Younger immigrants at heightened risk of developing psychotic disorders

An investigation into the mental health effects of immigration has found that young children who migrate across borders are particularly at risk of developing psychotic disorders. The study was senior authored by Dr. Ezra Susser, Professor of Epidemiology and Psychiatry, with colleagues at the Parnassia Psychiatric Institute in the Netherlands and was published in the December issue of The American Journal of Psychiatry. The study was also featured in a New York Times piece in January.

Recent research has found significant links between immigration and psychotic disorders such as schizophrenia. Dr. Susser’s study set out to compare the incidence of psychotic disorders among a group of immigrants to the Netherlands. What they found was that the younger children were when they immigrated, the greater risk they had of developing a psychotic disorder.

For instance, children who immigrated at age five were two times more at risk for psychosis than those who immigrated at age 10-14 and three times more at risk than those who immigrated as adults.

“Our findings are consistent with the hypothesis that early life is an important risk period for psychotic disorders. They join the growing body of literature suggesting that adverse social experiences in early life, such as childhood trauma or parental separation raise the risks,” Dr. Susser says.

The study focuses on the four largest migrant groups to the Dutch city of The Hague: immigrants from Suriname, the Netherlands Antilles, Turkey, and Morocco. The rate of psychotic disorders among those immigrants who immigrated at various ages was compared to the rate among Dutch citizens and second-generation citizens. Second-generation citizens were included to determine if migration itself contributed to the risk or if the long-term experience of being an ethnic minority was the more important factor.

“Compared with the risk of psychotic disorders among Dutch citizens, the risk among immigrants was most significantly elevated among non-Western immigrants who migrated between the ages of 0 and 4 years,” says Dr. Susser.

Researchers say there are several possible reasons for these patterns, including the stress of minority ethnic status and vitamin D deficiencies, which are common among immigrants.

“As the reasons for the increased risk of psychosis among immigrants become better established, future public health interventions might be aimed at “social empowerment and identity development,” the authors say.

MESSAGE FROM THE CHAIR

Dear colleagues,

Welcome to the February 2012 issue of Two by Two, the Epidemiology Department newsletter. We have recently issued our 2011 Annual Report (available in hard copy form on the 15th floor, and on our website at mailman.columbia.edu/academic-departments/epidemiology/annual-report-2011) and as we move on to 2012 I am delighted to share some of the plans we have for the coming year.

In 2012 we will place a major focus on the science, in forums ranging from scientific symposia to in-depth articles in Two by Two. In this issue, we inaugurate Lines of Inquiry, a monthly feature that will examine a timely and sometimes controversial public health question in which our faculty are engaged and are making a contribution. The articles will summarize where the science is on a particular question, highlighting faculty research that has contributed to this question, and incorporating the work and views of other scientists in the field.

In addition, planning has begun in earnest on a new symposium series, the Columbia University Epidemiology Scientific Symposia (CUESS), which will bring leading researchers from around the world together with our faculty to present and discuss breaking issues in some of the most important areas in the field. Dates for the first of these will be announced in the coming weeks.

On the educational front, registration is now open for the 2012 Epidemiology and Population Health Summer Institute at Columbia University (EPIC). Building on the success of EPIC 2011, this year we introduce an expanded program with new courses and instructors and an exciting new website. See page 11 for a summary of what EPIC 2012 has to offer.

Open houses begin this month for the newest of our educational offerings, the Executive MS in Epidemiology, scheduled to launch in September. Under the dynamic leadership of Dr. Kerry Keyes, we will now be offering this rigorous research degree in a format responsive to the needs of working health professionals.

I hope you find the rest of February Two by Two informative and interesting and look forward to our work together over the course of the coming year. A special thanks to all who have contributed to this issue and to the past year of Two by Two’s, particularly Ms. Elaine Meyer, whose talent and hard work continues to deepen and improve our coverage of the work of our Department, and Ms. Barbara Aaron, whose stewardship has helped elevate our communications efforts in this regard to a whole different level of excellence.

Warm regards,

Sandra

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UPCOMING  FEBRUARY — MARCH

FRIDAY, FEBRUARY 10  DEPARTMENT SEMINAR: TIFFANY GARY-WEBB, PHD
FRIDAY, FEBRUARY 17  FACULTY MEETING
WEDNESDAY, FEBRUARY 29  CUEGR: LAWRENCE ALTMAN, MD
MONDAY, MARCH 5  GMHP SEMINAR: SANDRA EADES, PHD
THURSDAY, MARCH 8  EPI SOCIAL: CELEBRATING SPRING
FRIDAY, MARCH 9  STAFF MEETING: PIZZA FRIDAY
FRIDAY, MARCH 9  DEPARTMENT SEMINAR: SHARON SCHWARTZ, PHD
WEDNESDAY, MARCH 21  CUEGR: DAVID HEMENWAY, PHD
FRIDAY, MARCH 23  FACULTY MEETING
THURSDAY, MARCH 29  GMHP SEMINAR: MILTON WAINBERG, MD AND MARIA OQUENDO, MD

Follow us on Twitter twitter.com/cuepidemiology, and “like” us on Facebook facebook.com/cuepidemiology to keep up with the latest Department news and events.

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CLUSTER SEMINARS  FEBRUARY — MARCH

SOCIAL EPIDEMIOLOGY
FRIDAY, FEBRUARY 17  10:00-11:30 AM
FRIDAY, MARCH 16  10:00-11:30 AM

PSYCH / NEURO EPIDEMIOLOGY
THURSDAY, FEBRUARY 23  12:30-2:00 PM

LIFECOURSE EPIDEMIOLOGY
TUESDAY, FEBRUARY 21  1:00-2:30 PM
TUESDAY, MARCH 20  1:00-2:30 PM

EPIDEMIOLOGY INNOVATION
WEDNESDAY, FEBRUARY 15  8:30-10:00 AM
WEDNESDAY, MARCH 21  8:30-10:00 AM

CHRONIC DISEASE EPIDEMIOLOGY
TBD

INFECTIOUS DISEASE EPIDEMIOLOGY
FRIDAY, FEBRUARY 24  3:00-4:30 PM
FRIDAY, MARCH 30  3:00-4:30 PM
NYC colonoscopy screening campaign successful, study finds

New York City achieved success with a 2003 media and outreach campaign to close racial and gender gaps for rates of colonoscopy screenings, according to an evaluation lead authored by doctoral trainee Ms. Catherine Richards in the American Journal of Gastroenterology with co-authors including Drs. Bonnie Kerker and Lorna Thorpe. Under the program, colonoscopy screenings among all New Yorkers age 50 and older jumped 20 percent from 2003 to 2007, and disparities in screening were eliminated across several demographics, including non-Hispanic blacks, Hispanics, and women. “Though there are still challenges for the uninsured, we were pleased to see that the New York City’s campaign paid off, closing the gap for important racial, ethnic, and sex disparities in the use of colonoscopies,” said Ms. Richards.


Bird flu infections may be influenced by climate

A new study published in PLOS One sheds light on the frequency with which H5N1 or “bird flu” is transmitted and under what conditions. The study was senior authored by Dr. Stephen Morse and Ms. Eleanor Murray MPH ’10, who carried out the first time series analysis of H5N1 by looking at weather conditions in Egypt and Indonesia and rates of bird flu in both countries. Bird flu has usually been transmitted from birds to humans in settings such as poultry markets. The most conclusive results came out of Egypt, where H5N1 incidence was strongly associated with weather conditions. The results suggest climate, particularly humidity levels, can be an important factor in H5N1 transmission but that other variables such as human behavior may be involved as well.


Obesity in low-income neighborhoods may relate to concerns about going hungry

In some low-income communities, obesity has become a significant public health burden. Its prevalence may be caused paradoxically by individuals’ concerns about having enough food for their family, according to a new study in the journal Public Health Nutrition senior authored by Dr. Bonnie Kerker, who is Assistant Commissioner at the Department of Health and Mental Hygiene and an Adjunct Assistant Professor of Epidemiology. “Food concern” seems to be a cause of obesity because individuals who are worried about having enough food for their family will purchase low-cost but energy-dense products that are often less nutritious. The study found that prevalence of obesity was significantly higher among whites who were concerned about having food for their family than those who were not. The results suggest that programs designed to alleviate poverty should address obesity by promoting nutritious, lower-energy food.

IN THE NEWS

Dr. Collins profiled for global mental health work

As the director of the National Institute of Mental Health’s (NIMH) Office for Research on Disparities and Global Mental Health and the Office of Rural Mental Health Research, Dr. Pamela Collins tells Psychiatric News that her “goal is to help NIMH set a research agenda that will address gaps in mental health care for underserved populations domestically and globally.” Her work at NIMH was profiled in the magazine’s December 2 issue. Dr. Collins, who is also an Associate Clinical Professor of Epidemiology and Psychiatry in the Department of Epidemiology, told Psychiatric News that one of her team’s recent accomplishments at NIMH was to establish a new program: Collaborative Hubs for International Research on Mental Health in low- and middle-income countries (LMICs). The purpose of this initiative, which currently supports three funded hubs in South Asia, sub-Saharan Africa, and Latin America, is to expand research activities in LMICs with the goal of reducing the mental health treatment gap.

Dr. Hatzenbuehler studies health effects of same-sex marriage

A study about the health effects of same-sex marriage led by Dr. Mark Hatzenbuehler, a Robert Wood Johnson Foundation Health & Society Scholar in the Department, was picked up by the New York Daily News. Dr. Hatzenbuehler was also interviewed on the BBC “Newshour” to discuss the study’s results. The study, which will be released in the February 2012 issue of the American Journal of Public Health, finds that gay men in Massachusetts had less stress, made fewer doctor visits, and had lower health-care costs in the 12 months following the legalization of same-sex marriage, compared to the 12 months prior to the marriage law. “These findings contribute to a growing body of evidence on the social, economic, and health benefits of same-sex marriage,” said Dr. Hatzenbuehler.

Dr. Lipkin and CDC team urge tracking of viruses spread through illegal wildlife trade

The Center for Infection and Immunity served as one of the testing labs for a CDC pilot study that has identified potentially harmful viruses in wildlife products confiscated at US airports. As reported by the BBC, The Washington Post, and TIME, among other sources, retroviruses and herpesviruses were identified in illegally imported wildlife and so-called “bushmeat” products like primate parts and rodents. “Exotic wildlife pets and bushmeat are Trojan horses that threaten humankind at sites where they are collected in the developing world as well as the US,” said Dr. W. Ian Lipkin, director of CII and one of the study’s authors. Viruses transferred from animals to humans pose a significant threat, comprising about 75 percent of emerging infectious diseases. In addition to increased port surveillance, there must be efforts to curb demand for such products, Dr. Lipkin said.

Dr. Hornig lends perspective in article about a link between strep and OCD

A December Los Angeles Times article includes perspective from Dr. Mady Hornig on the subject of a link between strep-throat and obsessive compulsive disorder (OCD). Some children who contract strep have a sudden onset of OCD within days or weeks of infection, according to studies. The cause has been ascribed to a disorder, called “pediatric autoimmune neuropsychiatric disorder associated with streptococcus,” or PANDAS. It appears to occur more frequently in children with a family history of rheumatic fever, suggesting an “inherited vulnerability to strep infections gone awry,” according to Dr. Hornig.

Dr. Drucker’s Plague of Prisons subject of a radio show

Dr. Ernest Drucker, an Adjunct Professor of Epidemiology, was a guest in December on New York public radio station WNYC’s “The Leonard Lopate Show” to discuss his recently-released book A Plague of Prisons (The New Press: 2011), which looks at the problem of mass incarceration through an epidemiologic lens. The book has also received favorable reviews from The Economist and The Washington Post. Listen to the Lopate interview and read reviews of the book at plagueofprisons.com.
IN THE NEWS

Dr. Schluger offers tuberculosis expertise

Dr. Neil Schluger, Professor of Medicine, Epidemiology, and Environmental Health Sciences and the Chief Scientific Officer for World Lung Foundation, was a guest on an episode of WNYC’s “The Leonard Lopate Show,” which looked at the history of tuberculosis (TB), the emergence of multi-drug-resistant TB, and the difficulty of mapping threatening new strains of the infection. “We probably don’t really have a good idea [of everyone who is infected] because most countries where TB is common are very poor, and those countries don’t have the means to test every strain of TB for drug resistance,” Dr. Schluger said. To listen to the show, visit wnyc.org/shows/lopate/2012/jan/13/please-explain-tuberculosis.

Dr. Larson helps name the ‘germiest places in the mall’

Dr. Elaine Larson is one of the health experts who was called upon to help name the “8 Germiest Places in the Mall,” in a November Fox News article. Shoppers should be wary of the food court tables even after they’re wiped down, says Dr. Larson a hygiene and infectious disease expert who is Professor of Pharmacology and Therapeutic Research (in Nursing) and Epidemiology. “The rags themselves can actually spread harmful bacteria such as E. coli if they are not changed and washed regularly,” she says.

Dr. Hershman studies low rate of breast reconstruction surgery after mastectomy

Despite the cosmetic and psychological advantages, few women undergo breast reconstruction after a mastectomy, according to a study by Associate Professor of Medicine and Epidemiology Dr. Dawn Hershman that was covered in US News and World Reports. Insurance was the biggest predictor of whether women opted for reconstruction, according to the results. Over the past ten years, “the cost of mastectomy has remained stable,” says Dr. Hershman. “But the cost of reconstruction has increased nearly threefold.”
Andrew Kanter and family welcome baby boy on New Year’s

Dr. Andrew Kanter and his wife Ms. Alina Oganesova welcomed their newborn baby boy Elan Tenzin Kanter, on January 1, 2012. Elan was 21 inches and weighed 7lb 6oz and is officially a New Year’s Baby.

Adina Lemeshow, family, and Stephen Colbert welcome new baby boy

Ezra Max Katsir was born November 13, 2011, weighing 7 pounds, 3 ounces, to doctoral student Ms. Adina Lemeshow and her husband Mr. Jay Katsir. None other than comedian Stephen Colbert gave Ezra his own personal shout-out on the comedian’s late night television show “The Colbert Report.” Mr. Kastir is a writer for the show.

The 2011 Annual report has been delivered across the Department. A digital copy and the appendices can be found online at:

mailman.columbia.edu/academic-departments/epidemiology/annual-report-2011

SUBMITTED GRANTS

DEPARTMENT OF EPIDEMIOLOGY, JANUARY–FEBRUARY 2012
Dr. Parisa Tehranifar’s research draws on her interdisciplinary training in sociomedical sciences and in cancer epidemiology. An Assistant Professor of Epidemiology in the Department, Dr. Tehranifar examines social determinants of cancer risk, with a focus on lifecourse processes that shape behaviors and biological mechanisms leading to disparate cancer outcomes across socially defined population groups.

Dr. Tehranifar immigrated to the United States from her native country of Iran at the age of 18. She was introduced to the field of public health in the course of an undergraduate internship with the late Dr. Irving Selikoff, a preeminent physician, researcher, and public health advocate who first revealed the health hazards of asbestos exposure. This internship—which led to subsequent full-time employment on several research studies of mortality and health experiences of various occupational groups—cemented her interest in public health as a career path.

In addition to conducting research, Dr. Tehranifar has worked in different capacities within the field of public health, including serving as the Deputy Director of Research and Surveillance of the Childhood Lead Poisoning Prevention Program at the New York City Department of Health and Mental Hygiene. In this capacity, she directed the surveillance and research activities of a large unit and worked closely with other officials to develop and evaluate public health policies and interventions aimed at reducing community and housing-level lead exposures, particularly in socially disadvantaged communities.

Dr. Tehranifar completed a three-year postdoctoral training in the Department of Epidemiology under the mentorship of Dr. Mary Beth Terry. During that time, she focused on lifecourse methods and biomarkers research, which she was able to effectively combine with her doctoral training in sociomedical sciences to develop several lines of research. A major focus area of her postdoctoral research centered on understanding how conditions and exposures in early life periods contribute to health disparities in midlife, including influences of early life social environment on adult risk behaviors and adult biomarkers of cancer risk. Through funding from a foundation award, Dr. Tehranifar also used data from over half a million cancer cases in the Surveillance, Epidemiology and End Results (SEER) registries to examine whether racial/ethnic differences in cancer mortality vary across cancer sites and life stages as a function of the availability of early detection and treatment services. The results have shown an increasing racial gap in cancer mortality as cancers become more treatable. This research has received national recognition and was selected as one of top recent papers published in the Cancer Epidemiology, Biomarkers, and Prevention journal with significant impact in the field of cancer health disparities.

Dr. Tehranifar is currently building on her work through a National Cancer Institute K07 award and a Komen Breast Foundation career catalyst award. Focusing on Northern Manhattan, her study takes a multilevel approach to better understand the contribution of social network characteristics and metabolic factors to breast cancer risk in racial minority women. Dr. Tehranifar hopes that this research can inform intervention strategies to reduce the burden of breast cancer in Northern Manhattan.

Because of the interdisciplinary nature of her work, Dr. Tehranifar is an active member of both the chronic disease and social epidemiology clusters and mentors students in both of these areas. She has a particular interest in working with master’s students and participates in planning and implementing many departmental initiatives, including those related to increasing the number of underrepresented racial/ethnic minority students in the Department.

Having always lived in large urban areas, Dr. Tehranifar is fascinated by country life. In her free time, she reads books and blogs about farming and rural living and spends time at her family house in upstate New York where she grows apples and pumpkins and occasionally splits firewood.
Carolyn Herzig is a PhD candidate and pre-doctoral fellow with the Center for Infectious Disease Epidemiologic Research (CIDER) whose background is in molecular and cellular biology. As a doctoral student, she has finished her coursework and taken her qualifying exams.

Carolyn is currently busy with her research, dissertation proposal and teaching master’s students as well as serving as one of the doctoral student representatives on the doctoral steering committee and as one of two doctoral liaisons to master’s students.

Currently, she is working on a study led by Dr. Elaine Larson (School of Nursing and Department of Epidemiology) and Dr. Frank Lowy (Department of Medicine) which focuses on the prevalence and transmission of Staphylococcus aureus, also known as staph, and of methicillin-resistant S. aureus, or MRSA, in maximum security prisons. The study also evaluates risk factors for colonization and infection by S. aureus and MRSA. There are multiple challenges to working in a prison setting, Carolyn says, but it has been equally been “rewarding and eye-opening.”

“When I first began working on this project I had thought that prisons were closed systems, which was intriguing to me considering my interests in infectious disease modeling,” she says. “However, it did not take me long to discover that the system is anything but closed: there is constant movement between facilities and, because of a high recidivism rate, individuals also frequently move between the community and facilities.”

Because about 10% of individuals living in the United States will be incarcerated at some point, the effort to improve public health within prison facilities is also significant for its wider impact on the public health of communities, Carolyn notes.

Prior to coming to Columbia, Carolyn earned a BS in Environmental Sciences and Biology and an MS in Molecular and Cellular Biology from the University of Massachusetts-Amherst and worked as a research assistant in a laboratory at the school’s Department of Veterinary and Animal Sciences. Her work in the lab focused on evaluating cattle immune responses to infectious disease models and on characterizing molecules involved with immune function in cattle.

“After a number of years I felt that I was working on too small a scale and that I would prefer to do research pertaining to population health,” Carolyn says of her decision to go into public health.

She was particularly interested in epidemiology because it allowed her to incorporate her training in molecular biology, and it fit with her proclivity for quantitative work. She also received advice as an undergraduate from an epidemiology professor who suggested she pursue a career in the field.

Says Carolyn, “One of the reasons I enjoy working in public health is the potential for the work that we do to create a positive effect in the lives of many people.”
In December the National Institutes of Health (NIH) reported that adolescent marijuana use had reached a 30-year high, with 1 in 15 teens found to use the drug on a near daily basis. At the same time, teens’ use of virtually every other illicit substance, including alcohol, tobacco, and cocaine, had declined.

The spike in marijuana use led a few officials to blame laws that have allowed greater availability of the drug for medical purposes. Sixteen states have passed such laws, all in the last 15 years.

"When I've done focus groups with high school students in states where medical marijuana is legal, they say, 'Well, if it’s called medicine and it’s given to patients by caregivers, then that’s really the wrong message for us as high school students,'" said White House Director of the Office of National Drug Control Policy R. Gil Kerlikowske, one of the most prominent critics of medical marijuana laws.

Supporters of the laws disagree. They say that if anything, medical marijuana discourages use because teens associate the drug with medicine, not recreation.

As policymakers on both sides of the issue clamor to take action, scientists say that research on the link between the laws and the rise in teen use is increasingly important. The few studies that have been done are mixed in their results, and their authors say more data must be analyzed to make conclusions about a causal relationship.

"Whether there is a link between medical marijuana laws and teen marijuana use is very controversial right now. The topic has seen a lot of debate and opinion but very little research," says Dr. Deborah Hasin, Professor of Clinical Epidemiology in Psychiatry.

To address this knowledge gap, Dr. Hasin assembled a team of researchers at Columbia’s Mailman School of Public Health (Department of Epidemiology and Biostatistics) and College of Physicians and Surgeons (Departments of Psychiatry), including Drs. Magdalena Cerdá, Katherine Keyes, and Melanie Wall. The group published a study in the Annals of Epidemiology in September 2011 finding that during 2002-2008 teens in the 16 states where medical marijuana is legal were more likely to use the drug and less likely to view it as harmful than those in states where it cannot be used for medicinal purposes. The findings are supported by a companion paper from this team published in January in Drug and Alcohol Dependence showing that adult rates of marijuana use, abuse, and dependence were higher in states with medical marijuana laws than those without them.

The US has a long history of argument over the effects of medical marijuana laws, and the debate continues as new states consider legalizing the drug for medical purposes.
of legislation on social mores and behavior of teens. One debate relevant to the marijuana question, says Dr. Hasin, is over states that passed laws in the 1970s lowering the minimum drinking age from 21 to 18 or 19. Drunk-driving fatalities increased among adolescents after the laws were passed, causing states to eventually restore the legal age to 21. Later studies show that individuals legally allowed to purchase alcohol before age 21 had an increased risk for alcohol and drug disorders and suicide that persisted even into their 40s and 50s.2

The questions surrounding legalized marijuana are also a replay of an earlier period in American history. Medicinal forms of cannabis were available in American pharmacies starting in the 1850s, endorsed as a pain reliever by some physicians, notably Dr. William Brooke O’Shaughnessy. But major American pharmaceutical societies never got on board, and as urban hashish parlors mushroomed during the late 1800s and sensational news stories emerged about the dangers of marijuana, doubts about the effects of medicinal laws eventually led to federal and state restrictions.

The drug was effectively banned at the federal level in 1937 by the Marihuana Tax Act, and in 1952, the government introduced mandatory sentencing for possession. Teenagers during this era were told at school that marijuana was “devil weed” and a gateway to cocaine and heroin use.2

Public opinion began to change once again in the 1960s and 1970s. Several states, beginning with California in 1976, reduced penalties for marijuana possession from a felony to a misdemeanor. Twenty years later, California became the first state in recent history to allow marijuana for medical use.

Since then, scientific studies have provided mixed evidence for medical marijuana, with some showing it relieves nausea, glaucoma, and symptoms associated with cancer and AIDS, and others questioning its efficacy. Federal and state law is also divided. In addition to the 16 states that have medical marijuana laws on the books, 12 more are considering it. However, the US Food and Drug Administration has not approved marijuana through its scientific review process, and the Obama administration opposes legalization.

A preliminary study presented at the American Public Health Association annual meeting in November by Dr. Esther Choo, an emergency medicine physician and assistant professor at Brown University’s Rhode Island Hospital, found that there was no statistically significant difference between teenage marijuana use in Rhode Island, where it is legal for medical purposes, and Massachusetts, where it is not legal.4 The two states were a good comparison because of their many cultural similarities, says Dr. Choo. However, the study is not the final verdict on the laws and their effects, she adds. “It’s reassuring there has been no effect, but it’s not conclusive. It will be helpful to have information from other states that have had the policy in place for longer,” says Dr. Choo. She is currently working on a further study comparing several other paired states.

To resolve some of the uncertainty, the Mailman/Physicians and Surgeons team is currently proposing a grant that could go even further in establishing whether medical marijuana laws are responsible for the greater teen use shown in their paper based on national data.

“We would like to explain our findings,” Dr. Hasin says, “including whether the greater use of marijuana in states with medical marijuana laws occurs after the laws are passed, or whether the laws appear related to more generally favorable attitudes towards marijuana use in the states that passed them. Explaining the direction of effect is important, since incorrect information could lead to policies that would be ineffective.”

The team grant proposal, which has been submitted to the National Institutes of Health, would look at national surveys on high school students from the years 1991-2012 using data from “Monitoring the Future,” an ongoing study funded by NIH’s National Institute on Drug Abuse that offers one of the most comprehensive chronicles of adolescent behaviors, values, and perceptions related to substance use and that carried out the study of adolescents that was released in December. (Monitoring the Future investigators at the University of Michigan are collaborators in the grant proposal).

What is important to keep in mind, the researchers say, is that it is currently not clear how the medical marijuana laws affect behavior. However, if future study results become conclusive, they will almost certainly have consequences for how drug policy plays out in the US, especially as more states decide whether to permit the use of marijuana for medical purposes.

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When the Epidemiology and Population Health Summer Institute at Columbia (EPIC) concluded last summer, it was clear that the program’s short, intensive course format was a hit.

Keeping this in mind, the EPIC team set out to offer in 2012 many of the courses that were popular a year ago, in areas such as statistical software packages, data analysis strategies, randomized and observational study design, and specific health and disease domains. In addition, co-directors Drs. Ryan Demmer and Gina Lovasi thought it was important to include new offerings that would broaden the range of introductory courses and expand the subject matter that participants can engage.

“The diversity of EPIC course offerings is impressive and reflects the enthusiasm and creativity of our faculty,” says Dr. Demmer.

Out of 32 courses offered this year, 15 are new. They cover keystone topics (Introduction to Biostatistics, Infectious Disease Epidemiology, Nutritional Epidemiology, Logical Reasoning in Human Genetics, and Ethics of Public Health), in-depth looks at social determinants of health (Select Topics in Social Epidemiology, Approaches to Race in Epidemiological Research, Place and Health, Structural Interventions, and Social Media in Population Health Communication), and methods to evaluate clinical settings and treatments (Clinical Epidemiology, Measuring Patient Reported Health Outcomes, Comparative Effectiveness Research Methods, Introduction to Pharmacoepidemiology, and Epidemiology of Complementary and Alternative Medicine).

Following, are highlights from just a few of these new offerings for the coming summer:

***Epidemiology of Complementary and Alternative Medicine***, taught by Drs. Heather Greenlee, Assistant Professor of Epidemiology and Medical Oncology (in Medicine), and Dr. Katherine Keyes, Assistant Professor of Epidemiology, provides an overview of complementary and alternative medicine (CAM) use in the US, its public health implications, and a discussion of the epidemiology research methods that can be applied to this area. The course is designed for health professionals, researchers, and students who want to learn how to apply epidemiologic research methods to CAM therapies in the context of public health.

“In the US in 2012, an estimated 40% of adults and 12% of children will use a form of complementary and alternative medicine. The healthcare cost of this is estimated to be over $34 billion dollars,” says Dr. Greenlee. “We need to identify which of these therapies are effective, which are safe, and which can be the most beneficial to improve the public’s health.”

***Social Media in Population Health Communication***, taught by Dr. Heather L. LaMarre, Professor of Journalism at the University of Minnesota’s School of Journalism and Mass Communication, will focus on sound health communication practices including social media in the realm of public health. Participants will learn how to formulate and deploy public health communication strategies for various purposes, such as maintaining public trust in public health systems, mitigating the growing influence of online anti-science movements, and increasing the speed and efficiency of vital public
health information communication. The course will teach communication strategies that are developed from quantitative social-psychological and mass communication research and rigorously tested.

"More now than ever, it is incumbent on healthcare professionals to really understand how people are using health information in online communities," says Dr. LaMarre. "Health science research is unusable to the average person or to policymakers without the bridge of effective communication. In today’s media environment, there is no success without effective communication."

The Ethics of Public Health, taught by Dr. Ron Bayer, Professor of Sociomedical Sciences at the Mailman School, will examine the philosophy behind public health, providing students with a context within which to grapple with concepts such as liberty, paternalism, equity and the duties of the state.

"While it is critically important for students and professionals to have a sound grasp of the empirical foundations of public health, it is as vital for them to understand the complex ethical challenges that must confront those concerned about both chronic disease and infectious threats," says Dr. Bayer. "How far can government go in persuading, nudging, or mandating mass behavioral change to reduce morbidity and mortality? When do threats of infectious disease warrant limits on individual freedom? What does justice require in terms of the provision of access to health care services?"

EPIC on the web

Accompanying the wider array of course offerings is an updated website, featuring images and testimonials from last year’s participants cohort, as well as expanded information about the courses offered in 2012.

"The direction for 2012 is toward a more comprehensive set of topics, more detail online about each course, and a greater sense of purpose following the launch of the EPIC fund, which ensures that our success will directly benefit our students," says Dr. Lovasi.

"Most people in 2011 learned about EPIC through a personal connection," Dr. Lovasi adds. "If you think your colleagues may benefit from our course offerings, we encourage you to send a personal note to them."
Leading the world in pathogen discovery

The Center for Infection and Immunity and the Department of Epidemiology

Every few months it seems the Center for Infection and Immunity (CII), the renowned virus hunting institution based at the Mailman School, releases another groundbreaking new finding. In 2010 came news about the threat of infectious disease on the salmon industry; in April 2011, the Center showed how ecotourism can cause human to animal disease transmission; and in July, the organization revealed a new hepatitis C-like virus in dogs.

Research like this has given CII a reputation for fast and prolific lab identification of viruses. The Center’s mission is to quickly identify disease-causing pathogens in order to “assemble a global immune system” to arm scientists and clinicians in the fight against outbreaks and other threats. Scientists also investigate chronic diseases that may be related to early life exposure to infections or immunotoxins, such as cerebral palsy and autism spectrum disorder.

Epidemiology comes into play in everything that CII does, says its director Dr. W. Ian Lipkin, John Snow Professor of Epidemiology and Professor of Neurology and Pathology. Or, put another way, “epidemiology and experimental pathology are the yin and yang of CII,” he says.

A globally recognized virologist, Dr. Lipkin was the first person to use purely molecular methods to identify infectious agents. He identified the West Nile Virus in 1999 soon after it killed several people in New York. The speed at which he was able to pinpoint the virus was crucial in preventing more fatalities.

Dr. Lipkin was recruited to the Mailman School of Public Health in 2001 to bring rigorous laboratory-based science into the school’s fold. Soon after accepting the faculty appointment in the Department of Epidemiology Dr. Lipkin founded CII, with five employees working for him.

Today, CII is an independent school-wide center filling 3 floors of the Mailman School, with 65 people—including faculty and a large staff of post-doctoral researchers, doctoral students, research assistants and technicians, biostatisticians, project coordinators, administrative staff, and its own communications infrastructure. An additional 100 people work under CII auspices in 25 countries on surveillance of known and novel pathogens. The Center gets $30 million in annual funding from sources including the National Institutes of Health, the Bill & Melinda Gates Foundation, USAID, and the US Department of Defense.

With each major infectious disease threat of the last 10 years, CII has been on the frontlines. At the height of the SARS outbreak in 2003, Dr. Lipkin and Dr. Thomas Briese, CII’s Associate Director, traveled to Beijing at the request of the Chinese government, hand carrying 10,000 test kits that were used to identify infected people. They sequenced part of the SARS virus from lung tissue and developed a sensitive diagnostic test that could identify the virus in less than 2 hours. The close contact made Dr. Lipkin ill and required him to be quarantined when he returned to the US. CII has also played...
critical roles in outbreak response against HIV/AIDS, anthrax, H1N1, and Ebola, among others.

In addition to pathogen identification and response, the Center is currently focused on understanding how pathogens may contribute to neuropsychiatric diseases like autism spectrum disorder, attention deficit hyperactivity disorder, mood disorders, schizophrenia, and obsessive compulsive disorder.

The CII and the Department of Epidemiology established the Autism Birth Cohort (ABC) in 2003, with the Norwegian Institute of Public Health and National Institutes of Health. The ABC is the largest prospective birth cohort devoted to gene-environment study and discovering biomarkers of neuropsychiatric disorders. One of its most anticipated studies is its investigation of the pathogenesis of autism—specifically, how infection of the mother during the period around her child’s birth could contribute to development of the disorder. Some important findings from the study can be expected as early as mid 2012.

CII is also at work on a disease prevention strategy called passive immunotherapy, which transfers protective antibodies for the purpose of delaying the onset of infectious diseases, giving an individual’s immune system time to muster a defense. The project is in collaboration with the Northeast Biodefense Center and the biotechnology company Regeneron.

Amidst all of this, CII continues apace with pathogen surveillance, discovery, and identification, using its own patented diagnostic technologies. Over 70,000 samples from around the world are sent to CII annually for pathogen screening often after other groups have been unable to make a diagnosis. SARS and H1N1 influenza were both identified at the Center’s laboratories.

Starting with the initial recruitment of Dr. Lipkin and continuing from there, CII has maintained a strong relationship with the Department of Epidemiology. In addition to Dr. Lipkin, both Dr. Briese and Director of Translational Research Dr. Mady Hornig have faculty appointments in Epidemiology.

CII also collaborates frequently with Department faculty members Drs. Michaeline Bresnahan, Wafaa El-Sadr; Ezra Susser, and Salim Abdool Karim.

The Center also partners with national and international health organizations including the Center for Disease Control and Prevention, NIH, the World Health Organization, and USAID.

In 2008, screenwriter Scott Z. Burns and film director Steven Soderbergh approached Dr. Lipkin for scientific input on the script of the movie Contagion. What resulted was a film that used scientific foundations to both raise awareness about the threat of infectious disease in an era of globalization and to focus on the importance of the public health officials who work on the front lines to prevent a deadly outbreak.

The scenario portrayed in Contagion will hopefully remain a thing of fiction, but should it materialize, CII will surely be called on to prevent catastrophe.

CII FACTS

- Employees: 65
- Cluster: infectious disease epidemiology
- Samples received annually: 70,000
- Viruses sequenced: 400
- Annual funding: $30 million
- Established: 2002

For more information about CII, visit its website at cii.columbia.edu
University-wide seminars

Columbia’s campus-wide University Seminars offer intellectual interaction across departmental boundaries. Each seminar brings together scholars from different disciplines to discuss timely research topics.

The Department of Epidemiology is well-represented in this community, with links to two of the University Seminars that take place over the academic year:

The Injury Prevention and Control Seminar is chaired by Dr. Charlie DiMaggio, Associate Clinical Professor of Epidemiology and co-sponsored by the Epidemiology innovation cluster. Members meet to hear and give presentations on occupational health and injury prevention initiatives as well as to discuss research methods, disaster preparedness, motor vehicle safety, pedestrian injury, subway noise, the implications of aging on health and safety, and other pressing public health issues. Since its inception, the seminar series has since grown to over 40 active members including health and injury prevention experts from governmental agencies, multiple Columbia University departments, faculty from other universities in the region, and community groups.

“Injury control has actually been one of the great public health success stories. Part of that success has been due to embracing the inherently multi-disciplinary nature of the issue. I think the seminar reflects this,” Dr. DiMaggio says.

Past speakers include Dr. Richard Hunt, director of the CDC’s division of injury response, who gave a talk, “The Leading Cause of Death, Ages 1-4 ,” and Dr. Laura DeGrande of the New York Department of Health and Mental Hygiene, who spoke on “Unintentional Injury Mortality in NYC: 2000-2008.”

The seminar typically meets two to three times a semester at 5:30 pm on the Health Sciences campus. Those who are interested may contact seminar rapporteur Halley Riley at her2109@columbia.edu to be placed on the mailing list for upcoming talks and meetings.

For more information and a schedule of upcoming seminars, visit: columbia.edu/cu/seminars/seminars/science/seminar-folder/occu-injury.html

The Genetic Epidemiology Seminar is co-chaired by Adjunct Professor of Epidemiology Dr. Gary Heiman. The purpose of this seminar is to bring together researchers in human genetics, epidemiology, and related disciplines, to discuss issues of common interest. Topics focus primarily on genetic and environmental contributions to disease and gene–environment interaction. The goal is to use information from both human genetics and epidemiology to arrive at a methodology for understanding the complex etiology of common diseases. The seminar is held once per month, from 5:30 pm-7 pm. It is typically held at the School of Social Work Building’s Department of Statistics conference room, located at 1255 Amsterdam Avenue (between 121st and 122nd streets), on the 10th floor in Room 1025 (within the Statistic Department in room 1005). The seminar is followed by dinner at a neighborhood restaurant. All participants are welcome.

To be placed on the email distribution listing, please contact Dr. Heiman at gah13@columbia.edu.

For more information and a schedule of upcoming seminars, visit: columbia.edu/cu/seminars/seminars/science/seminar-folder/genetic-epidemiology.html
Columbia Public Health
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Coming in Fall 2012
A rigorous research degree for working professionals

Spring open house schedule
February 22 | 5:30pm  Mailman School of Public Health, Hess Commons
April 19 | 6:00pm  Columbia Club, 15 West 43rd Street
May 23 | 6:00pm  Columbia Club, 15 West 43rd Street

Application deadline for the program is June 15, 2012

To learn more and register, visit: mailman.columbia.edu/admissions/exec-ed/epi-ms