institute continues in molecular biology and genetics, neurosciences, and plant biology. Since 2009, Peter Salk has directed the work of the Jonas Salk Legacy Foundation. Also headquartered in La Jolla, it helps to manage Salk's archives and artifacts and supports programs that extend Salk's interest in confronting global health challenges. Pitt Chancellor Mark Nordenberg serves on its board of advisors.

Peter Salk continues to draw personal and professional inspiration from his father's example. "One thing I took from him is the need to address significant human problems. I have become fascinated with the idea of using his perspective on life to help clarify how we might more effectively handle challenges we face as a species."



That broad mandate might also be described as the overarching mission of public health. Peter Salk sees a close connection between the work of Pitt Public Health and the continued pursuit of his father's goals. Last year, he joined Professor Emeritus Bernard Goldstein to cochair the school's Building for a Healthier World campaign, which seeks to attract \$15 million for improvements to the school's work and learning environments, on top of the \$70 million construction project already under way.

"Along with research and advanced training in biology and the prevention and cure of disease, the third original goal of the Salk Institute was to understand the factors and circumstances conducive to fulfilling humanity's biological potential," Peter Salk explains. "That last bit of my father's dream remains to be fleshed out. The time I've spent at Pitt Public Health has been enlightening. I'm excited by the idea of focusing on that aspect of my father's legacy in the interdisciplinary context of Pitt. I have the impression that Don Burke—who, incidentally, holds the UPMC-Jonas Salk Chair in Global Health at Pitt-shares this vision."

"I believe that we can continue to build on Jonas Salk's vision of blending science and wisdom here in Pittsburgh," says Burke.

In April 2012, Peter Salk invoked his father's words and example to inspire graduates at the school's commencement. Quoting from remarks his father delivered in 1977 on his acceptance of the Jawaharlal Nehru Award for International Understanding, he issued a call to action. "We have more knowledge than we have yet applied," he reminded his audience. "We now need the will."



Listen to Peter Salk's Pitt Public Health convocation address (April 29, 2012, Carnegie Music Hall) www.publichealth.pitt.edu/salkconvocation

Legacy in the Lab: Vaccine Work Continues at Pitt Public Health

As Pitt Public Health looks forward to the centennial of Jonas Salk's birth in 2014, the school continues its tradition of world-class contributions to research in disease prevention. Pitt Public Health is home to the Public Health Dynamics Laboratory. Led by Director John Grefenstette and Dean Donald Burke, the effort builds life-like computer simulations of the transmission of communicable infectious diseases, such as influenza, tuberculosis, and dengue.

The Public Health Dynamics Laboratory has joined the fight for the global eradication of polio. "Polio transmission rates have been greatly reduced to only a few hundred cases per year worldwide," explains Willem van Panhuis, assistant professor of epidemiology. "Computational modeling is increasingly necessary to support decision making on polio eradication strategies." A research group including van Panhuis, Burke, and Grefenstette is working with the Bill and Melinda Gates Foundation and the U.S. Centers for Disease Control and Prevention to obtain new sources of data and to use computational modeling to evaluate potential eradication strategies before they are used in real-world settings. •

Alumni



Dreaming big isn't enough. You've got to know how to make things happen. Meet Dietrich Stephan.

On October 12, Dietrich Stephan (PhD '96) stood before a packed Crabtree Hall auditorium to talk about "Personalized Medicine: Setting the Foundation to Improve Outcomes." The lecture could also have been titled "How to Turn Big Dreams into Reality." Having returned to Pittsburgh to be honored as a 2012 University of Pittsburgh Legacy Laureate, he told the crowd of his appreciation for the school and city that launched his human genetics career. Then he grabbed the audience's attention with the story of a dying 1-year old girl and the race to analyze her genome in search of an abnormality that would explain her illness. His team lost that race with time, but the challenge motivated him to continue the work.

Stephan is a visionary. He has earned international respect for his far-reaching insights and discoveries regarding common but complex genetic disorders such as autism, exercise-induced heart attacks, sudden infant death syndrome, and Alzheimer's disease. He believes that we'll soon be able to catalog every genetic attribute and use the information to treat or prevent both common and rare diseases.

But it's not enough just to envision the possibilities. Fortunately, Stephan's passion for his work is infectious, and that enthusiasm has convinced some of the world's top venture capitalists to help make things happen. The resulting collaborations have made it possible for Stephan and his colleagues to tackle disease prevention and treatment in a holistic, systematic, and focused way. He is confident that breakthroughs in genome interpretation will soon expand personalized medicine to allow treatments to be tailored to a patient's unique DNA.

Stephan began his career as an entrepreneur in 2006, when he cofounded Navigenics, Inc., a personal genetic testing company offering genetic scans and analysis to individuals. In 2007, he cofounded Amnestix, a biopharmaceutical company focusing on the treatment of neurodegenerative diseases. Then in 2009, he cofounded Aueon, Inc., a biotechnology company providing early cancer diagnostic tests to appropriately select the most effective chemotherapeutic agents to maximize long-term survival. In 2011, he started Silicon Valley Biosystems, a next-generation genome sequencing and interpretation company.

In addition to this entrepreneurial work, Stephan is on the board of directors of the Personalized Medicine Coalition. He has held faculty appointments at Johns Hopkins University, the National Human Genome Research Institute of the National Institutes of Health, the University of Arizona, Arizona State University, George Washington University, and the Children's National Medical Center in Washington, D.C. More than 140 of his peer-reviewed scientific articles have been published in journals such as Science, Proceedings of the National Academy of Sciences, Nature Genetics, and New England Journal of Medicine, and his contributions to science have also been written about in popular media including Forbes, Newsweek, Wired, Reader's Digest, The Washington Post, and The Wall Street Journal.

While visiting Pitt Public Health, Stephan welcomed several opportunities to meet with faculty and students, who found it invigorating to exchange ideas with one of the most influential figures in the field of genetic research.



A Life of Community-based Research for Underrepresented Survivors

Lucile Adams-Campbell (PhD '83) started her October 12 guest lecture with a surprising definition of a cancer survivor: anyone who's been diagnosed with a cancer, starting with the moment of diagnosis and extending to end of life. This can mean duration from a single day to a span of many years. She went on to say that it is a lack of resources—access to care and treatment—that determines much of a survivor's longevity. What happens after diagnosis matters, and in this regard there are consistent disparities in cancer survival that should be a concern to us all.

Adams-Campbell pointed out that as our population ages, the percentage of survivors will naturally increase. But while translational and cross-disciplinary research ushers in new understandings in causes, strategies, treatments, and adherence, there has been distressingly little research taking place within

minority populations. "The whole idea that research never focused on minority populations or minority issues, although those populations tend to have the worst prognosis and outcome, always was an enigma to me," she said. "We know that the understudied group will become the biggest burden in our social system, and we therefore must include all classifications of people in our research studies in order to understand a disease." That's what has motivated her trajectory of researching health disparities and addressing cancers that

disproportionately impact African Americans.

Early in her academic career, Adams-Campbell became frustrated with research projects that dismissed the importance of studying the health of underrepresented groups. She noted that clinical trials often excluded patients with a history of diabetes, stroke, or smoking, leaving many minorities out of studies. As a result, the research failed to reflect disease as it actually occurs in the population. She determined to become a scientist in the field of epidemiology, making sure she always had adequate sample sizes of underrepresented populations.

Since then, one of her primary goals has been to export prevention-based clinical trials from the laboratory setting into the community, and she has successfully led several large cohort studies of African American women. Research funding is often difficult to secure, and being able to recruit participants and consistently track them with a high follow-up rate is also a challenge, but as a primary investigator, she has defied the odds through community-based outreach and follow-up measures. "As a researcher, you can't be a helicopter (dropping into a neighborhood from the outside and then speeding out again) or vampire (just there for blood samples)," she said. "Community-based research takes time and energy and a longterm commitment."



Prior to delving into the world of health disparities, Adams-Campbell studied chemical engineering at Drexel University, where she received her bachelor's degree in biological sciences and her master's degree in biomedical science. But then "I decided I did not want to pursue pipes and fluid dynamics any further—I wanted to get involved on the human side of research," she said. So she

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became the first African American female in the nation to receive a PhD in epidemiology. After her academic studies, she completed a National Institutes of Healthfunded postdoctoral fellowship at Pitt before joining the Pitt Public Health faculty.

From her time here, she fondly recalls Lewis Kuller, emeritus professor and former chair of the department. "Lewis Kuller played a major role in my success. He was supportive of my research area of focus—African Americans—at a time when there was, to my

knowledge, virtually no research being conducted on this population at the Graduate School of Public Health. He also supported me financially and academically to conduct hypertension research in Benin City, Nigeria, among schoolchildren. This work resulted in my receipt of the New Investigator award, the first grant I ever received from the National Institutes of Health, with Dr. Kuller serving as my mentor." Kuller says Adams-Campbell stood out among her peers and was a major contributor to Pitt's epidemiology program, both as a student and faculty member.

Adams-Campbell was in town to receive a University of Pittsburgh African American Alumni Council Distinguished Alumni Award during 2012 homecoming festivities. She can now add this to her long list of honors, including Pitt Public Health's Distinguished Alumni Award (1995) and a University of Pittsburgh Legacy Laureate award (2010). She has also been elected to the National Academy of Sciences Institute of Medicine and inducted into the Washington, D.C., Hall of Fame. She served as director of Howard University Cancer Center for 13 years and is currently the associate director for minority health and health disparities research, associate dean for community health and outreach, and professor of oncology at the Georgetown Lombardi Comprehensive Cancer Center at Georgetown University Medical Center.

Pitt Public Health in the World

a Bernard D. Goldstein, professor of environmental and occupational health and former dean of the University of Pittsburgh Graduate School of Public Health, was named professor emeritus, an honor reserved for tenured faculty who "have made meritorious contributions to the educational mission and programs of the University," according to the provost. A colloquium titled "Interface of Environmental Health Science and Public Policy," which was held in his honor, gathered six distinguished panelists from around the country. Dean Donald Burke, Department of Environmental and Occupational Health Chair Bruce Pitt, and Chancellor Mark A. Nordenberg spoke during the reception, telling stories of fond memories of Goldstein and praising his contributions to public health.



View more photos from the colloquium at www.publichealth.pitt.edu/photogalleries

b Incoming Pitt Public Health students heard from administrators, faculty, and student organization leaders at new student orientation on August 24. As part of their introduction to the school, they learned about academic policies from student services, experienced public health in action with Plunge into Public Health and Pittsburgh, and met at the dean's home for a backyard picnic.



View more photos from orientation at www.publichealth.pitt.edu/photogalleries

- On November 9, Pitt Public Health hosted its annual open house. The program gave overviews of departments, student organizations, research and practice centers, admissions, and financial aid for prospective students.
- d Orrin Tiberi, a Peace Corps Master's International (PCMI) Track student within the Department of Behavioral and Community Health Sciences, is completing his two-year Peace Corps placement in Ecuador. He is seen here at an event with some of the community youth he serves. In addition to giving talks on sexual health and family planning, part of a medical component that each PCMI student completes, Tiberi also educates about teenage pregnancy prevention and informs young men and women about birth control methods and family planning.



For more information on the Peace Corps Master's International Track, visit www.publichealth.pitt.edu/pcmi

Yu "Peter" Chang and En-Chin Sung, students from Taipei Medical University (TMU) College of Public Health and Nutrition, were the first students from that school to complete a summer internship at Pitt Public Health. While here, the students studied under the direction and mentorship of Steven Albert, professor and chair in the Department of Behavioral and Community Health Sciences. The internship agreement, executed in June 2010, was made between Pitt Public Health and then TMU president Wen-Ta Chiu, a Pitt Public Health alumnus. After his studies here, Chiu, also a Pitt Legacy Laureate, went on to become the minister of health of Taiwan. His son, Jason Chiu, is also a Pitt Public Health alumnus who studied at the school until the summer of 2010.



Have Something to Share? Send finalized event or announcement information to phcomm@pitt.edu along with a high-resolution photo for us to share with the Pitt Public Health community.

Visit Pitt Public Health Accepted Applicants Day on March 22, 2013

All accepted applicants are invited to come meet with faculty, students, staff, and alumni to learn about the public health education and career opportunities waiting for them at Pitt Public Health and in Pittsburgh.



Wishing you warmth and good health, now and in the coming year!















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