Columbia Epidemiology 2017
Training tomorrow’s scientific leaders and promoting public health one discovery at a time
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Colleagues,

My first year as head of Columbia’s Department of Epidemiology has been a whirlwind of activity, and it’s been my privilege getting to know such a creative, dedicated, and warm group of people. With their efforts, the department has achieved a great deal this past year — groundbreaking science covered by practically every major news outlet, a new team of superb staff, bringing in and graduating the best students in the world, and hiring seven truly remarkable junior faculty members.

Our first departmental retreat this past summer was extremely well attended. Animated discussions at this retreat have produced tangible actions that the department has launched and will continue to launch these next few years.

Our faculty continue to amaze with their productivity (nearly 1,000 articles in 2017 alone; see pp 38–65), garnering some of the most prestigious awards from our own university on up to the United Nations (see pp 35–37) while also training tomorrow’s public health leaders (see pp 20–21) and prompting global discussions on human health (see pp 22–34).

This all speaks to our vision of world-class science with real-world impact.

A productive, happy, and healthy year lies ahead.

Warmest regards,

Charles C. Branas, PhD
According to the hygiene hypothesis, growing up in a home cleaned to contemporary standards can increase a child’s risk for developing allergies. Using Lysol and other disinfectants kills microorganisms that play a role in the development of an immune system that won’t overreact when confronted with say pollen or peanut butter.

Taking the hypothesis a step further, Dr. Jasmine McDonald, assistant professor of Epidemiology, is studying whether a similar phenomenon is responsible for the increasing number of girls who are experiencing an earlier age of puberty.

Over the last 50 years, the median age of puberty for girls in the United States and other wealthy countries has dropped where breast development is up to a year earlier, and some girls show signs of breast development as early as age 5. Not only is experiencing these changes at a young age socially awkward, it’s also linked to risk for breast cancer, cardiovascular disease, and type 2 diabetes.

Explanations for earlier puberty in girls are varied: some suggest obesity and endocrine-disrupting chemicals could be causal factors. There is also growing evidence that the immune system may play a role.

According to this theory, these infections activate a child’s immune system. Once a girl’s immune system becomes adapted to the pathogenic challenges in her environment, resources can now be directed to the energy-intensive process of puberty. On the other hand, in more sterile environments, energy that would otherwise be fighting infections may be directed to puberty sooner rather than later.

In her new study, funded through a Columbia University Junior Faculty Diversity Grant, Dr. McDonald is looking behind the curtain at the biological underpinnings of this process using the New York site of the LEGACY Girls Cohort. The study is the first to look at multiple pubertal outcomes—breast development, pubic hair, and menarche—as well as prospective measures of molecular markers for immune and hormone signaling in a cohort of 37 girls ages 8 to 14 years. The Provost award allows Dr. McDonald to scale up her study to over 150 girls with assessments at several time points, where half of these girls are at increased risk of breast cancer due to a family history of the disease.

“We know the immune system communicates with the endocrine system,” she says. “When your immune system is kicking in, you don’t have the same kind of hormonal response.”

Dr. McDonald expects to find that girls who were exposed to more infections during childhood experienced puberty later than their counterparts with fewer infections.

“I’ve been looking at the girls who have not gone through breast development, looking at immune markers in blood taken at various time points, asking the question of whether levels of immune factors are associated with pubertal timing,” she says. The study will also look for evidence of how and when the immune system signals to the endocrine system to open the hormonal floodgates for puberty.

The first physical sign of puberty in girls, breast development, normally precedes menarche. With age at menarche remaining relatively stable and breasts developing at an earlier age, this gap has widened. Because puberty involves changes on the cellular level, girls’ bodies may be more vulnerable during this time to genetic mutations—a likely reason why earlier age at puberty increases a girl’s risk for later developing breast cancer.

Unlike girls, there is scant evidence that boys are going through puberty any younger than they ever have. One possible explanation, says Dr. McDonald, is that our society holds girls to a higher standard for cleanliness than boys, giving the former fewer opportunities for microbial exposures.
For many years, all women over 40 were encouraged to receive annual mammograms. But over the last decade, this recommendation has been modified with different expert groups and medical organizations generating guidelines that differ in the age of initiation and cessation of mammography as well as the intervals of screening.

The latest complication to breast cancer screening is breast density. Researchers and radiologists have long observed that breasts fall on a spectrum of breast density, from those composed largely of fatty tissue to those with a greater share of dense, fibroglandular tissue. National estimates find that more than 40 percent of screened women between ages 40 and 74 years, or over 27 million American women, can have mammograms that show dense breasts, as classified by radiologists.

As Dr. Parisa Tehranifar, assistant professor of Epidemiology, explains: “Breast density is one of the strongest independent risk factors for breast cancer. And large amount of dense breast tissue also interfere with detection, making it harder for mammograms to pick up tumors.”

Breast density 101 for patients: Is it working?

As a result of nationwide patient advocacy, breast density has gained greater public understanding. Twenty-seven states now have breast density notification laws on the books—if a woman is found to have dense breasts on her mammogram, she will be notified of her density results as part of her mammogram report. In New York State, this information will also include text informing her that having dense breasts may be associated with increased breast cancer risk and a higher likelihood of missed tumors on mammograms.

How well do patients understand these notifications? Are they following up with their doctors about their risk for breast cancer and potentially more intense screenings? Those are some of the questions Dr. Tehranifar is seeking to address in a new $2.78 million study funded by the National Institutes of Health/National Institute on Minority Health and Health Disparities.

Working with the Avon Foundation Breast Imaging Center here in Washington Heights, her study will follow 1,000 women for a year after their mammograms, gauging what they know about breast density, how they feel about their screenings, how well they understand their results, and if they are accessing any additional medical services as a result of their mammogram reports.

As she works to better understand patient comprehension of breast density, Dr. Tehranifar also sees an opportunity for breast density to be added into existing models that predict risk of breast cancer. A number of these risk models are used in clinical settings and some are freely available online. The vast majority of current risk models such as the well-known Breast Cancer Risk Assessment or Gail Model currently do not include breast density in their standard form.

With a grant from the National Cancer Institute, Dr. Tehranifar and her colleagues will also tap into a cohort of patients from the Sister Study, a ten-year prospective study of more than 50,000 women with sisters who have had breast cancer. They will collect repeated mammograms for the Sisters Study participants to determine individual women’s changes in breast density over time and whether these trajectories can improve breast cancer risk assessment.

Dr. Tehranifar’s two studies explore breast density from different perspectives, and there are dozens of other ongoing studies around the world on the issue. “There’s still so much we don’t know about how breast density affects breast cancer development and how we can reduce breast density in ways that are safe, feasible and map to future breast cancer risk,” she says. “Yet there’s a lot of hope for its potential in the broader effort to reduce breast cancer burden.”
n newly updated clinical guidelines from the Society for Integrative Oncology (SIO), researchers at Columbia University’s Mailman School of Public Health and the Herbert Irving Comprehensive Cancer Center with an interdisciplinary team of colleagues at MD Anderson Cancer Center, University of Michigan, Memorial Sloan Kettering Cancer Center, and other institutions in the U.S. and Canada, analyzed which integrative treatments are most effective and safe for patients with breast cancer.

This systematic review adds to the growing literature on integrative therapies for patients with breast cancer and other cancer populations. The latest results are published online and in print in CA: A Cancer Journal for Clinicians, a publication of the American Cancer Society.

The researchers evaluated more than 80 different therapies and developed grades of evidence. Based on those findings, the Society for Integrative Oncology makes the following recommendations:

- Use of music therapy, meditation, stress management and yoga for anxiety and stress reduction
- Use of meditation, relaxation, yoga, massage and music therapy for depression and mood disorders
- Use of meditation and yoga to improve quality of life
- Use of acupressure and acupuncture for reducing chemotherapy-induced nausea and vomiting
- A lack of strong evidence supporting the use of ingested dietary supplements or botanical natural products as part of supportive care and/or to manage breast cancer treatment-related side effects

“Studies show that up to 80 percent of people with a history of cancer use one or more complementary and integrative therapies, but until recently, evidence supporting the use of many of these therapies had been limited,” said Heather Greenlee, ND, PhD, assistant professor of Epidemiology at Columbia University’s Mailman School of Public Health, and past president of SIO.

In their systematic evaluation of peer-reviewed randomized clinical trials, the researchers assigned letter grades to therapies based on the strength of evidence. A letter grade of “A” indicates that a specific therapy is recommended for a particular clinical indication, and there is high certainty of substantial benefit for the patient.

Meditation had the strongest evidence supporting its use, and is recommended for reducing anxiety, treating symptoms of depression, and improving quality of life, based on results from five trials. Music therapy, yoga, and massage received a B grade for the same symptoms, as well as for providing benefits to breast cancer patients. Yoga received a B grade for improving quality of life based on two recent trials. Yoga and hypnosis received a C for fatigue.

Acupressure and acupuncture received a B grade as an addition to drugs used for reducing chemotherapy-induced nausea and vomiting. In general, there was a lack of strong evidence supporting the use of ingested dietary supplements and botanical natural products as part of supportive cancer care and to manage treatment-related side effects.

“Patients are using many forms of integrative therapies with little or no supporting evidence and that remain understudied,” noted Dr. Greenlee. “This paper serves as a call for further research to support patients and healthcare providers in making more informed decisions that achieve meaningful clinical results and avoid harm.”
Financial incentives enhance viral suppression among HIV-positive persons in the U.S.

The use of gift cards significantly increased viral suppression and clinic attendance among HIV-positive patients, according to the latest study conducted by researchers at Columbia University's Mailman School of Public Health. Compared to sites not offering gift cards, the study found that sites offering financial incentives achieved viral suppression with four percent more of their patients. Additionally, there was approximately five percent higher viral suppression noted among a subgroup of patients who previously had not shown consistent viral suppression. Findings also indicated that financial incentives did not increase linkage to care.

The results of the study are published online in *JAMA Internal Medicine.*

The research team, led by Wafaa El-Sadr, MD, MPH, director of ICAP and professor of Epidemiology and Medicine at Columbia University's Mailman School of Public Health, evaluated the effectiveness of financial incentives on linkage to care, defined as the proportion of HIV-positive individuals at the test site linked to care within three months, and viral suppression in HIV-positive patients, defined as the proportion of established patients at HIV care sites with a suppressed viral load less than 400 copies/mL and assessed quarterly.

The financial incentives offered were a $25 coupon redeemable within three months for getting blood drawn for HIV-related tests and $100 for meeting with a clinician and developing a care plan for individuals who tested HIV-positive at a financial incentive test site. HIV-positive patients receiving antiretroviral therapy at a financial incentive care site and engaged in care there received a $70 gift card for suppressed plasma viral load (HIV RNA less than 400 copies/mL) once every three months.

There were 1,061 coupons given out for linkage to care at 18 financial incentive test sites and 39,359 gift cards given to 9,641 HIV-positive patients eligible for them at 17 financial incentive care sites.

The HPTN 065 Study was a community-based clinical trial conducted in the Bronx, New York, and Washington, D.C., two communities severely affected by HIV. The study included 37 HIV test sites and 39 HIV care sites, which were randomly assigned to use financial incentives or their standard procedures to enhance linkage to care of HIV-positive patients and viral suppression among those on HIV treatment. The research was conducted by the HIV Prevention Trials Network and funded by the National Institutes of Health.

Achieving viral suppression among HIV-positive persons is critical for their individual health as well as for prevention of HIV transmission to others. This has motivated global efforts to identify all individuals living with HIV, to link them to HIV care, to offer and initiate antiretroviral therapy among such individuals, and to support them to achieve and maintain viral suppression. However, data indicate that only 55 percent of those diagnosed with HIV in the U.S. achieve viral suppression.

“Effective interventions are needed to garner the benefits of antiretroviral therapy for the individual and for society,” said Dr. El-Sadr. “The results of this study are encouraging and should motivate efforts to pursue the further assessment of using financial incentives in HIV treatment programs and to determine their potential impact when scaled up.”

See the *JAMA Internal Medicine* article for a list of co-authors.
Fever during pregnancy may raise the risk for autism spectrum disorder (ASD) in the child, according to a study led by scientists at the Center for Infection and Immunity (CII) at Columbia University’s Mailman School of Public Health. The effect was most pronounced in the second trimester, raising odds for ASD by 40 percent. Risk of an ASD was increased by over 300 percent for the children of women reporting three or more fevers after the twelfth week of pregnancy.

The study is the most robust to date to explore the risk of ASD associated with fevers across the entire span of pregnancy, and of the capacity of two different types of commonly used anti-fever medications—acetaminophen and ibuprofen—to address that risk. Risks were minimally mitigated among the children of women taking acetaminophen for fever in the second trimester. Although there were no cases of ASD among children of mothers who took ibuprofen, a nonsteroidal anti-inflammatory drug, researchers could not ascertain whether risk was mitigated due to the extremely small number of women using this particular drug for fever. Results of the study appear in the journal *Molecular Psychiatry.*

The researchers followed 95,754 children born between 1999 and 2009, including 583 cases of ASD identified in Norway through the Autism Birth Cohort (ABC) Study. Mothers of 15,701 children (16 percent) reported fever in one or more four-week intervals throughout pregnancy, similar to rates reported in the U.S. ASD risk was increased by 34 percent when mothers reported fever at any time during pregnancy, and by 40 percent in the second trimester. The risk increased in a dose-dependent fashion from 1.3-fold with one or two fever episodes after the twelfth prenatal week to 3.12-fold with three or more episodes.

“Our results suggest a role for gestational maternal infection and innate immune responses to infection in the onset of at least some cases of autism spectrum disorder,” says first author Mady Hornig, associate professor of Epidemiology and director of Translational Research at CII. Questionnaire analysis did not indicate an association between risk and maternally-reported symptoms of infection in individual organ systems that might implicate specific infectious agents. An ongoing study is testing blood samples collected at mid-pregnancy and at birth to explore the possible role of specific infectious agents and the contribution of distinctive patterns of immune response among mothers and children to understand the mechanisms creating vulnerability.

“Future work should focus on identifying and preventing prenatal infections and inflammatory responses that may contribute to autism spectrum disorder,” says senior author W. Ian Lipkin, John Snow Professor of Epidemiology and director of CII.

Co-authors include Xiaoyu Che, Michaeline A. Bresnahan, Andrew F. Schultz, Joy E. Ukaigwe, Meredith L. Eddy, Bruce Levin, and Ezra S. Susser at Columbia; Deborah Hirtz at the National Institute of Neurological Disorders and Stroke; and Nina Gunnes, Kari Kveim Lie, Per Magnus, Siri Mjaaland, Ted Reichborn-Kjennerud, Synnve Schjølberg, Cand Psychol, Anne-Siri Øyen and Camilla Stoltenberg at the Norwegian Institute of Public Health. The study was funded by the National Institute of Neurological Disorders and Stroke of the National Institutes of Health (NS47537, NS086122), the Jane Botsford Johnson Foundation, Simons Foundation Autism Research Initiative, the Norwegian Ministry of Health and Care Services, the Norwegian Ministry of Education and Research, and the Research Council of Norway.

Autism risk linked to fever during pregnancy
Results of a five-year study in 20 countries on three continents have found that bats harbor a large diversity of coronaviruses (CoV), the family of viruses that cause Severe Acute Respiratory Syndrome Coronavirus (SARS) and Middle East Respiratory Syndrome Coronavirus (MERS). Findings from the study—led by scientists in the USAID-funded PREDICT project at the Center for Infection and Immunity (CII) at Columbia University’s Mailman School of Public Health and the University of California, Davis’ One Health Institute in the School of Veterinary Medicine—are published in the journal Virus Evolution. PREDICT is a globally coordinated effort to detect and discover viruses of pandemic potential and reduce risk for future epidemics.

With the cooperation of local governments, researchers sampled and tested 19,192 bats, rodents, non-human primates, and humans in areas where the risk of animal-to-human transmission is greatest, including sites of deforestation, ecotourism, and animal sanctuaries. The researchers identified 100 different CoVs and found that more than 98 percent of the animals harboring these viruses were bats, representing 282 bat species from 12 taxonomic families. Extrapolating to all 1,200 bat species, they estimate a total of 3,204 CoV are carried by bats worldwide, most of which have yet to be detected and described. They also found that CoV diversity correlated with bat diversity with high numbers of CoVs concentrated in areas where there are the most bat species, suggesting CoVs coevolved with or adapted to preferred families of bats.

“This study fills in a huge gap in what we know about the diversity of coronaviruses in animal hosts,” says first author Simon Anthony, assistant professor of Epidemiology in CII. “Charting the geographic and genetic diversity of coronaviruses in animals is a critical first step towards understanding and anticipating which specific viruses could pose a threat to human health.”

The first step to identifying suspect viruses

The researchers used consensus PCR, a cost-effective technique that targets a small section of the viral genome—sufficient to locate the position of each virus in the family tree of all CoVs. To go a step further, researchers are using more powerful genome-wide sequencing to take a detailed look at those viruses that resemble known threats to humans. In a study published in April, they reported that a MERS CoV-like virus did not have the genetic prerequisites to jump to humans—a sign that MERS-CoV had evolved to become more capable of transmission. A similar effort is now underway to sequence viruses similar to SARS-CoV.

Bats play an important role

The researchers say their findings should not be interpreted as a call to cull bats. Bats play an important role in the ecosystem, and most of the coronaviruses they carry are harmless to humans. Additionally, culling may have unintended consequences: destabilizing host ecology can actually increase risk for disease transmission, as seen in studies of Marburg and rabies viruses.

Bats are the major reservoir of coronaviruses worldwide
Use of marijuana in combination with alcohol by drivers is especially dangerous, according to a study conducted at Columbia University’s Mailman School of Public Health. Drivers who used alcohol, marijuana, or both were significantly more likely to be responsible for causing fatal two-vehicle crashes compared to drivers who were involved in the same crashes but used neither of the substances. The findings are published in the journal, Annals of Epidemiology.

“The risk of crash initiation from concurrent use of alcohol and marijuana among drivers increases by more than fivefold when compared with drivers who used neither of the substances,” said Guohua Li, MD, DrPH, professor of Epidemiology at the Mailman School of Public Health. The study also indicates that when used in isolation, alcohol and marijuana increase crash culpability by 437 percent and 62 percent, respectively.

The researchers analyzed data for 14,742 fatal two-vehicle crashes between 1993 and 2014 recorded in the Fatality Analysis Reporting System, a database containing information on crashes that resulted in at least one fatality within 30 days and involved a U.S. public road. Included in the study were 14,742 drivers who were responsible for causing the fatal crashes and 14,742 non-culpable drivers who were involved in the same crashes. Crashes involving single vehicles, more than two vehicles, commercial trucks, and two-vehicle crashes in which both drivers were responsible were excluded from the analysis.

Drivers who were responsible for the crashes were significantly more likely than non-culpable drivers to test positive for alcohol (28 percent vs. 10 percent), marijuana (10 percent vs. 6 percent), and both alcohol and marijuana (4 percent vs. 1 percent). Drivers who tested positive for alcohol, marijuana, or both were more likely than those who tested negative to be male, aged 25 to 44 years, and to have had a positive crash and violation history within the previous three years.

The three most common driving errors that led to these fatal crashes were failure to keep in proper lane (43 percent), failure to yield right of way (22 percent), and speeding (21 percent).

Since the mid-1990s, the prevalence of marijuana detected in fatally injured drivers has increased markedly. During the same time period, 28 states and the District of Columbia have enacted legislation to decriminalize marijuana for medical use, including eight states that have further decriminalized possession of small amounts for adult recreational use. Although toxicological testing data indicate a continuing increase in marijuana use among drivers, a positive test does not necessarily infer marijuana-induced impairment.

“While alcohol-impaired driving remains a leading cause of traffic fatalities in the United States, driving under the influence of marijuana and other drugs has become more prevalent in the past two decades,” said Dr. Li, who is also the founding director of Columbia University’s Center for Injury Epidemiology and Prevention. “Countermeasures targeting both drunk driving and drugged driving are needed to improve traffic safety.”

Co-authors are Stanford Chihuri, Center for Injury Epidemiology and Prevention and Department of Anesthesiology, Columbia University Medical Center; and Joanne E. Brady, Department of Epidemiology, Mailman School of Public Health.

The research was supported by the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (grant 1 R49 CE002096).
Deaths in individuals with autism increased 700 percent in the past 16 years and were three times as likely as in the general population to be caused by injuries, according to a new study by Columbia University’s Mailman School of Public Health. The findings are published online in the American Journal of Public Health.

The average age at death for individuals with autism was 36 years younger than for the general population, 36 years of age compared with 72. Of the deaths in individuals with autism, 28 percent were attributed to injury, most often by suffocation, followed by asphyxiation, and drowning. Together, these three causes accounted for nearly 80 percent of the total injury mortality in children with autism. More than 40 percent occurred in homes or residential institutions.

“While earlier research reported a higher mortality rate overall for individuals with autism, until now injury mortality in the autism spectrum disorder population had been understudied,” said Guohua Li, MD, DrPH, Mailman School professor of Epidemiology, and senior author. “Despite the marked increase in the annual number of deaths occurring, autism-related deaths still may be severely underreported, particularly deaths from intentional injury such as assaults, homicide, and suicide.”

Screening over 32 million death certificates in the U.S. National Vital Statistics System, the researchers identified 1,367 individuals (1,043 males and 324 females) with a diagnosis of autism who died between 1999 and 2014. The annual number of documented deaths for individuals with a diagnosis of autism has risen nearly 7 times from 1999 to 2014.

“Our study was limited to death certificate data. While the numbers are startling, autism as a contributing cause of death is likely undercounted because of the accuracy of information on death certificates filed by coroners varies,” noted Joseph Guan, the lead author and a master of public health degree student in Epidemiology at the Mailman School of Public Health.

The estimated prevalence of autism spectrum disorder is about four times as common in males as in females and higher among non-Hispanic white children and in children of highly educated parents. From 2000 to 2012, the rate has more than doubled.

“Our analysis reveals that children with autism are 160 times as likely to die from drowning as the general pediatric population. Given the exceptionally heightened risk of drowning for children with autism, swimming classes should be the intervention of top priority,” said Dr. Li, who is the founding director of the Center for Injury Epidemiology and Prevention at Columbia. “Once a child is diagnosed with autism, usually between 2 years and 3 years of age, pediatricians and parents should immediately help enroll the child in swimming classes, before any behavioral therapy, speech therapy, or occupational therapy. Swimming ability for kids with autism is an imperative survival skill.”

Wandering is a common autistic behavior, and Dr. Li makes the point that many children with autism have an affinity for bodies of water. “With impaired communication and social skills, autistic kids tend to seek relief of their heightened anxiety from the serenity of water bodies. Unfortunately, this behavior too often leads to tragedies.”

The study was supported by the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (grant 1 R49 CE002096).
Heroin use and heroin use disorder have increased significantly among American adults since 2001, according to new research conducted at Columbia University’s Mailman School of Public Health. The portion of Americans using heroin has climbed five-fold in the last decade, and clinically defined heroin dependence has more than tripled. Increases were greatest among males, whites, those with low income and little education, and for heroin use disorder, in younger individuals. The increase in the prevalence of heroin use disorder was more pronounced among whites ages 18–44 than among non-whites and older adults.

The study is the first to account for changes in heroin use and dependence over time in the U.S. The findings are published online in JAMA Psychiatry.

The study reports that heroin use increased from 2001–2002 to 2012–2013, from .33 percent to 1.60 percent, and heroin use disorder rose from 0.21 percent to .69 percent. Past-year prevalence of heroin use increased between 2001-2002 (0.03 percent) and 2012-2013 (0.06 percent). Heroin use was significantly pronounced among whites in 2012 to 2013: compared to non-whites, 1.9 percent versus 1.1 percent, respectively. Heroin use and use disorder also increased more among the unmarried than married adults.

“In 2001 to 2002, whites and non-whites reported similar prevalence of heroin use. However, in 2012–2013, increases in heroin and related disorders were particularly prominent among whites, leading to a significant race gap in lifetime heroin use by 2013,” said Silvia Martins, MD, PhD, associate professor of Epidemiology at the Mailman School of Public Health.

The researchers analyzed data from 43,000 Americans on lifetime heroin use who were long-term heroin users and met the DSM-IV heroin use disorder criteria using the National Epidemiologic Survey on Alcohol and Related Conditions (2001–2002) and the National Epidemiologic Survey on Alcohol and Related Conditions (2012–2013).

While heroin use is now more widespread among individuals of all social classes and among those with strong bonds to social institutions, relative increases in heroin use and use disorder across time were greater among less-educated and poorer individuals.

The gender gap in lifetime heroin use and use disorder also widened between 2001–2002 and 2012–13; use among males increased more than females, according to Dr. Martins. Among men, prevalence of heroin use rose by 1.89 percent compared to .70 percent for women; male heroin use disorder increased by 0.72 percent versus women at .25 percent.

“These trends are concerning because increases are occurring among vulnerable individuals who have few resources to overcome problems associated with use,” said Deborah Hasin, PhD. “If we added the homeless and the incarcerated in our study results for heroin use and heroin use disorder, the findings could be even more startling.”

“Our results underscore the need to expand educational programs on the harms related to heroin use and access to treatment in populations at increased risk,” said Dr. Martins. “Promising examples of prevention and intervention efforts include expansion of access to medication-assisted treatment—methadone, buprenorphine or injectable naltrexone—as well as educational campaigns in schools and community settings, and consistent use of prescription drug monitoring programs.”
Half of adults with anxiety or depression report chronic pain

In a survey of adults with anxiety or a mood disorder like depression or bipolar disorder, about half reported experiencing chronic pain, according to researchers at Columbia University’s Mailman School of Public Health. The findings are published online in the *Journal of Affective Disorders*.

“The dual burden of chronic physical conditions and mood and anxiety disorders is a significant and growing problem,” said Silvia Martins, MD, PhD, associate professor of Epidemiology at the Mailman School of Public Health, and senior author.

The research examined survey data to analyze associations between DSM-IV-diagnosed mood and anxiety disorders and self-reported chronic physical conditions among 5,037 adults in São Paulo, Brazil. Participants were also interviewed in person.

Among individuals with a mood disorder, chronic pain was the most common, reported by 50 percent, followed by respiratory diseases at 33 percent, cardiovascular disease at 10 percent, arthritis reported by 9 percent, and diabetes by 7 percent. Anxiety disorders were also common for those with chronic pain disorder at 45 percent, and respiratory at 30 percent, as well as arthritis and cardiovascular disease, each 11 percent. Individuals with two or more chronic diseases had increased odds of a mood or anxiety disorder. Hypertension was associated with both disorders at 23 percent.

“These results shed new light on the public health impact of the dual burden of physical and mental illness,” said Dr. Martins. “Chronic disease coupled with a psychiatric disorder is a pressing issue that health providers should consider when designing preventive interventions and treatment services—especially the heavy mental health burden experienced by those with two or more chronic diseases.”

Co-authors: Melanie S. Askari, Department of Epidemiology, Mailman School of Public Health; Laura Helena Andrade, Camila Magalhães Silveira, Erica Siu, and Yuan-Pang Wang, Department and Institute of Psychiatry, University of São Paulo Medical School; Alexandre Chiavegatto Filho, Department of Epidemiology, University of São Paulo School of Public Health; and Maria Carmen Viana, Departamento de Medicina Social, Universidade Federal do Espírito Santo, Brazil.

The study was supported by the São Paulo Research Foundation, Brazil (Grants 2003/00204-3 and 2011/50517-4). Funding was also provided by Fundação de Amparo à Pesquisa do Estado de São Paulo (Grant 14/05363-7). The SPMH Survey is carried out in conjunction with the World Health Organization World Mental Health Survey Initiative.
A new systematic re-analysis of all previous studies of long-term health effects of prenatal exposure to the Chinese Famine of 1959–61 by researchers at Columbia University’s Mailman School of Public Health shows no increases in diabetes, high blood pressure and other chronic conditions among famine births except for schizophrenia. The analyzed studies reported that these conditions were more common among famine births compared to control groups born after the famine. In the re-analysis, the Columbia researchers compared outcomes in famine births to control groups combining births from before and after the famine. The findings raise fundamental questions about the design of existing Chinese famine studies.

“Significant improvements are needed in the design and analysis of these studies for more reliable estimates of the long-term impact of the famine,” said L. H. Lumey, MD, PhD, professor of Epidemiology at the Mailman School and senior author. This is the first systematic review and meta-analysis of available studies, including different designs and analytical methods. Findings are published online in the *International Journal of Epidemiology*.

“The results of our analysis were unexpected and point to an unrecognized flaw in common famine reports. Using only controls born after the famine, famine births will be older than controls and this will make them less healthy than controls,” said Dr. Lumey. To neutralize the age effect, control groups born before the famine were therefore added from each study by the Columbia researchers.

Earlier studies showed that overweight, type 2 diabetes, hyperglycemia, the metabolic syndrome and schizophrenia were more elevated in adults born in China who were exposed to the Forward Famine of 1959–1961 during early life. Because many studies differed in study design and analytical methods and were carried out in different regions in China, the Columbia researchers undertook a systematic review and meta-analysis of available reports to summarize the data, generate estimates of homogeneity of reported famine effects, consider possible implications for public health, and formulate suggestions for future studies.

The researchers used several databases including PubMed, Embase, Chinese Wanfang Data, and Chinese National Knowledge Infrastructure to conduct the review. More than 13,000 records of long-term health conditions were initially reviewed for those exposed and unexposed to the famine. The number of events that were analyzed ranged from 1029 for hyperglycemia to 8973 for hypertension. Most Chinese over age 55 today were exposed to famine at some point early in their lives.

“Beyond age effects, we were also interested in health outcomes comparing births in rural and urban areas and in regions with extreme and less severe famine—which some studies had reported—and we did not find any systematic differences. We think that better indicators of famine exposure are needed,” noted Chihua Li, doctoral candidate in the Department of Epidemiology and the study’s first author.

Reliable estimates of the long-term impact of the Chinese famine are important because the famine experience could have substantially increased the risk of major chronic diseases in later life among the Chinese population. “As a next step, we will therefore continue with systematic analyses of study results from ongoing health surveys in China for more reliable estimates of long term famine effects,” says Dr. Lumey.
Researchers at Columbia University’s Mailman School of Public Health and Albert Einstein College of Medicine studied the link between food allergy and childhood anxiety and depression among a sample of predominantly low socioeconomic status minority children. The results showed that children with a food allergy had a significantly higher prevalence of childhood anxiety. Food allergies were not associated with symptoms of childhood depression or with symptoms of anxiety or depression among their caregivers. The results are published in the *Journal of Pediatrics*.

Food allergies are increasingly common among youth in the U.S. with recent estimates as high as 8 percent. Until now, little was known about the prevalence of food allergy in low socioeconomic ethnic minority populations.

The researchers studied 80 pediatric patients ages 4–12 years, 8 years old on average, with and without food allergies, and their caregivers from urban pediatric outpatient clinics in the Bronx, New York. They controlled for an asthma diagnosis in the children, as anxiety and mood disorders are more prevalent among youth with asthma and especially more common in low socioeconomic minority children.

Among the children with a food allergy, 57 percent reported having symptoms of anxiety compared to 48 percent of children without a food allergy. Approximately 48 percent of the children had symptoms of depression with or without a food allergy.

“Management of food allergy can be expensive both in terms of food shopping, meal preparation, and the cost of epinephrine auto-injectors, which expire annually,” said Renee Goodwin, PhD, in the Department of Epidemiology at the Mailman School of Public Health and lead author. “These demands could result in higher levels of anxiety for those with fewer financial resources and further heighten anxiety symptoms in children and their caregivers.”

The results suggest that food allergy is particularly linked to elevated social anxiety and fear of social rejection and humiliation. “There are a number of possible explanations for the relationship found between food allergy diagnosis and increased social anxiety issues in this sample of pediatric patients,” noted Dr. Goodwin. “Management of a potentially life-threatening condition may be anxiety provoking, and some children may experience increased social anxiety about being “different” from other children depending on their age and how food allergy is managed by adults in a particular setting.”

The researchers also point out a possible explanation for not finding a link between food allergy and depression in children. The sample was young, and the mean age of onset for depression is significantly later than anxiety. “It would be worthwhile to examine these relationships among older adolescents and young adults with food allergy who are at the peak of risk for depression onset, especially because early anxiety is associated with increased risk for subsequent onset of depression,” said Jonathan Feldman, PhD, professor at Ferkauf Graduate School of Psychology, Yeshiva University and Albert Einstein College of Medicine.

“With the high prevalence of food allergies today, education in schools remains a priority,” said Dr. Goodwin. “Given the strong association between food allergy and social anxiety in children future investigations on the food allergy-mental health relationship are also warranted in clinical, school, and community-based settings which could aid in the development of interventions.”

Co-authors: Sandra Rodgin, Rachel Goldman, and Jonathan Feldman, Ferkauf Graduate School of Psychology, Yeshiva University; Juliana Rodriguez, Department of Pediatrics, Albert Einstein College of Medicine; Gabriele deVos and Denise Serebrisky, Jacobi Medical Center, Bronx, NY.

The authors declare no conflicts of interest.
Losing train of thought? You may be having one drink too many.

Impairments in processing and using information that help with decision-making and planning simple tasks such as grocery shopping are linked with one’s frequency of alcohol or drug use according to a new study. Researchers at Columbia University’s Mailman School of Public Health and Columbia University Medical Center found that cognitive impairments are not a problem limited to addiction patients in treatment, but constitute a broader problem among substance users in the U.S. general population. Results are published online in the journal *Addiction*.

This is the first study to find associations between deficits in attention and executive functioning with frequency of binge drinking and use of marijuana, cocaine, opioids, sedatives and tranquilizers, and stimulants in the general population ages 18 and older. “Regardless if cognitive impairments precede substance use or vice versa, poorer cognitive functioning negatively impacts daily life and may cause lack of insight into one’s substance use as a source of problems, impeding treatment utilization or decreasing the likelihood of effective treatment,” said senior author Deborah Hasin, PhD, Columbia Mailman School of Public Health professor of Epidemiology and in the Department of Psychiatry at Columbia University Medical Center.

The researchers analyzed data from 36,085 respondents to the 2012-2013 National Epidemiologic Survey on Alcohol and Related Conditions-III, a representative sample of the U.S. adult population, to create two cognitive scales based on dimensionality and reliability.

“Our study shows the validity of two scales for assessing how cognitive impairments are associated with many substance disorders including alcohol, cannabis, cocaine and one’s ability to function well in important interpersonal or occupational areas,” said Efrat Aharonovich, PhD, Department of Psychiatry, Columbia University Medical Center, and first author. “Our validation of the cognitive scales will facilitate further investigations of the relationships of cognitive functioning to the use of multiple substances, substance use disorders and treatment utilization, advancing our knowledge of substance use, a major public health problem.”

Poorer attention was linked with frequent and infrequent binge drinking and use of drugs, in particular, stimulants. A lower score on executive functioning scale was associated with frequent binge drinking and drug use, cocaine in particular. Binge drinking was defined as four or more drinks in a day for women and at least 5 drinks in a day for men. About half the sample was female, 45 years of age or older, with an income of $20,000 or less. Slightly more than two-thirds were Non-Hispanic White; and 60 percent completed at least some college. Prevalence of substance use ranged from 33 percent for binge drinking to 1 percent for cocaine.

“While abstinence or reduced substance use may partially improve cognition, future research should determine whether factors shown to protect against cognitive impairments in aging adults, such as a healthy diet, and physical and intellectual activities, also protect against cognitive impairments in populations with difficulties in reducing substance use,” said Dr. Hasin.

Co-authors are Dvora Shmulewitz, Department of Psychiatry, Columbia University Medical Center; Melanie Wall, Department of Biostatistics, Mailman School of Public Health; and Bridget Grant, Laboratory of Epidemiology and Biometry, National Institute on Alcohol Abuse and Alcoholism.

The study was supported by the National Institute on Alcohol Abuse and Alcoholism, the National Institute on Drug Abuse, and the National Institutes of Health (R01DA034244-01, R01DA024606). The authors report no conflicts of interest.
What makes people use illegal drugs? One popular explanation is that drugs help them cope with stress. But what factors drive that stress?

According to Mailman School researchers, racial discrimination and gender bias play a role. In a pair of recent studies, they found that African-Americans who experienced racial discrimination and women who experienced gender discrimination were each at least twice as likely to use illicit drugs like marijuana, heroin, cocaine, or pain pills without a medical reason.

Of course, racism and sexism aren’t the only factors behind drug use. “We suspected that income and social status were also important parts of this story,” explains lead author Dr. Hannah Carliner, who until recently was a postdoctoral research fellow in the Department of Epidemiology.

Dr. Carliner and co-investigators, including Mailman School professors Drs. Katherine Keyes and Deborah Hasin, looked at African-Americans responding to the National Epidemiologic Survey on Alcohol and Related Conditions, 24.6 percent of whom reported experiencing discrimination in the past year. Episodes of bias as they applied for jobs, tried to secure housing, and during interactions with the criminal justice system were most associated with drug use. Socioeconomic status also came into play.

The results appeared in the *Journal of Social Psychiatry and Psychiatric Epidemiology*.

The Mailman researchers observed a relationship between frequent illicit drug use and racial discrimination, but only among blacks with income above 150 percent of the poverty line. The link between discrimination and drug use was also and more pronounced among those with more than a high school education.

Yet when it came to gender discrimination, social status tilted the scales in the other direction. In a separate study, also published in the *Journal of Social Psychiatry and Psychiatric Epidemiology*, the researchers found that of the 8.9 percent of women reporting gender bias, less educated women are nearly 4 times as likely to use drugs, compared to women who are more educated.

“Having a bigger paycheck doesn’t always mean the same thing when it comes to drug risk,” says Dr. Carliner, “It’s important to consider the kind of discrimination and who is experiencing it.”

How regularly someone experiences discrimination may also make a difference. African-Americans who aren’t poor may face discrimination more often than someone who lives below the poverty line. The same may be true of low-income women.

In their analysis of the relationships between discrimination by race and gender and socioeconomic status, the researchers referenced Kimberle Crenshaw, a black feminist scholar, who coined the term “intersectionality” to explain the complex nature of social identity.

“If you are a poor black woman,” Dr. Carliner explains, “you cannot disentangle your race, your gender, or your socioeconomic status from your day-to-day.”

Going forward, the researchers say they’d like to drill down to understand the specific forms of discrimination that are most likely to lead to drug use, and to what extent stress is an intermediary. But at the end of the day, says Dr. Carliner, no manner of unconscious slights, hateful epithets, or organizational-level prejudices is ever welcome.

“If discrimination is like a poison, then the more you get of it, the worse you are,” she says, “and the more likely you are to use drugs.”

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**Scientists present evidence that racism and sexism fuel drug use**
Seeking answers on gun violence

Epidemiology chair Charles Branas weighs-in on gun violence, including what research says about where it happens and how to stop it.

The mass shooting in Las Vegas has left many wondering how this kind of tragedy could happen. Again. Sadly, the shooting is far from isolated. According to the Gun Violence Archive, on average, there is more than one mass shooting in the United States for each day, far more than any other nation. A report by Vox found that, between 2000 to 2013, guns killed more Americans than AIDS, illegal drug overdoses, the wars in Iraq and Afghanistan, and terrorism combined—mostly by day-to-day homicides and suicides.

To get a clearer picture on gun violence as a public health issue, Transmission spoke with Charles Branas, chair of Epidemiology, who has built a body of research on the topic—including the who and where of firearm violence and actionable ways to prevent it—that has been cited by the US. Supreme Court, Congress, and the director of the National Institutes of Health.

As somebody who studies gun violence, what’s your take on what happened in Las Vegas?

What happened in Las Vegas saddens me deeply. It was a horrible event. But this is only the tip of a much larger gun-violence iceberg in the U.S. On the same day, hundreds more people across the U.S. were shot adding up to somewhere around 100,000 shootings in a year. They’re all tragedies.

Gun violence is no longer an epidemic; it is endemic in the U.S. Mass shootings and day-to-day shootings have actually been common for decades now, although we’re reaching slightly new heights in terms of the numbers of people involved. Counting up gun deaths is important but just one way to get our heads around this crisis. Tracking shootings is perhaps better at getting at the magnitude of the problem—but even then, we’re still only scratching the surface of a much larger problem.

Every victim of gun violence has their family affected, their friends affected, and because a shooting is often such a public event, entire neighborhoods, towns and cities are also very negatively affected. People don’t move out because someone on their block died of cancer, but all it takes is one shooting on your street corner and families are packing it up for safer surroundings.

About a month ago, a young father in Philadelphia was murdered by a 16-year-old with an illegal firearm. It’s a horrible situation for that man, his family, and, by the way, for the teenager who pulled the trigger and who’s life will now forever be an incarcerated existence. It’s also horrible for the neighborhood and families on that block are sure to move away, eroding the economic base for that neighborhood and the city. We saw something similar after the Pulse nightclub shooting in Orlando, which is still back-peddling to stem the economic hit. We could see the same thing happen in Las Vegas.
YOUR RESEARCH SHOWS THAT PLACE MATTERS IN GUN VIOLENCE. WHAT HAVE YOU FOUND?

Most people think of gun violence as happening in urban areas, but the risk of gun death is actually higher outside our cities. In rural areas, the number one mechanism of gun death is gun suicide. And unlike gun homicide, gun suicide is growing across the U.S. The number-one way people are killing themselves is with firearms, and gun suicides now far outnumber gun homicides each year in the U.S.

Some years back, I was invited by a rural area to help investigate the rise in shootings in their counties. They were concerned that immigrants were relocating to their area and somehow increasing their gun murder rate. Although we found no evidence that this was happening for gun murders (not one actually), we did find a lot of evidence that residents were shooting themselves to death in very high numbers. Local officials had no idea and to this day many still deny that they have a persistent gun suicide crisis.

The economists Anne Case and Angus Deaton introduced what they call “deaths of despair” with research that shows that life expectancy among middle-aged white Americans has declined in recent years. Opioids are of course a big factor, but after that, it’s suicide that’s driving this trend, which then really boils down to gun suicide. As a nation, we are only now beginning to recognize this but so much more can be done especially given the rural nature of this problem and the clearly disenfranchised electorate who is being chiefly affected by gun suicide but just has yet to realize it in any meaningful way that allows for scientific solutions.

WHAT ARE THE BIGGEST UNANSWERED RESEARCH QUESTIONS?

We’d like to know what role, if any, mental illness plays in gun violence. Right now, in most states, when you buy a firearm, there is a box that asks: Do you have a history of mental illness, yes or no? The ability to obtain a firearm has been relaxed to the point where it’s like buying a cellphone (buying a cellphone may actually require more paperwork in some states) and in a country with one-gun-per-person there are a lot of people with access to firearms. But, of course, properly training and accurately shooting a gun is not the same as shooting a photo with your smartphone.

Another thing we need to look at is training. A lot of people are now walking around or in a home with a gun at any given moment. Without proper training requirements, we can’t have any way to know if they are any safer with that weapon than not. Again, some people think that firing a weapon is as easy as shooting a picture with your cellphone, or that somehow their gun is going to protect them like it’s a scripted movie scene. We simply have not studied weapons training in the same way that we have for say, driver training, and this is reflected in the near absence of meaningful training requirements when you go to buy a gun in many states.

IS THERE A PUBLIC HEALTH APPROACH TO PREVENTING GUN VIOLENCE?

We need to think beyond simply guns and people, and start thinking about the environment that is promoting these shootings in the first place. Shootings are happening in impoverished neighborhoods, both urban and rural, and at some level, the neglect that these neighborhoods have suffered for decades is a root cause of gun violence. The good news, is that we’ve found fixing up these neighborhood environments in simple and inexpensive ways can offer huge returns-on-investment and break the cycle of gun violence. And there’s a whole lot of room for improvement. Blighted areas in our cities—if you add it all up, is a land area the size of Switzerland. What an opportunity for transformative change that can sustainably reduce gun violence in a politically acceptable way while at the same time providing numerous other co-benefits, like less stress, better mental health, and neighbors who feel safe enough to go outside.

Public health is uniquely positioned to provide creative solutions to gun violence in the U.S., whether it be mass shootings or day-to-day shootings. We should not forget the great public health successes of the past. We can focus on promoting new legislation that could change the tide of gun violence in the U.S., but also target new ideas, like environmental fixes to gun violence, and aspects of gun violence that are not the responsibility of law enforcement or the justice system and are uniquely left to public health to solve, like gun suicide.
Employment outcomes

Recent data from Oct. 2015, Feb. 2016, and May 2016 epidemiology graduates of the Mailman School of Public Health reveal that 86 percent are employed, 10 percent are continuing their studies, and 3 percent are seeking employment.

Figure 1. Employment outcomes for epidemiology graduates

Increased earnings

Enrolling in a Mailman School of Public Health program was associated, on average, with a 47.5 percent increase in salary—from $52,546 to $77,495 per year. Our epidemiology graduates’ mean salary was $75,828, with students in our Executive MS degree program making the most at $121,137 on average.

Figure 2. Increase in annual salary for MSPH graduates
Work type

Epidemiology is a diverse field, and Columbia’s graduates engage in many different types of work. Our programs have prepared them to control and prevent disease, enhance population health, advise on policy decisions, and become tomorrow’s public health leaders.

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>PERCENTAGE OF EPIDEMIOLOGY GRADS EMPLOYED</th>
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<tr>
<td>HOSPITAL/HEALTH CARE</td>
<td>31%</td>
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<tr>
<td>GOVERNMENT</td>
<td>19%</td>
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<tr>
<td>CONSULTING</td>
<td>11%</td>
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<tr>
<td>PHARMA/BIOTECH</td>
<td>9%</td>
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<td>UNIVERSITY</td>
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<tr>
<td>NONPROFIT</td>
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<tr>
<td>RESEARCH</td>
<td>2%</td>
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<tr>
<td>MANAGED CARE/INSURANCE</td>
<td>1%</td>
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<td>SOFTWARE/TECHNOLOGY</td>
<td>1%</td>
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<tr>
<td>OTHER</td>
<td>7%</td>
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Job sources

The single greatest asset our epidemiology students have in their job searches is the Mailman Office of Career Services (OCS), which almost a quarter of recent MSPH graduates credit with helping them secure their current jobs.

Figure 3. Job sources for MSPH graduates
Most talked about research

Disseminating our study findings to other scientists, policymakers, and the general public is vitally important. It’s often the first step to ensuring epidemiological discoveries are used to improve health. During 2017, our faculty published 958 journals articles. Here’s a month-by-month rundown of the articles that received the most coverage on social media and in the popular press.
“We found that XDR tuberculosis remains widespread throughout KwaZulu-Natal and that transmission is the primary driver of the epidemic.”

Transmission of Extensively Drug-Resistant Tuberculosis in South Africa.

Read the coverage
nyti.ms/2ka3v6S
fxn.ws/2vq3Slf
n.pr/2v0gBJ5
February 2017

“These findings appear to represent a major step forward in improving the quality of life of individuals with cancer.”

Read the coverage
nyp.st/2lgH7uW
fxn.ws/2vjxUHN
n.pr/2hp7SNz

Scalp Cooling to Prevent Chemotherapy-Induced Alopecia: The Time Has Come.
Hershman DL.
PMID: 28196237
“In this large, ethnically diverse cohort of women with breast cancer, higher dietary intake of isoflavone was associated with reduced total mortality.”

Dietary isoflavone intake and all-cause mortality in breast cancer survivors: The Breast Cancer Family Registry.
Zhang FF, Haslam DE, Terry MB, Knight JA, Andrulis IL, Daly MB, Buys SS, John EM.
PMID: 28263368

Read the coverage
cbson.ws/2lUjTaJ
cnn.it/2lAo8Ns
n.pr/2ukl1Yo
most talked about research

April 2017

“If you increase the prevalence of users, you are going to increase the prevalence of people who have adverse consequences.”

Read the coverage
usat.ly/2uXeyqS
epi.is/2ukT3wK
epi.is/2vq9lmH

Hasin DS, Sarvet AL, Cerdá M, Keyes KM, Stohl M, Galea S, Wall MM.
PMID: 28445557
“I think it’s important to realize that just because there is a notion that gluten-free is healthy doesn’t make it so.”

Lebwohl B, Cao Y, Zong G, Hu FB, Green PHR, Neugut AI, Rimm EB, Sampson L, Dougherty LW, Giovannucci E, Willett WC, Sun Q, Chan AT.
BMJ. 2017 May 2;357:j1892. doi: 10.1136/bmj.j1892.
PMID: 28465308
“Vaginal pH and/or microbiota screening are interventions that can potentially be added to topical microbicide initiation to guide and enhance prevention of HIV in women.”

Vaginal bacteria modify HIV tenofovir microbicide efficacy in African women.
PMID: 28572388
“In this analysis of a multinational European population, higher consumption of coffee was associated with lower risk for death, particularly that due to digestive and circulatory diseases. The inverse association with all-cause mortality was generally apparent for both caffeinated and decaffeinated coffee.”


Read the coverage
ti.me/2v5ltLR
epi.is/2f9Cz8J
epi.is/2w7wJsm
most talked about research

August 2017

“Increases in alcohol use, high-risk drinking, and DSM-IV AUD [alcohol use disorder] in the US population and among subgroups, especially women, older adults, racial/ethnic minorities, and the socioeconomically disadvantaged, constitute a public health crisis.”

Read the coverage
n.pr/2hpTotS
epi.is/2IR9Qnt
epi.is/2hvlCGd

Prevalence of 12-Month Alcohol Use, High-Risk Drinking, and DSM-IV Alcohol Use Disorder in the United States, 2001-2002 to 2012-2013: Results From the National Epidemiologic Survey on Alcohol and Related Conditions.
PMID: 28793133
Researchers found that 2.9% of high school seniors are currently using synthetic cannabinoids (SC), also known as “Spice” or “K2” and “1.4% of students (49.7% of users) reported using SCs on ≥3 days in the past month.”
“Long-term maternal use of acetaminophen during pregnancy was substantially associated with ADHD [in offspring] even after adjusting for indications of use, familial risk of ADHD, and other potential confounders.”

Prenatal Exposure to Acetaminophen and Risk of ADHD.
Some members of the Berne Amish community in Indiana carry a mutant copy of a gene called SERPINE1. These individuals enjoy extra-efficient metabolisms, reduced diabetes risk, and longer lifespans (85 vs 75 on average) compared to their peers who do not carry the mutant gene.

A null mutation in SERPINE1 protects against biological aging in humans.
many donor kidneys that are discarded may be suitable for transplantation. this research found that a large number of discarded kidneys were procured from donors whose contralateral kidneys were transplanted with good post-transplant outcomes.

characteristics and performance of unilateral kidney transplants from deceased donors. husain sa, chiles mc, lee s, pastan so, patzer re, tanriover b, ratner le, mohan s. clin j am soc nephrol. 2017 dec 7. pii: cjn.06550617. doi: 10.2215/cjn.06550617. [epub ahead of print]

pmid: 29217537
Faculty awards

Over the last calendar year, our faculty members have secured major research grants, earned prestigious honors, taken on leadership positions in professional organizations, and been elected to honorary societies. Here is a select list of their many accomplishments in 2017.
Quarraisha Abdool Karim, PhD, received an honorary doctoral degree from the University of Johannesburg for her commitment to create a deeper understanding of the growing HIV epidemic in South Africa. Her work, much of which is aimed at improving quality of life for women in Africa, has had “a profound impact on HIV treatment and prevention policies at a national and global level.” In October 2017, she received a Lifetime Achievement Award for Public Service from The Institute of Human Virology (IHV). A month later, Dr. Quarraisha Abdool Karim was named a UNAIDS Special Ambassador for Adolescents and HIV.

Salim Abdool Karim, PhD, was elected as a member of the Association of American Physicians (AAP). The AAP is an honorary medical society founded in 1885 for “the advancement of scientific and practical medicine.” Election to the AAP is an honor extended to individuals with outstanding credentials in biomedical science and/or translational biomedical research and is limited to 60 persons per year. In October 2017, the Institute of Human Virology awarded Dr. Salim Abdool Karim an IHV Lifetime Achievement Award for Public Service.

Lisa Bates, PhD, was selected for a 2017 Presidential Teaching Award. Established in 1996 as a way to honor Columbia University’s best teachers, the Presidential Teaching Awards formally recognizes individuals who demonstrate commitment to excellent and often innovative teaching.

Wafaa El-Sadr MD, MPH, won the Dean’s Excellence in Leadership Award. Since 2008, Dean Linda P. Fried has presented the Excellence in Leadership award to recognize efforts by the School’s senior leaders that exceed the expectations of any individual role.

Linda P. Fried, MD, MPH, was elected to the council of the National Academy of Medicine (NAM) for a three-year term beginning July 2017. The council is the governing body of the Academy elected by the membership. NAM aims to provide unbiased, evidence-based, and authoritative information and advice concerning health and science policy to policy-makers, professionals, leaders in every sector of society, and the public at large.

Katherine Keyes, PhD, received the NIH’s Office of Disease Prevention Early-Stage Investigator Award, which recognizes early-career prevention scientists who have made significant research contributions to their respective fields and are poised to become future leaders in prevention research. Dr. Keyes was also one of four CUMC faculty members to be awarded a 2017 research fellowship by the Robert N. Butler Columbia Aging Center. The program enables interdisciplinary study of the aging process, including how to improve human aging and how to optimize additional years of life. Her research is titled “Aging Well With Alcohol? Harnessing Longitudinal Data From 20 Countries to Understand Health Impacts of Moderate Drinking Among Older Adults.”
Elaine Larson, PhD, RN, CIC, FAAN, was named a “Living Legend” by the American Academy of Nursing. Dr. Larson, an international expert in infection prevention, antimicrobial resistance, and hand hygiene, is one of five nurse leaders to receive the Academy’s highest honor in 2017.

Silvia Martins, MD, MPH, won the Dean’s Mentoring Award. Created in 2014, this award celebrates excellence in mentoring junior faculty and acknowledges the important role that mentoring plays in the success of our faculty. Nominees are recognized for the quality of advising, guidance, or investment in others’ professional development, sharing professional knowledge and experience, and/or fostering excellence, goals, and independence. Dr. Martins also received a Dean’s Pilot Grant Award.

Susan Michaels-Strasser, PhD, became one of 20 “Public Voices Fellows” in the 2017 Columbia Public Voices Fellowship program. The program, a collaboration of the Department of Medicine and the OpEd Project created through the support of Robert L. Burch and leadership of the late Harry Lodge, MD, aims to cultivate national thought leaders among scholars, scientists, and clinicians who can influence public debate.

Sharon Schwartz, PhD, received the Innovation in Teaching Award, which honors Mailman instructors who pursue novel approaches to student learning through the use of technologies and pedagogy. Dr. Schwartz is a two-time recipient of the Mailman Teaching Excellence Award; in 2000 she received Columbia University’s prestigious Presidential Teaching Award.

Mary Beth Terry, PhD, was among six Columbia University Medical Center faculty selected for the Provost Leadership Fellows Program (now in its final year). The Provost Leadership Fellows Program is designed for faculty members at Columbia who seek to complement their research and scholarly activities with administrative and leadership responsibilities.


