Evolutionary Genetics Unravels Ancient Mysteries

In popular culture, genetics is seen as a tool for predicting your future health. But increasingly, scientists use it to understand the past, as two recent papers from the lab of HMS associate professor of genetics David Reich demonstrate.

In one study, the sequenced genome of an ancient finger bone taken from a Siberian cave showed that modern humans are not related to the ancient cave dwellers. In the other, researchers found that Africa has two, not one, species of elephant—a finding that raises issues for conservationists.

THE ELEPHANTS IN THE ROOM

In the elephant study, Reich and colleagues at the University of Illinois and the University of York in Britain used genetic analysis to prove that the African savanna elephant and the smaller African forest elephant have been largely separated over several million years and thus comprise separate species.

The researchers, whose findings appeared online in *PLoS Biology* on Dec. 21, compared the DNA of modern elephants from Africa and Asia to DNA from two extinct species: the woolly mammoth and the mastodon. This study was the first genomic comparison of the mastodon, the Asian elephant, the African modern elephants from Africa and Asia to DNA from two extinct species: the woolly mammoth and the forest elephant.

Limited to DNA samples from only a single elephant in each species, the researchers still had enough data to traverse millions of years of evolution to the time when these elephant species diverged.

“We had a major challenge to extract DNA sequences from two fossils—mammoths and mastodons—and line them up with DNA from modern elephants over hundreds of sections of the genome,” said David Reich.

See “Genetics,” page 6

School of Public Health Launches Global Forum

As a tropical storm bore down on Haiti in November 2010, relief agencies and government officials braced for flooding and the spread of a recent cholera outbreak. Given the desperate poverty, ongoing earthquake recovery efforts and the scarcity of health care providers, many wondered what could be done to contain the epidemic.

See “Forum,” page 6

Speeding the Path to Professorship

Streamlined promotions process expected to average less than a year

The average time for promotion to professor is expected to drop sharply under a new, streamlined promotion process announced in February by Harvard Medical School Dean Jeffrey S. Flier.

Under the revised process, developed by a task force appointed by Flier in July of 2009—and supported by Nancy Tarbell, dean for academic and clinical affairs, and Maureen Connolly, dean for faculty affairs—the majority of professorial promotions should take less than one year from the time of initiation to when a decision is made.

This expedited process consolidates many steps that formerly took place at the hospitals and at HMS into a single, more efficient model. The number of steps will be reduced by approximately 50 percent under the new approach.

“The changes to our promotion process will allow Harvard Medical School to reward our most outstanding faculty with timely recognition of their contributions,” said Dean Flier.

See “Promotions,” page 6

Paul Farmer Appointed University Professor

Harvard bestows top faculty honor on humanitarian leader, scholar

Paul Farmer, an anthropologist and physician whose research has helped to revolutionize the strategies for treating infectious diseases in some of the poorest corners of the world, has been named a University Professor, Harvard’s highest distinction for a faculty member.

“Paul Farmer is best known to the public as a pioneering humanitarians,” Harvard President Drew Faust said in announcing the appointment Dec. 16. “But among scholars he is equally well known for his research and writing, which have had a major impact on health policy and practice.”

Paul Farmer is best known to the public as a pioneering humanitarians,” Harvard President Drew Faust said in announcing the appointment Dec. 16. “But among scholars he is equally well known for his research and writing, which have

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This is a Placebo = Pay for Performance = Dining Green = Project Success = Notable

Mortality Rates Unreliable Measure of Hospital Quality

Researchers at Harvard Medical School and Massachusetts General Hospital have found wide disparities among four common measures of hospital-wide mortality rates, with competing methods yielding both higher- and lower-than-expected rates for the same Massachusetts hospitals during the same year. The findings, published Dec. 23 in a special article in the New England Journal of Medicine, stoke a simmering debate over the value of hospital-wide mortality rates as a yardstick for health care quality. The measure, which compares a hospital’s actual patient death rate to statistical predictions, is reported publicly in countries including England, Canada and Denmark, but some hospitals and policy experts have questioned its value due to the complexity and variability of diagnoses.

“It’s troubling that four different methods for calculating hospital mortality rates as a measure of quality should yield such different results,” said lead author David Shahian, HMS professor of surgery at Massachusetts General Hospital. “Measurement theory—not to mention plain common sense—suggests there is a problem.”

The potential for performance evaluation to improve both the quality and the cost of health care has fueled interest in provider “report cards,” including mandates by state and federal law. In 2008, the Massachusetts Division of Health Care Finance and Policy engaged researchers Shahian, Lisa Iezzoni, HMS professor of medicine at Mass General, and Sharon-Lise Normand, HMS professor of health care policy (biostatistics) and professor in the Department of Biostatistics at Harvard School of Public Health, to evaluate four vendor-created measures of hospital-wide mortality. The state was looking for a means to measure hospital quality for the public report cards mandated under its 2006 health care reform law. The researchers compared four measures of hospital-wide mortality provided by commercial vendors. These vendors all believed that their hospital-wide mortality measures were an accurate reflection of hospital quality. Each vendor received identical data—three years of patient discharge data from all 83 general acute care hospitals in Massachusetts, representing 2.5 million discharges—and used the data to calculate each hospital’s mortality rate. The researchers then compared results.

“The results of the horse race are that it’s really not clear who won,” said Iezzoni, who is also the director of the Mongan Institute for Health Policy at Mass General. “The problem is that we were measuring the success of each of these measures against a gold standard we simply do not have: an objective measure of hospital quality.”

The authors are longtime advocates of performance assessment and public reporting to provide transparency and accountability in health care. Normand developed the statistical models used by Medicare and Medicaid for public reporting of heart attack, heart failure and pneumonia mortality rates. Shahian has been a leader in the public reporting initiative of the Society of Thoracic Surgeons. Together, they were leaders in developing and implementing public report cards for coronary artery bypass grafting (CABG) surgery and percutaneous coronary intervention (PCI) in Massachusetts.

But where mortality rates may reflect clearly the quality of care for some procedures, like coronary bypass, they may reveal less about care for other conditions, such as major trauma, the researchers said. — R. Alan Leo

Television and Social Networks • This Is a Placebo • Pay for Performance

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To Sink or Swim: A Sperm’s Tail

Mammalian sperm typically enter the vagina by the hordes. Yet, only a few sperm—if any—among 200 million brethren win. To win the fertilization contest, a sperm must be the most forceful swimmer. In a study with implications for human infertility and male contraception, David Clapham and colleagues at Children’s Hospital Boston and HMS discovered a novel protein in mouse sperm called CATSPER delta and its encoding gene, Tmem146, that are essential for sperm motility.

The findings, reported Jan. 11 in *Nature Communications*, identified CATSPER delta as a new and essential component of the sperm-tail-specific CatSper channel. Clapham, HMS professor of neurobiology and pediatrics and the Aldo R. Castaneda Professor of Cardiovascular Research at Children’s Hospital, and others previously characterized the CatSper channel to be a complex calcium-selective ion channel and showed that calcium currents generated across CatSper channels bring about the whip-like motions of the sperm. This CatSper-induced hyperactivated motility of the sperm is essential for egg penetration. The researchers suggest that CATSPER delta facilitates the assembly and/or transport of the channels to their correct locations in the sperm tail, even if CATSPER delta may not form the inner pore of the CatSper channel per se. As predicted, when CATSPER delta is disrupted, the sperm produced are immobile and the male mice are infertile.

— Raji Edayathumangalam

Bigger Bang for Fewer Bucks

Now more than ever, it’s in the synthetic biologist’s DNA to make cheap, high-quality, high-throughput (HTP) synthetic genes available for applications in research and biotechnology. Two new reports, both connected to the laboratory of George Church, HMS professor of genetics and recipient of the 2010 Bower Award, describe innovative technological advances to do just that.

The costliest steps during gene synthesis include the initial step of oligonucleotide (oligo) synthesis and final step of sequencing the assembled product. In the December 2010 issue of *Nature Biotechnology*, the authors detailed methods to drive down the costs of gene synthesis by ten-fold to less than one cent per nucleotide. First, researchers replaced traditional, expensive column-derived oligos with inexpensive HTP microarray-based oligos of improved accuracy. Second, the authors report two approaches to improve the quality of the microassay oligos. Sriram Kosuri, a postdoctoral fellow in Church’s laboratory, and team extracted, or amplified, specific oligos from the heterogeneous pool by PCR prior to gene assembly. Mark Matzas of the German biotech Febit and collaborators used preselected oligos for assembly into larger genes. Finally, researchers significantly reduced error rates by synthesizing microarray oligos as long as 200 bases.

Despite these advances in cost and accuracy, the synthesis of ‘difficult’ sequences still poses a challenge. Nevertheless, these latest milestones will make it possible to synthesize larger genes, genomes and libraries faster and cheaper.

— Raji Edayathumangalam

Student Researchers Take Spotlight on Soma Weiss Day

Harvard medical students presented more than 100 research and international projects Jan. 13 at the 71st annual Soma Weiss Student Research Day. Held annually since 1940, the event is named for Weiss, an inspiring teacher and physician and ardent supporter of student research, who died in 1942.

To Bob Neal, Thank You and Best Wishes

With a gentle wit and an insatiable curiosity about science, Robert Neal served as the editor of Focus for almost 15 years. His colleagues recently bid him farewell as he assumed a leadership post in science communications at Memorial Sloan-Kettering Cancer Center in New York City. We are grateful to him for his many lasting contributions—and wish him the very best on his next adventure.

— Jennifer Sarbahi
Center for Primary Care Gets to Work

HMS Dean Jeffrey S. Flier announced Jan. 13 that he has appointed a search committee charged with identifying a nationally recognized leader in primary care to serve as director for the HMS Center for Primary Care. This newly created position has been advertised, and the committee will begin work this month.

Interim co-directors David Bates, HMS professor of medicine at Brigham and Women’s Hospital, Andrew Ellner, instructor in medicine at Brigham and Women’s Hospital, and Russell Phillips, HMS professor of medicine at Beth Israel Deaconess Medical Center, will share responsibility for the initial development and implementation of new programs.

Their experience leading the Primary Care Advisory Group as well as spearheading other key initiatives designed to improve primary care education, research and delivery will guide the center’s launch. The interim co-directors will soon announce the first of many new funding opportunities and convene community meetings to guide and advance the work of the center.

Funding opportunities will support faculty and students seeking to pursue innovations in primary care delivery, education and research. Meetings will engage the primary care community—and others with an interest in this field—in helping develop priorities for the center that facilitate and inspire the work of those with an interest in the redesign of primary care. Also, work is under way to plan and create both a virtual home for the center—a primary care website—and a physical home on the HMS campus.

—David Cameron

A Call for Access to Care

Challenges in American Medicine Explored by Visiting Surgeon L.D. Britt


Britt, who is a recipient of the American Association of Medical Colleges’ Robert J. Glasser Distinguished Teaching Award—one of the nation’s highest awards in medicine—and the first African American surgeon in the country to hold an endowed chair in surgery, called on physicians and policymakers to pursue fundamental reforms in his lecture, “American Medicine: The Great Challenges and Dilemmas.”

After demonstrating some of the many ways that socioeconomic status and geography affect health and mortality rates, Britt introduced the “three-legged stool” model, which has patient care at the top supported by quality, safety and access. The system “can’t stand for long because we don’t have access,” Britt commended, noting that 116 countries in the U.S. currently lack general surgeons. “We have the best quality health care in the world. The problem is access.”

Britt addressed challenges ranging from workforce shortages to the rising cost of health care to questions of effectiveness and transparency to the nearly 50 million people uninsured in the U.S. He proposed enhancing the health care workforce, reducing inappropriate expenditures, promoting effective and proven treatments and initiatives designed to improve effectiveness and transparency to the nearly 50 million people uninsured in the U.S. He proposed enhancing the health care workforce, reducing inappropriate expenditures, promoting effective and proven treatments and enhancing the quality of care and safety for those who are uninsured.

A Call for Access to Care—David Cameron

—David Cameron

Seeking Talent

HMS is now hiring an Interim Executive Director of Administration for the Center for Primary Care. Learn more at hms.harvard.edu.

—David Cameron
Fellowship Helps Junior Faculty Balance Work and Family

For Roy Ahn, life is a joy—and sometimes a struggle.

The father of 1-year-old Charlie is blessed with a blossoming research career at the Division of Global Health and Human Rights in Massachusetts General Hospital’s Department of Emergency Medicine. He’s in the same boat as many young Harvard researchers, handling the duties of a young family even as the pressures to perform professionally are soaring.

“We’re just constantly juggling our schedule and finances to make child care in Boston work,” said Ahn, an HMS instructor in surgery.

When he’s not shuttling Charlie to and from day care or playing tag-team parent with his wife, Ahn is working on several projects at Mass General, including work that seeks to understand how global health activities of nonprofit hospitals fit into their conception of providing community benefits, something the hospitals are required to do to retain their nonprofit status.

To the rescue of Ahn and others comes the Eleanor and Miles Shore 50th Anniversary Fellowship Program for Scholars in Medicine. The program is aimed at junior researchers in the “squeeze years” when young families and blossoming research careers both demand attention.

Young physicians and scientists during these years often have to teach, conduct research, treat patients, publish research articles, write grant applications and care for their little children.

The program, established in 1996 to honor the 50th anniversary of the admission of women to HMS, provides fellows with between $25,000 and $50,000 for one or two years. The money is intended to be used to buy protected time to pursue a key activity, whether finishing a grant proposal, completing important research or concluding a manuscript. The money can be used, for example, to hire lab help that a fellow would otherwise not be able to afford. The program has 80 fellows this year. A complete list of fellowships and recipients is available online: www.fa.hms.harvard.edu/faculty-resources/fellowships/50th-anniversary-shore-fellowships.

—Adapted from a report in the Harvard Gazette by Alvin Powell

A Grade-grubber’s Dance Across Time and Space

Choreography and Laughter Crackle in Second Year Show

A high-achieving first-year HMS student has but one option when he receives a mediocre grade on an exam: go back in time to make things right. At least, that’s how it played out onstage during the Class of 2013’s Second Year Show, titled “Marginal Past: Failure Is Not an Option.”

Produced by Jack Varon and directed by Andrew Sun, “Marginal Past” cast its satirical net far and wide, skewering everyone from Dean Jeffrey S. Flier to those “Save the Children” people who block the path to Starbucks.

Lossely based on the film Back to the Future, “Marginal Past” centers on Bo, a first-year gunner who is sent reeling after receiving a “marginal pass” grade on his genetics exam. Finding little comfort in assurances that grades don’t matter at HMS, Bo (C. Terrell Cummings) travels back in time with the assistance of the Ghost of Marginal Past, or GOMP (Walter Chen), a nerdy HST student who also happens to have built a working time machine.

The time machine has some glitches, however, and it takes the pair all the way back to the beginning of time, where they encounter the likes of Adam (Derek Erstad), Evelyn (Rena Xu) and a God-like figure reminiscent of a certain kidney expert and Human Physiology lecturer at modern-day HMS (Omar Pardesi). In fact, as Bo and GOMP travel through the ages, they encounter younger versions of HMS faculty wherever they go—in some cases much younger, such as Trudy van Houten (Kara Johnson) and Cindy McDermott (Christine Edhardt) in ancient Rome. They also run into some familiar faces among the student body when they visit HMS in the 1970s, including a fetching young woman nicknamed Kat who Bo just can’t place but who probably rings a bell to any HMS first year.

Dance was the Class of 2013’s strong suit, and the choreography clever. In “September,” a take on the Earth, Wind and Fire song of the same name, dancers from different eras strutted their stuff, including two cavemen who put their own primitive spin on the number. Dancing cadavers in the anatomy lab during “Stayin’ Alive” also entertained, along with lyrics like, “Well, you can tell by the way I’ve sold my soul/That I’ve lost my chance to unroll./I’m Harvard property for good./It’s been my dream since childhood.” And it wouldn’t be the Second Year Show without a rousing bhangra dance, which closed this year’s performance.

“Marginal Past” also included some musical standouts. Veronica Mitko nailed Lady Gaga in “Bad Romance,” and Christian Strong’s portrayal of Alvin Poussaint singing Marvin Gaye’s “Let’s Get It On” was notable not only for his vocal abilities but also his superb comic timing. Bo eventually learns to find balance in his life, but not before members of the HMS community get their traditional Second Year Show roasting. Not even Atrium Café manager Franceny Bedoya was spared. During scene changes, the audience was treated to spoofs on the television miniseries “Boston Med.”

As usual, the breadth of musical and theatrical talent among the future doctors and scientists impressed. This year’s performance was such an enjoyable romp that one was left hoping for a Third Year Show.

—Emily Lieberman
research scientist Nadim Rohland of the Department of Genetics at Harvard Medical School.

“The divergence of the two species took place around the time of the divergence of the Asian elephant and woolly mammoths,” said Michi Hol- reiter of the University of York. “The split between African savanna and forest elephants is almost as old as the split between humans and chimpanzees. This result amazed us all.”

Many naturalists consider African savanna elephants and African forest elephants as two pop- ulations of the same species, despite the significant size differences. The savanna elephant weighs between six and seven tons, roughly double the weight of the forest elephant.

DNA analysis revealed a wide range of genetic diversity within each species. The savanna elephant and woolly mammoth have very low genetic diver- sity, Asian elephants have medium diversity, and forest elephants have very high diversity.

All African elephants have been conserved as one species since 1950. These new findings suggest that the forest elephant should become a bigger priority for conservation.

TOOTH AND FINGER

For the hominin study, Reich teamed up with a group of researchers led by Svante Pääbo of the Max Planck Institute for Evolutionary Anthropology. Reporting in the Dec. 23 issue of Nature, the group described sequencing the nuclear genome from a 30,000 year old finger bone of an extinct hominin that was excavated by archaeo- logists in southern Siberia, Russia, in 2008. A team at Harvard Medical School led the population-genetics analysis of the fossil.

The researchers found that the individual was female and came from a group of hominins that shared an ancient origin with Neandertals, but subsequently diverged. They call this group of hominins Denisovans. Analysis revealed that Den- isovans were genetically similar to modern-day Papua New Guinean populations, suggesting that there was interbreeding between Denisovans and the ancestors of Melanesians.

In addition, a Denisovan tooth found in the same cave shows a morphology distinct from Neandertals and modern humans that resembles much older hominin forms.

“The fact that Denisovans were discovered in Southern Siberia but contributed genetic material to modern human populations from New Guinea suggests that Denisovans may have been widespread in Asia during the Late Pleistocene,” said Reich.

The Forum at HSPH is just one facet of Frenk’s master plan to close the gap between the world’s generators and implementers of knowledge. Come March, when it will be running at full throttle, the Forum will host two interactive events each month. Along with addressing emergencies during roundtables and panel discussions, experts will analyze scientific controversies and spark debate on issues such as the paradox of co-existing malnutrition and obesity, or mummification practices and guidelines in the United States and developing nations.

The forum’s 21st-century technology is housed in a 40-seat production studio outfitted with four remote-controlled cameras, stage lighting, overhead full-room audio and a 103-inch plasma screen, which carries images of data and of partici- pants at remote locations. The facility can be used to stage video conferences that connect people at nearly 50 locations. Other capabilities include interactive webcasting and direct video feeds to network television stations for on-the-spot inter- views and post-production editing. Press a button for “town hall,” “small panel” or “one-on-one interview,” and lighting and camera angles change to accommodate the presentation format.

“A Swiss army knife of communications outreach is how Robin Herman, the Forum’s director and HSPH’s assistant dean for research, described the forum’s potential. The division will also host a new senior fellowship program, inviting high-level health leaders to spend six months at the School.

“We are promoting exchanges,” said Blendon. “When government officials and health care lead- ers come here for training, they let our faculty and students know what their pressing needs are. Now we have the capacity to share our science-based advice globally.”

—Ellen Barlow

Promotions

The new system will increase collaboration between department leadership and the Dean’s Office, create greater transparency regarding the steps toward promotion, eliminate redundancies and significantly decrease the time from start to finish,” Connelly said.

After reviewing obstacles to the timely comple- tion of promotions, the task force examined cur- rent procedures, discussed points of variability and potential delay, and considered alternative models for evaluating faculty. The task force made recom- mendations that were then reviewed by the Pre- clinical Chairs Council, the Conference of Depart- ment Heads, the Council of Academic Deans and, ultimately, the Governing Boards of Harvard Uni- versity. While streamlining the promotions process, the task force took great care to maintain its integ- rity, retaining, for example, the current rigorous standards by which faculty are evaluated.

One change that will accelerate and add trans- parency to the evaluation process is the imple- mentation of a paperless system of documenta- tion management, the logistics of which have been successfully piloted by the Office of Faculty Affairs (OFA) over the past year, Connelly said. Professors candidates, department leaders and administrators and members of professorial ad- hoc committees will be able to submit and review, where appropriate, all materials electronically.

The OFA has assumed complete administrative responsibility for the new process. Additionally, a secure website introduced last year enables candi- dates and department leaders to track the progress of their professorial evaluation at HMS, including the dates on which major milestones of the evalu- ation process are completed. The site also provides contact information for the Dean’s Office repre-
sentative charged with managing the evaluations. While gathering a substantial set of recommendation letters remains an essential component of the evaluation process, department leaders will now play a much larger role in informing the selected expert reference pools, including letter writers and ad hoc committee members. Department leaders will have the opportunity to provide input throughout the process, while ad hoc evaluation committees appointed by the dean will continue to review and to provide recommendations independently on proposed appointments.

Thomas Sequist, who was recently promoted to HMS associate professor of medicine at Brigham and Women’s Hospital and of health care policy, welcomed the prospect of streamlined promotions. “I’m excited that the new process will be more transparent and will foster collaboration between the medical school and the hospitals,” he said.

BROADCAST SCHOLARSHIP

As before, every professorial candidate must publish and accrue high-impact scholarship in his or her field of expertise. However, as part of each dossier submitted for evaluation, a candidate may now also submit materials beyond publications traditionally regarded as scholarly.

Depending on a candidate’s area of excellence, scholarship may include nationally recognized educational materials in print or in other media, such as syllabi, curricula and web-based training modules and courses; development of guidelines and/or protocols for patient treatment or the delivery of care that have been adopted nation-wide or regionally; publications reflecting multidisciplinary research that have had a major impact on a field or changed clinical practice; and original works of research that have had a major impact on a field.

The dossier submitted for evaluation, a candidate may also submit materials that are traditionally regarded as scholarship.

Senior Promotion Process

Dept. head proposes candidate to Dept. Executive Committee/Precinct Chairs Council (PCC).

Dept. gives HMS a list of comparands, evaluators and ad hoc committee members.

HMS approves comparands, letter writers and committee members.

Dean’s Office solicits letters and assembling dossier.

Dept. head and PCC/Senior Appointments Committee review dossier.

If decided to go forward, HMS appoints ad hoc committee to review evidence.

Dept. lists individuals to testify; confidential senior faculty input invited.

Ad hoc committee evaluates candidate, then reports to Subcommittee of Professors.

Nominate a Community Service Star

The Office for Diversity and Community Partnership at HMS is requesting nominations for the 2011 Dean’s Community Service Award. Please consider nominating an HMS/HSDM faculty member, trainee (house officer or postdoctoral fellow), staff member or student whose active commitment to the community has made a positive impact for people locally, nationally or globally. Self-nominations are also accepted. The deadline to nominate is Friday, Feb. 25.

For more information, visit www.mfdp.med.harvard.edu/awards/csa/index.html or contact Rebecca Poe at 617-432-3020 or rebecca_poe@hms.harvard.edu.

The opinions expressed in this column are not necessarily those of Harvard Medical School, its affiliated institutions or Harvard University.

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**FORUM**

Boosting Shots

To Protect Infants From Seasonal Flu, Vaccinate Mothers in Pregnancy

During the 2009–2010 H1N1 flu pandemic, several groups were noted to develop more severe disease than others; pregnant women and infants were two of these groups. Numerous studies have demonstrated the heightened risk to pregnant women from both seasonal flu and the recent H1N1 and have highlighted the need to ensure vaccination of women prior to and during pregnancy.

Despite this, influenza vaccination rates among pregnant women have remained, until recently, much lower than desired. In the 2007–2008 and 2008–2009 seasons, vaccination rates were only 24.2 percent and 11.3 percent respectively. A significant increase during the 2009–2010 season, likely related to the media attention surrounding H1N1 as well as efforts to distribute the vaccine at no cost, resulted in 50.7 percent of pregnant women receiving the seasonal vaccine and 46.6 percent receiving the H1N1 vaccine. The flu vaccine is currently recommended to pregnant women during any trimester.

The recent experience is encouraging, but for a vaccine that is safe and well-tolerated, why do vaccination rates remain low? Research from the Centers for Disease Control and Prevention suggests that the recommendation of providers can have a profound effect on women’s acceptance of the vaccine. Women who received a recommendation from their health care provider to get the vaccine were 3.3 times more likely to get the vaccine than those who reported that their provider had not recommended it. Of those pregnant women who did not get vaccinated, a large percentage reported safety concerns for both the baby and themselves as reasons for refusing the vaccine. Recent research suggests they could not be more misinformed.

Beyond protecting the pregnant patient, a new study suggests that vaccinating pregnant women is associated with a protective effect on their infants. Researchers at Yale Medical School, reporting in the journal *Clinical Infectious Diseases*, looked at infants less than 1 year old admitted to the hospital with laboratory confirmed seasonal influenza over a span of 10 years and matched these patients with control infants admitted without influenza. Using this matched case-control design, they concluded that the vaccine, administered to their mothers while they were pregnant, was 91.5 percent effective in preventing influenza in infants younger than 6 months. There was no effect in children between 6 and 12 months.

Infants younger than 6 months are at great risk, in large part because the seasonal vaccine is not recommended in this age group. Research from Finland, the only European country that has recommended and reimbursed vaccination with seasonal flu for children ages 6 months to 35 months, found that the majority of hospitalizations for infants less than 1 year were related to influenza and of those, 10 percent resulted in admissions to intensive care units. Because the seasonal flu vaccine is not recommended for use in children younger than 6 months, the Yale researchers provide a clear strategy to protect infants in this age range who are at high risk for developing complications from the flu: Vaccinate their mothers.

—Erica Seiguer Shenoy, MD–PhD ’07, is a fellow in infectious disease at Massachusetts General Hospital and Brigham and Women’s Hospital.

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Farmer

Continued from page 1

crossed boundaries between the social sciences and biomedical research and married theory and prac-
tice to forge a new approach to global health. He is also an outstanding educator with a remarkable
capacity to inspire students to focus their minds and their energies on serving the common good.  

Paul Farmer, whose research focuses on community-
based strategies for combating infectious diseases, on health and human rights, and on the role of social
inequalities in determining disease distribution and outcomes, becomes the first Kolokotrones University
Professor, a chair established through a gift from Wendy and Theo Kolokotrones, M.B.A. ’70.  

"Having built my academic career around the conviction that we can take the fruits of sci-
entific discovery in medicine and public health and improve the lives of people who have been
marginalized by poverty and other forces beyond their immediate control, I am deeply grateful to
Harvard," Farmer said. "I’m grateful for decades of support for a model of engagement that links
research to training to direct services, and for the opportunity to show how scholarship and teaching
can have a profound impact outside the classroom."  

With the appointment, Farmer became the second university professor currently at HMS. Marc
Kirschner, founding chair of the Department of Systems Biology, was named John Franklin Enders
University Professor in 2009.  

The President and Fellows of Harvard College established the University Professorships in 1935 to recognize "individuals of distinction … work-
ing on the frontiers of knowledge, and in such a way as to cross the conventional boundaries of the specialties."  

"Paul exemplifies this description, having built his career—in fact, his life—around the conviction that all the world’s people should have access to quality health care," said HMS Dean Jeffrey S. Flier.  

"He works to achieve that goal by forging the ideas and innovations of modern medicine—discovered in clinics, laboratories and classrooms—into tools that improve health care and its delivery to underserved and remote areas."  

Born in North Adams, Mass., Farmer received his undergraduate education at Duke Univer-
sity before earning a Ph.D. as well as a M.D. in anthropology from Harvard in 1990.  

He is the Maude and Lilian Presley Professor and Chair of the Department of Global Health and
Social Medicine at Harvard Medical School. In addition, he is chief of the Division of Global Health
Equity at Brigham and Women’s Hospital, professor in the Department of Global Health and
Population at the Harvard School of Public Health, and a leading figure in the Harvard Institute for
Global Health, with responsibility for medical edu-
cation and physician training.  

Farmer is widely known as co-founder of Part-
ners In Health, the international humanitarian
organization that works cooperatively with com-
munities to combat disease in resource-poor set-
tings. With the team at Partners In Health, Farmer
has played a key role in mobilizing relief efforts
after such devastating disasters as the earthquake
in Haiti and in the advancement of community-
based strategies for treating AIDS and tuberculosis
among populations living in extreme poverty. He
has been involved in the construction or renew-
tion of dozens of hospitals and clinics in Latin
America and Africa, and has trained hundreds of
physicians from Harvard Medical School and
across the world.  

His research at the intersection of medical
anthropology, public health, and clinical medicine
has formed a cornerstone of the effort to relate
theory to effective practice in global health. His
work is recognized as having made essential con-
tributions to ethnography, the anthropology of
disease, the theory of structural violence, and
empirical studies of human rights in the health arena. He also has contributed to clinical literature
in the arena of drug-resistant tuberculosis and
AIDS. While many scholars working in the field of
medical anthropology are able to clearly describe
the problems facing a particular community,
Farmer’s medical training and extensive fieldwork
enable him and his team to develop and implement
solutions to serious public health challenges.

In the course of his work, he has documented
the ways that power relationships in underdevel-
oped societies act as obstacles to effective health
programs and has shown how better ethnographic
knowledge can overcome such obstacles. His
books AIDS and Accusation, Infections and Inequal-
ities, and Pathologies of Power are staples of the cur-
ricula in public health and anthropology courses
for undergraduates, graduate students, and medi-
cal students. Partner to the Poor: A Paul Farmer
Reader was recently published by the University of
California Press.  

His work with AIDS and tuberculosis patients in
Haiti, Peru, and Rwanda has been instrumental in
convincing global health organizations that treat-
ment and prevention must be integrated fully in
such settings. Previously, concerns that poor popu-
lations would not stick with extensive treatment
regimens led policymakers to place their emphasis
on prevention efforts.  

“We know social inequalities are embodied
in the literal sense, and then increase the risk
for many pathologies and also for poor health
outcomes, even though we do have, globally, the
means to improve outcomes dramatically,” he
said. “These are truly biosocial problems, but ones
which we really can address.”  

Among the many distinctions awarded to
Farmer are the Carter Award for Humanitarian
Contributions to the Health of Humankind from
the National Foundation for Infectious Diseases,
the Salk Institute Medal for Health and Humanity,
the American Anthropological Association’s Mar-
garet Mead Award, and a John D. and Catherine T.
MacArthur Foundation Award. He is a member of
the American Academy of Arts and Sciences and of
the Institute of Medicine of the National Academy
of Sciences.  

— From the Harvard Gazette