Department of Epidemiology 2010

A note about this State of the Department Report

As we enter the new year, it is an auspicious time to evaluate the Department's achievements over the last twelve months. We began 2010 as a Department with enormous strengths: a strong history of scientific innovation, an extraordinary depth of talent among our faculty, and an exceptional teaching and training program. At the beginning of the year we developed a plan to maximize those strengths and build new ones. Our goal is to make us the best Department we can be and assure that we will flourish and lead in the future.

This is not a traditional annual report. It is an active assessment of our progress toward the goals we established in early 2010. We use our Department Strategic Plan as the table of contents. For our faculty, students, and staff, this report intends to illustrate how we have collectively engaged in moving the Department forward. For our colleagues outside the Department, we hope that being clear about where we are headed and how we are getting there will illuminate new opportunities for synergy and collaboration.

Warm regards,

Taking Epidemiology to the next level: a Strategic Plan for the Department

A

WE AIM TO **Reinforce the Department's areas of strength and build new ones**
OUR GOAL IS **Innovative scientific contribution**

OUR OPERATIONAL STEPS ARE

B

WE AIM TO **Nurture faculty and create clear road maps for collaboration with partners inside and outside Columbia**
OUR GOAL IS **Engaged, productive faculty**

OUR OPERATIONAL STEPS ARE

C

WE AIM TO **Strengthen our educational programs**
OUR GOAL IS **Dynamic educational opportunities**

OUR OPERATIONAL STEPS ARE

D

WE AIM TO **Effectively manage the Department's administration**
OUR GOAL IS **Supportive administrative infrastructure**

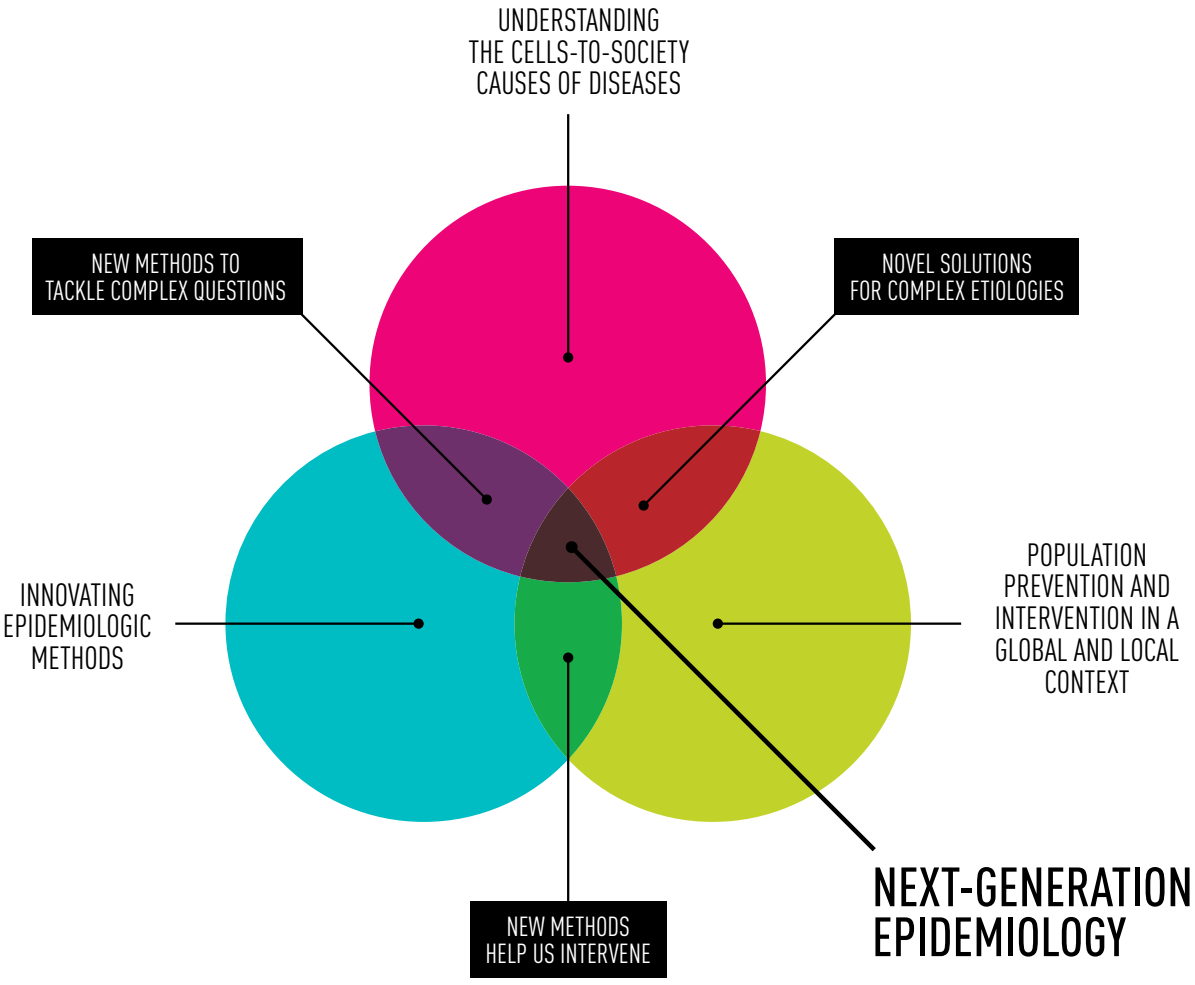
OUR OPERATIONAL STEPS ARE

Articulate, communicate, and implement Department strategic vision

A strategic vision for the Department was introduced in January 2010 and discussed and revised over the ensuing months. The result was disseminated widely via our new brochure and in our newsletters. Along with our formal Strategic Plan, the vision is revisited regularly and used as a benchmark to measure progress.

The Epidemiology Department at the Columbia University Mailman School of Public Health conducts innovative interdisciplinary research that brings a broad cells-to-society approach to questions about population health.

We have a global perspective and are particularly interested in understanding and improving the health of urban populations worldwide. Our faculty are leaders in chronic disease, infectious disease, lifecourse, psychiatric / neuro, and social epidemiology. We are actively building on our foundational strengths in the biologic and social determinants of population health and in innovative methodologic approaches applied to all our areas of excellence. We are committed to teaching students who will be lifelong learners and who will be leaders in academic research and public health practice. We are interested in making our findings accessible and in using our findings to develop effective population-wide and clinical interventions.



Recruit new faculty to strengthen Department direction

A STRATEGIC PLAN ELEMENT 2

The Department of Epidemiology initiated a broad recruitment effort in the spring of 2010. A multiple-position, multiple-level advertisement was posted in several key scholarly journals (see Appendix 1).

1. An Epidemiology Faculty Recruitment Committee was convened

- Sandro Galea
- Bill Friedewald
- Neil Schluger
- Ruth Ottman
- Moise Desvarieux

2. Policy to address different kinds of recruitment opportunities was developed and communicated to the full faculty

STRATEGIC RECRUITMENT

Strategic recruitment includes individuals whose work is consistent with our strategic direction and who can help us achieve a full complement of faculty in all our areas of existing and anticipated strength. Ideally, these are: mid-career with an established NIH funding track record or early-career with clear potential for NIH funding; clearly focused on biologic or methodologic concerns in any of our core substantive areas of interest; and interested in our global, urban, and translational focus. We are willing to invest resources in attracting the right person, seeing this as a central investment in the Department's and the School's future.

OPPORTUNISTIC RECRUITMENT

We are routinely approached by faculty interested in joining the Department who do not necessarily fill key gaps in our portfolio. We are more easily able to consider their candidacy if: they are highly promising and potentially a worthwhile addition to our faculty, their work complements that of others in the Department, and they are largely funded and the resource investment in their recruitment is relatively small.

We also encounter with some frequency cases in which a junior candidate seeks to submit a development grant through the Department as a career step. These cases are considered carefully based on the criteria for facultative recruitment, i.e., they should be highly promising, overlap with other faculty, and be very likely to be funded successfully now and in the future. Prior to proceeding with grant submission for these prospective faculty, the sponsoring faculty member should propose the appointment to the Chair's office via an email that summarizes the above. Details about space and salary should also be addressed.

3. A formal process for recruitment is now in place

a. Applications are screened by Epidemiology Faculty Affairs for minimum qualifications

b. CVs and cover letters of potential candidates are distributed to Committee Members

c. Committee reviews and identifies candidates of interest

d. Candidates identified by the committee are invited to present their work to the Department

4. Statistics to date

52	Applications received
29	Candidates reviewed by committee
14	Candidates currently being actively considered
5	Candidates presented special lectures in November/December 2010
2	Offers made; 1 accepted, 1 pending

Catalyze new, Columbia-wide, interdepartmental, collaborative initiatives

A STRATEGIC PLAN ELEMENT 3

Over the course of the year, we have been nurturing new initiatives that build on the Department's strengths and capitalize on opportunities for growth.

EDGE

Epidemiology, Design, Guidance, and Expertise (EDGE) Program

The EDGE program aims to provide epidemiologic expertise to investigators across Columbia University whose research might benefit from rigorous epidemiologic input on the research design. The program seeks to build collaborations between the Epidemiology Department and investigators across the University during the design and planning phase of projects and grant proposals so as to improve the design of the project and thus its potential for success. EDGE is not envisioned as a traditional core or service unit from which outside investigators buy time. Instead it is an organized and sustained effort to facilitate the building of collaborative relationships between Epidemiology faculty and investigators in other Departments and Schools across campus to the benefit of all parties involved.

Epidemiology faculty members have substantive areas of interest or even identities (e.g. cancer epidemiologist), as well as unique disciplinary expertise. They are trained in a core set of methods and theories that are critical to the successful conduct of a broad range of health studies. In addition to the potential to contribute substantive expertise to a project, Epidemiology faculty members can also contribute disciplinary methodological expertise that will help to ensure the validity of a study's design and of the resulting data.

Expertise provided by Epidemiology faculty includes, but is not limited to:

- Study design and conduct
- Methodological development
- Questionnaire and scale development
- Assessment of bias, confounding, interaction, and mediation
- Causal inference
- Multi-level methodologies; linking data on neighborhood, individual, and molecular risk factors or phenomena
- Statistical analyses
- Large data set and secondary data set analyses (SEER-Medicare, Census, medical claims, digital medical records)
- Analysis of geospatial data
- Simulation and modeling analyses

EDGE is led by Dr. Andrew Rundle.

GMHP

A Global Mental Health Program (GMHP) at Columbia University

Mental health is central to the health of populations, and mental disorders are a leading cause of disability worldwide. Yet mental health has been a low priority on the global health agenda and disproportionately few resources, both in research and in service provision, are dedicated to it.

The Epidemiology Department's new Global Mental Health Program (GMHP) is working to put global mental health squarely in the middle of the global health agenda at the School and the University, as well as in the broader global health conversation. The recent successful inauguration at the Mailman School of a broad Global Health Initiative (GHI) committed to developing and implementing new approaches to critical health challenges creates the ideal context for this work. The GHI mobilizes the capacities of the Mailman School, the University, our partners in New York City, throughout the country, and overseas toward the goal of fundamentally reshaping thought and practice in the field of global health, and the GMHP works closely with the directorate and with other components of the GHI.

The GMHP partners with other programs at Columbia University that are engaged in global mental health. The GMHP has collaborated with such programs in the School of Social Work, the Institute for Social and Economic Research and Policy, the New York State Psychiatric Institute, and the Earth Institute, among others. The GMHP also partners with other academic institutions, government, and global agencies on a variety of public mental health initiatives.

The GMHP is led by two faculty, Drs. Sandro Galea and Ezra Susser, both leaders in global mental health research. An advisory board, including representation from academia, government, and global mental health agencies helps guide the initiative.

To help catalyze discussion about global mental health at Columbia University, the GMHP sponsors a regular seminar series featuring work-in-progress, providing opportunities for development of and feedback on research initiatives. Seminars are held eight times per year.

The GMHP has five objectives:

1. To catalyze discussion about global mental health at Columbia University
2. To promote innovative interdisciplinary global mental health research and interventions
3. To nurture young scholars and practitioners interested in global mental health
4. To build capacity in global mental health research and interventions in partner institutions in low and middle-income countries (LMIC)
5. To develop partnerships, interchange, and potential for collaborations with leading global mental health research initiatives

Establish and nurture regular departmental academic seminars and events

A STRATEGIC PLAN ELEMENT 4

CUEGR

In February 2010, the Department launched the Columbia University Epidemiology Grand Rounds (CUEGR) lecture series, bringing in global leaders in epidemiology to share their ground-breaking work with the department's faculty and students, as well as with the Columbia community and wider public. Quickly established as one of the prominent programs on the CUMC campus, the monthly series presents a broad range of topics, fosters academic exchange around key issues in epidemiology, and forges important links between the Department and leading figures and programs in epidemiology throughout the world.

2010 CUEGR guest speakers

DATE	SPEAKER	AFFILIATION	TITLE
Wednesday, February 10, 2010	Sally Blower, PhD	Professor and Director, Center for Biomedical Modeling, Semel Institute for Neuroscience & Human Behavior, University of California, Los Angeles, David Geffen School of Medicine	Evolution, complex networks, and drug resistance to HIV
Wednesday, March 10, 2010	Sonia Hernandez-Diaz, MD, DrPH	Associate Professor of Epidemiology, Director, Pharmacoepidemiology Program at Harvard School of Public Health	Birth weight and infant mortality: Cause, bias, or paradox?
Wednesday, April 14, 2010	Alain-Jacques Valleron, DSc	Professor, the University of Pierre and Marie Curie and Hôpital Saint-Antoine	What can the 1889 Russian flu teach us about the surveillance of modern pandemics?
Wednesday, May 19, 2010	Jay Kaufman, PhD	Canada Research Chair in Health Disparities, Department of Epidemiology, Biostatistics and Occupational Health, McGill University	Heteroeroticism: Your subgroups or mine
Wednesday, June 16, 2010	Karestan Koenen, PhD	Associate Professor, Departments of Society, Human Development and Health and Epidemiology, Harvard School of Public Health	A Lifecourse perspective on gene-environment interplay in the production of mental disorders
Wednesday, September 29, 2010	Daniel Fitzgerald, MD	Physician, Les GHESKIO Centres; Associate Professor of Medicine, Division of International Medicine and Infectious Diseases and Associate Director of the Center for Global Health, Weill Medical College of Cornell University; Associate Professor, Program in Clinical Epidemiology and Health Services Research, Weill Cornell Graduate School	Conducting HIV research in Haiti: The GHESKIO program
Wednesday, October 13, 2010	Conrad Keating, MSc, PGCE	Writer-in-Residence, Wellcome Unit for the History of Medicine, University of Oxford	Smoking and lung cancer: The anatomy of a scientific dispute between R. A. Fisher and Richard Doll
Wednesday, November 17, 2010 Howe Lecture	Anthony Miller, MD, FRCP, FRCP (C), FFPH, FACE	Professor Emeritus and Associate Director of Research, Dalla Lana School of Public Health, University of Toronto	Should we stop screening for invasive cancers?
Wednesday, December 15, 2010	Jonathan Samet, MD, MS	Professor and Flora L. Thornton Chair, Department of Preventive Medicine, Keck School of Medicine; Director, USC Institute for Global Health, University of Southern California	Translating epidemiological evidence Into Policy: How epidemiological research helped to clear the air

Epidemiology Department Seminars

The Department Seminars, held monthly, showcase the research and work being done by faculty and students in the Department. In October, we for the first time invited master's level students to present research from their summer practicum experiences, a tradition we plan to continue each year, along with a scientific poster presentation by students.

2010 Department Seminar speakers

DATE	SPEAKER	AFFILIATION	TITLE
Friday, February 26, 2010	Wim Veling, MD, MSc, PhD	Global Mental Health Fellow, Department of Epidemiology, Mailman School of Public Health, Columbia University; Chairman, Multidisciplinair Netwerk Vroege Psychose; Psychiatrist and Epidemiologist, Parnassia Bavo Groep	Us and Them: Epidemiological findings on migration and schizophrenia in the Netherlands
Friday, April 9, 2010	Louise Kuhn, PhD	Professor of Epidemiology (in the Sergievsky Center), Department of Epidemiology, Mailman School of Public Health, Columbia University; The Gertrude H. Sergievsky Center, College of Physicians and Surgeons, Columbia University	Treatment of HIV-infected children with antiretroviral drug resistance
Friday, April 30, 2010	Daniel Barth-Jones, PhD	Assistant Professor of Clinical Epidemiology, Department of Epidemiology, Mailman School of Public Health, Columbia University	Workshop: systems dynamics modeling
Friday, May 7, 2010	Daniel Barth-Jones, PhD	Assistant Professor of Clinical Epidemiology, Mailman School of Public Health, Columbia University	Workshop: systems dynamics modeling
Friday, May 28, 2010	Ryan Demmer, PhD	Assistant Professor of Epidemiology, Mailman School of Public Health, Columbia University	Periodontal Infections and type 2 diabetes risk
Friday, June 18, 2010	Magdalena Cerdá, DrPH	Adjunct Assistant Professor of Epidemiology, Mailman School of Public Health, Columbia University	Using innovative methods to understand the social determinants of co-occurring mental health problems across the lifecourse
Friday, September 24, 2010	Richard Mayeux, MD	Sergievsky Professor of Neurology, Psychiatry, and Epidemiology, Columbia University; Director, Gertrude H. Sergievsky Center, Columbia University; Co-Director, Taub Institute for Research on Alzheimer's Disease and the Aging Brain, Columbia University	Genetic approaches to Alzheimer's Disease
Friday, October 22, 2010	Lucy Almers, Natalie Levy, Hae Young Kim	Master's program, Department of Epidemiology, Mailman School of Public Health, Columbia University	Master's students practicum presentations
Friday, November 12, 2010	Jose Luchsinger, MD, MPH	Assistant Professor of Epidemiology,Mailman School of Public Health, Columbia University; Florence Irving Assistant Professor of Medicine, College of Physicians and Surgeons, Columbia University	Insulin resistance, diabetes, and cognitive impairment: from observation to translation

Cluster Seminars

Each Department cluster sponsors monthly seminars that vary in style, from formal lectures to journal clubs to doctoral dissertation proposal defenses. The seminars are based around the cluster's focus and often are co-sponsored with other clusters so as to bring together multidisciplinary research interests.

Chronic Disease Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Friday, September 17, 2010	Cancer Training Program Seminar	—	Studies in complementary and alternative medicine in chronic disease: Part 1
Tuesday, September 28, 2010	Maria Argos, MPH	Project Coordinator and Data Analyst, the Department of Health Studies, the University of Chicago	Dissertation proposal defense: genetic susceptibility to arsenic-induced skin lesion prevalence in Bangladesh
Friday, October 29, 2010	Kathleen Donohue, MD	Family Practice Physician, Rush Family Medicine	Asthma age-of-onset, lung function and airway dimensions on CT Scan*
	Kristin Burkart, MD	Pulmonologist, New York-Presbyterian/Columbia University Medical Center	Associations of candidate genes for cardiovascular disease with lung function*
	R. Graham Barr, MD DrPH	Assistant Professor of Epidemiology, Mailman School of Public Health, Columbia University; Florence Irving Assistant Professor of Medicine, Department of Medicine, College of Physicians and Surgeons, Columbia University	Cardiopulmonary function in a multiethnic cohort* *Ongoing studies in the integrated pulmonary epidemiology program
Friday, November 19, 2010	Edgar Simard, PhD, MPH	Postdoctoral Research Fellow, Department of Epidemiology, Mailman School of Public Health, Columbia University	HIV and chronic disease: Future issues
	Molly McNairy, MD, MSc	Adjunct Investigator, National Cancer Institute Associate Physician, Brigham and Women's Hospital	
	Judith Jacobson, DrPH, MPH, MBA	Associate Professor of Clinical Epidemiology, Mailman School of Public Health, Columbia University	
Friday, December 10, 2010	Julian Abrams, MD, MS	Assistant Professor of Clinical Medicine, Department of Medicine, College of Physicians & Surgeons, Columbia University	Gastrointestinal epidemiology
	Benjamin Lebwohl, MD, MS	Instructor in Clinical Medicine, Deptartment of Medicine, College of Physicians & Surgeons, Columbia University	
	Fay Kastrinos, MD, MPH	Assistant Professor of General Medicine, the Herbert Irving Comprehensive Cancer Center, College of Physicians & Surgeons, Columbia University	

Infectious Disease Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Friday, November 19, 2010	Edgar Simard, PhD, MPH	Postdoctoral Research Fellow, Department of Epidemiology, Mailman School of Public Health, Columbia University	HIV and chronic disease: Future issues
	Molly McNairy, MD, MSc	Adjunct Investigator, National Cancer Institute Associate Physician, Brigham and Women's Hospital	
	Judith Jacobson, DrPH, MPH, MBA	Associate Professor of Clinical Epidemiology, Mailman School of Public Health, Columbia University	
Friday, December 10, 2010	Stéphane Helleringer, PhD	Assistant Professor of Population and Family Health, Heilbrun Department of Population and Family Health, Mailman School of Public Health, Columbia University	Sexual network epidemiology and the spread of HIV: Evidence from Likoma Island, Malawi

Epidemiology Innovation Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Wednesday, September 8, 2010	Veronica Frajzyngier, MPH	Doctoral Student, Department of Epidemiology, Mailman School of Public Health, Columbia University	Dissertation proposal defense: The relationship between complexity of vaginal fistula and fistula repair outcomes
Tuesday, September 28, 2010	Maria Argos, MPH	Project Coordinator and Data Analyst, Department of Health Studies, the University of Chicago	Dissertation proposal defense: genetic susceptibility to arsenic-induced skin lesion prevalence in Bangladesh
Monday, October 25, 2010	Richard Neitzel, PhD, CIH	Department of Environmental and Occupational Health Sciences, University of Washington	Understanding noise exposures and risk of hearing loss associated with mass transit use

Lifecourse Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Tuesday, September 7, 2010	Ezra Susser, MD, DrPH, MPH	Professor of Epidemiology, Department of Epidemiology, Mailman School of Public Health, Columbia University; Professor of Psychiatry, College of Physicians and Surgeons; Co-Director, Statistics and Epidemiology, HIV Center for Clinical and Behavior Studies, New York State Psychiatric Institute	Do folic acid supplements prevent childhood neurodevelopmental disorders?
	Christine Roth	Visiting Scholar, Department of Epidemiology, Mailman School of Public Health; PhD Candidate, Norwegian Institute of Public Health	
Tuesday, October 5, 2010	Anne-Lise Bjørke Monsen, MD, PhD	Physician, Department of Clinical Biochemistry, Haukeland University Hospital	Folate and cobalamin in mothers and their infants
Tuesday, October 26, 2010	Monique Robinson	PhD Candidate, Telethon Institute for Child Health Research, University of Western Australia	Maternal prepregnancy weight and stress exposure: Impact on offspring behavioral development
Tuesday, November 23, 2010	James Curley, PhD	Research Scientist, Champagne Lab in Psychobiology and Neuroscience, Department of Psychology, College of Physicians & Surgeons, Columbia University	Transgenerational inheritance of parental effects in rodents
Friday, December 3, 2010	Richard Steckel, PhD	Professor of Economics, Anthropology, and History, Department of Economics, Ohio State University	Severe childhood deprivation and wealth accumulation: American slaves and post-Emancipation blacks

Psych / Neuro Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Thursday, September 16, 2010	Bruce Dohrenwend, PhD	Professor of Social Science, Department of Psychiatry, College of Physicians & Surgeons, Columbia University; Professor of Epidemiology, Department of Epidemiology, Mailman School of Public Health, Columbia University	The question of the primacy of the stressor in war-related posttraumatic stress disorder: An analysis with data from the National Vietnam veterans readjustment study and military records
Thursday, October 14, 2010	Robert Sapolsky, PhD	Professor of Biology, School of Humanities and Sciences; Professor, Neurology & Neurological Sciences; Professor, Neurosurgery, Stanford School of Medicine	Stress, personality, and health: Studies of wild baboons
Thursday, November 11, 2010	Peter Beresford, PhD	Senior Lecturer of Social Policy, Brunel University	Psychiatric system survivors, the disabled people's movement and solidarity: It should work in practice, but can it work in theory?
Thursday, December 2, 2010	Deborah Hasin, PhD	Professor of Clinical Epidemiology (in Psychiatry), Department of Epidemiology, the Mailman School of Public Health; Department of Psychiatry, College of Physicians and Surgeons, Columbia University	Reformulating the DSM-5 criteria for substance use disorders: Contributions from epidemiology and clinical research

Social Epidemiology Cluster

DATE	SPEAKER	AFFILIATION	TITLE
Thursday, September 9, 2010	—	—	Social epidemiology track/curriculum meeting
Thursday, September 23, 2010	James Morone, PhD	Professor of Political Science and Urban Studies: Political Science at Brown University	The dirty rotten secrets of health reform: History, politics, and the Obama legacy
Thursday, September 30, 2010	—	—	Society and Health Journal club
Thursday, October 14, 2010	Robert Sapolsky, PhD	Professor, Biology School of Humanities and Sciences; Professor, Neurology & Neurological Sciences; Professor, Neurosurgery, Stanford School of Medicine	Stress, personality and health: Studies of wild baboons
Thursday, November 11, 2010	Peter Beresford, PhD	Senior Lecturer of Social Policy, Brunel University	Psychiatric system survivors, the disabled people's movement and solidarity: It should work in practice, but can it work in theory?
Thursday, December 2, 2010	—	—	Society and Health Journal club
Thursday, December 9, 2010	—	—	Social epidemiology track/curriculum meeting: Creating a presence for social determinants and inequalities research at the Mailman School

Epi Socials

The Department sponsored four social events throughout 2010 that honored leaders, cheered graduates, brought together faculty and students, and celebrated the holidays with faculty, students, and staff from across the School.

Contribute to the intellectual discussion on directions in epidemiology

A STRATEGIC PLAN ELEMENT 5

Here we summarize the scientific work and selected highlights of each Department cluster. These projects lead to the contributions our faculty make to the epidemiological literature*. We focus primarily on new projects.

Chronic Disease Epidemiology

Overview: Research in the Chronic Disease Epidemiology cluster addresses the etiology, prevention, distribution, course, and treatment outcomes of chronic health disorders, including cancer, cardiovascular disease, gastrointestinal disease, respiratory disease, and metabolic disorders, such as diabetes and obesity. Faculty members are closely affiliated with other clusters in the Department, bringing lifecourse, social, psych/neuro, and infectious disease epidemiology perspectives to bear on their research, which encompasses molecular genetic factors and their roles in the disease process, disparities in the distribution and treatment of disease, quality of care and health outcomes, and the role of infectious disease in the development of chronic disease. Primary Columbia collaborators include members of the Herbert Irving Comprehensive Cancer Center; the Departments of Medicine, Neurology, Urology, and Psychology; and the School of Dental Medicine.

Selected highlights

- Dr. Mary Beth Terry's research builds upon molecular epidemiologic and lifecourse methods to understand how the timing of environmental exposures affect breast cancer risk. She leads birth cohort studies as well as family- based studies in high risk women to examine the role of genetics, epigenetics, and other biomarkers in modifying and sometimes mediating the effects of environmental exposures. Her latest research focuses on the next generation of young girls in the Metropolitan Breast Cancer Family Registry and in developing and enhancing clinical prediction models of risk for high risk families. Dr. Terry collaborates with clinical geneticists, environmental scientists, molecular biologists, behavioral scientists,, sociologists, oncologists, and biostatisticians to conduct these interdisciplinary studies.

- INVEST is an NIH-funded multi-school and multi-department study housed in Epidemiology, led by Drs. Moïse Desvarieux and Ryan Demmer, with colleagues in the Department of Neurology (P&S) and the College of Dental Medicine at Columbia as well as the University of Miami and the University of Minnesota. The study addresses the role of oral infections in the progression of atherosclerosis in a randomly selected cohort of subjects in Northern Manhattan. This July, INVEST investigators reported that people with a higher level of specific periodontal bacteria were three times more likely to suffer from hypertension than those with lower levels, after multivariable adjustment.

- Dr. Andrew Rundle bridges social and molecular epidemiology to simultaneously consider multiple levels of organization from social/neighborhood forces, to individual levels of behavior and risk factors, and down to molecular and cellular effects. His study of childhood obesity with the Columbia Center for Children's Environmental Health is assessing the effects of environmental exposures to endocrine disruptors on the DNA methylation in genes related to adipocyte development, in conjunction with the effects of neighborhood poverty and disparities in access to retail outlets selling healthy food. The research team includes sociologists, geographers, social worker researchers, molecular biologists, environmental scientists, and pediatricians.

- In 2003, Chronic Disease Epidemiology cluster leader Dr. Al Neugut, and cancer epidemiology investigators Drs. Victor Grann, Dawn Hershman, and Judy Jacobson received U54 funding for an initiative focused on developing cancer research in the Caribbean immigrant communities in Brooklyn and Washington Heights, in partnership with Long Island University. The grant, which is the largest in the nation targeting this population, has enabled us to develop science, build relationships with our unique communities, and nurture collaborations with community-based organizations and community health care providers; all of which will enhance our ability to make a major contribution to research on cancer disparities. One such study, published in Cancer and the British Journal of Haematology, found that women from Barbados/Trinidad-Tobago, Haiti, Jamaica, and US-born black women were more likely than women from the Dominican Republic or European-born whites to have a gene that is associated with low white blood cell count (and consequent increased risk for infection) in response to chemotherapy, which in turn can result in a delay or prevention of the completion of treatment.

- Dr. Heather Greenlee was recently awarded a 2-year R21 from the National Cancer Institute to study an intervention designed to increase fruit/vegetable and decrease dietary fat consumption among Latina breast cancer survivors. This interdisciplinary project involves collaborators from the College of Physicians and Surgeons Division of Hematology/Oncology, Division of Preventive Medicine and Nutrition, Teachers College, the Irving Institute for Clinical and Translational Research, and the NYC community-based organization Cook For Your Life!

- Drs. Al Neugut and Judith Jacobson were awarded a D43 grant from the National Cancer Institute to build a training program that encourages strengthened research into three malignant cancers associated with HIV in South Africa: Kaposi sarcoma (KS), non-Hodgkin lymphoma (NHL), and cervical cancer. Through the grant, the Mailman School of Public Health will collaborate with institutions in South Africa, including the University of KwaZuluNatal, to train a rising generation of scientists to research and deal with the burden of these cancers in the epicenter of the HIV pandemic.

*Faculty publications in 2010 are listed in Appendix 9.

■ Dr. Megan Hall, an Associate Research Scientist, was awarded a K99/R00 grant to receive additional training and do research in Bangladesh on the detoxifi cation of arsenic, a carcinogen linked to several types of cancer and to which 140 million people worldwide are exposed. Working with her mentors, Drs. Al Neugut, Habib Ahsan, and Mary Gamble—a professor of Environmental Health Sciences at Mailman—Dr. Hall is investigating the role of nutrients in arsenic methylation in a population chronically exposed to arsenic through drinking water. Dr. Hall will also be updating existing mathematical models in order to predict the effects of nutritional supplements on the methylation of arsenic.

Epidemiology Innovation

Overview: The Epidemiology Innovation cluster brings together a group of accomplished investigators with a wide range of interests. Among their areas of expertise are the epidemiology of aging, injury and violence, global health, maternal and child health, and systems research, as well as new approaches to data collection and cohort maintenance in low- and middle-income countries. The cluster serves as a seed bed for the germination of innovative ideas and directions, and provides the administrative and intellectual infrastructure needed to support developing research programs.

Selected highlights

■ With the long term goal of promoting better physical and psychosocial functioning of children in South Africa, the primary aim of the ASENZE study is to determine how the ability of children with neuro-developmental disorders to function cognitively and socially is influenced by health related, contextual, and psychosocial factors, including caregiver mental health and substance abuse. The project team has recruited a population-based sample of almost 1600 children and families in KwaZulu-Natal who are about to undergo a follow-up assessment. The study, a collaboration between Columbia and the University of KwaZulu-Natal (UKZN), is led by Epidemiology Innovation cluster leader Dr. Leslie Davidson and subcontract PI Dr. Shuaib Kauchali, who is a senior specialist at UKZN and a doctoral candidate in the Department. The US team also includes Department members Drs. Stephen Arpadi and Zena Stein. The ASENZE study provides training opportunities in both Columbia and the UKZN.

■ Dr. Thelma Mielenz is leading, along with Dr. Tien Dam of the Department of Medicine, an innovative transdisciplinary collaboration with Atria Senior Living Group, an assisted living provider. The primary aim of the study is to promote best-practices in fall prevention in potentially frail older adults. Dr. Mielenz began by selecting a sustainable evidence-based program and training five Doctor of Physical Therapy students to conduct the functional assessments. The investigators are now piloting its use in two Atria assisted living communities. Additional aims include examination of the relationship between participation in a fitness program and fall risk reduction in several Atria communities and description of the characteristics and falls outcomes in residents from a group of assisted living facilities.

■ In association with the Institute for Human Nutrition, Dr. Anne Paxton is conducting a study on "Immigration, assimilation and nutrition: Changes in diet of South Asian and West African recent immigrants to New York City." The goal of the project is to preserve the healthful aspects of the traditional diet, and assist in the adoption of the most healthful aspects of an American diet in recent immigrants to New York City. These two under-researched immigrant groups are at increased risk of obesity and diabetes, yet knowledge on dietary changes in these populations after immigration is limited. This project will inform the development of a baseline survey for a longitudinal study of changes in dietary practices and health of South Asian and West African immigrant families to the United States.

Several initiatives are developing within the cluster and in collaboration with other colleagues in the School and the health sciences. The first is in the area of intentional and unintentional injury and the second is to initiate a study of appropriate measures of disability including the WHO International Classification of Functioning, Disability and Health (ICF):

■ The cluster is undertaking several initiatives within the areas of injury and violence prevention. First, as of fall 2010, the cluster co-sponsors the University Seminar in Injury (led by Drs. Charles DiMaggio and Robyn Gershon). Second, Dr. Joyce Pressley has proposed teaching a course in injury prevention at The Epidemiology and Population Health Summer Institute at Columbia University (EPIC). Dr. Thelma Mielenz has also spearheaded an effort to develop a certificate in Injury Prevention. Dr. Guohua Li is editing a text book on injury research methods and also is a co-editor of the 2011 Epidemiologic Review that focuses on epidemiological approaches to injury control. In Spring 2011, the cluster is leading a cross-departmental conversation with Drs. Barbara Barlow, Magdalena Cerdá, and Lourdes Hernandez Cordero—from the Department of Sociomedical Sciences—in innovative approaches to launching and evaluating community based injury intervention. It is the cluster's intention that the aggregate of these activities will lay the groundwork for future collaborative applications for research and training and build on the current depth and breadth of injury and violence research within the Department. Resonances exist as well with the soon-to-be-published work of Dr. Ernie Drucker on the epidemiology of incarceration.

■ The cluster has decided to launch a working group to explore approaches to measuring disability including the use of the ICF and the ICF for Children and Youth (ICF-CY). We will seek seed funding to develop our skills in this area. The need for such a measure cuts across the work of a number of Epi Innovation faculty and is of interest as well to faculty and students in other clusters.

Social Epidemiology

Overview: The Social Epidemiology cluster is founded on a strong history of research on social factors in health at Columbia, particularly within psychiatric epidemiology. Faculty bring to the cluster traditions of developing and deploying rigorous theory, concepts, study design, and measurement innovation. Work in the cluster builds on its connections with the Robert Wood Johnson Health and Society Scholars Program and the Center for the Study of Social Inequalities and Health. The RWJ program facilitates interdisciplinary collaborations between the biological and social sciences and dramatically increases contacts between researchers at the Mailman School of Public Health and the basic social sciences. The Center for Social Inequalities and Health provides a rigorous intellectual basis for the study of health inequalities. The Center provides support for junior faculty interested in this areas, sponsors speakers and events that highlight the importance of

social inequalities for the production of health inequalities, and keeps members current on critical issues through a lively journal club.

Selected highlights

- The Emerging Health Disparities grant is co-led by Social Epidemiology cluster leader Dr. Bruce Link, working in collaboration with Lifecourse Epidemiology cluster leader Dr. Ezra Susser and other Lifecourse Epidemiology faculty. It brings novel data to bear on the emergence of racial and socioeconomic disparities in health over the life course. Examining the intersection and mutual influence of socioeconomic status, cognitive ability, and health itself, the study brings together a broad interdisciplinary group from across CUMC to assess health outcomes in mental health, lung function, and obesity.

- In the "Expressed emotion and stigma among Chinese-Americans with schizophrenia" study, Dr. Larry Yang examines the specific social and cultural factors that lead to better course of schizophrenia among a high-risk group of Chinese immigrants. He is also applying his expertise in psychosis to a new "high-risk" for psychosis population and examining how stigma unfolds among a group that is at risk for developing psychosis.

- Drs. Bruce Link and Lisa Bates are advancing the development of a New York City population health project in close collaboration with the New York City Department of Health and Mental Hygiene (NYCDOHMH). This project aims to generate new data and integrate existing sources to create a rich resource to investigate urban health and to test the impact of innovative approaches to population health intervention pioneered by the NYCDOHMH.

- Dr. Lisa Bates has received a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) to study "Mental health consequences of the US economic downturn: What do we know and what can be done?" The goal of the grant is to conduct a rapid collaborative assessment of evidence on the mental health impact of economic contractions and to identify opportunities for government interventions.

- Dr. Gina Lovasi was awarded an Active Living Research grant from the Robert Wood Johnson Foundation to conduct a quantitative meta-analysis and meta-regression project on the relationship of the built environment with physical activity and obesity across multiple U.S. sites that will begin in January 2011. The interdisciplinary research team will gather relevant publications and systematically record population characteristics, key methods, effect sizes, and study site data. A novel aspect is that they will use the locations of single and multi-site studies to merge in county-level metrics such as crime rates, car ownership, and urban sprawl that are hypothesized to modify the association between neighborhood built environments and obesity.

Infectious Disease Epidemiology

Overview: The Infectious Disease (ID-EPI) cluster encompasses domestic and global work on the epidemiology of emerging and re-emerging infections, global infectious disease threats, disease surveillance, disease detection, development of vaccines and other prevention methods, clinical trials, and the role of infectious pathogens in the pathogenesis of chronic non-communicable diseases (such as cancer and cardiovascular disease). The focus is broad, ranging from the search for novel pathogens using advanced molecular techniques to longitudinal population-based studies to define transmission dynamics and spectrum of disease and survival. Approaches are employed in an interdisciplinary fashion to define etiology, pathogenesis, transmission, and prevention/treatment potentials. Predoctoral and postdoctoral students are offered the opportunity of support through NIAID-funded T-32 training grant in ID-EPI. ID-EPI seminars on select topics offer faculty and students at MSPH the opportunity to be informed of research findings in key infectious diseases topic areas.

The faculty of two major school-wide centers (see below) are deeply engaged in the academic life of the Department of Epidemiology and make up a sizable portion of the overall Infectious Disease Epidemiology cluster.

Selected highlights

- The Center for AIDS Programme for Research in South Africa (CAPRISA) participates in several of the NIH-funded HIV networks, including the Microbicide Trials Network (MTN), the Prevention Trials Network (HPTN) and HIV Vaccine Trials Network (HVTN). Recently conducted studies by CAPRISA include CAPRISA 004 and the SAPiT studies. CAPRISA 004 demonstrated the effectiveness of tenofovir vaginal gen in the prevention of HIV incidence among women in South Africa. The SAPiT study identified optimal timing to initiate antiretroviral therapy in patients with both tuberculosis and HIV. CAPRISA is directed by Drs. Salim Abdool Karim and Quarraisha Abdool Karim. Both faculty members have longstanding relationships with the Department, including directing the joint Southern Africa Fogarty Training Program.

- PREDICT, a large program funded by the U.S. Agency for International Development's (USAID) Emerging Pandemic Threats Program, aims to develop a global warning system for newly emerging diseases and to anticipate and prevent emerging infectious diseases that move between animals and people in order to prevent the next global pandemic. PREDICT is directed by Dr. Stephen S. Morse. It includes a consortium of organizations led by the School of Veterinary Medicine of the University of California-Davis and will involve global hotspots where important wildlife host species have significant interaction with domestic animals and high-density human populations.

- International Center for AIDS Care and Treatment Programs ICAP, a large school-wide center at MSPH, is a global leader in HIV and related programming, training, and research. Led by Infectious Disease Epidemiology cluster leader Dr. Wafaa El-Sadr, ICAP supports development of innovative programs and health systems in 14 countries in Africa and 3 countries in central Asia through evidence-based interventions and effective rapid scale-up. Working at more than 1,200 health care facilities, it has supported access to HIV services by more than one million people. ICAP enables access to state-of-the-art training, mentorship, laboratory services, monitoring, evaluation methods, and other resources. ICAP's work is centered on the partnerships established with ministries of health, academic, and non-governmental organizations. ICAP is leading efforts to define the intersection between HIV programming and broader health systems strengthening efforts and in the adaptation of lessons learned from HIV scale-up to confronting chronic non-communicable diseases and strengthening maternal-child health. On the research front, ICAP faculty lead efforts in

cutting-edge HIV and TB prevention and therapeutic research focused on the most severely impacted communities in the U.S. and globally. The Center for Infection and Immunity (CII), a school-wide center at MSPH, is led by Dr. Ian Lipkin, and is dedicated to global research and training programs focused on pathogen surveillance and discovery and on understanding how gene-environment-timing interactions contribute to health and disease. In addition to establishing and implementing programs for diagnosis, prevention, and treatment of acute outbreaks of infectious disease, CII scientists investigate chronic diseases in which prenatal or early life exposure to infections or immunotoxins may be implicated, including premature birth, cerebral palsy, autism, AD/HD, obsessive compulsive disorders, schizophrenia, type I diabetes mellitus, and some forms of cancer. CII partners with numerous national and international partners in academia, government, and industry.

Psych / Neuro Epidemiology

Overview: The Psychiatric and Neuro Epidemiology cluster carries out studies that aim to understand the causes, origins, progression, and outcomes of psychiatric disorders. Faculty members are engaged in work that investigates a broad spectrum of determinants ranging from genetic factors to the influence of macrosocial environments. Work in the Psychiatric and Neuro Epidemiology cluster builds on a long collaborative history with the New York State Psychiatric Institute, the Department of Psychiatry, the G. H. Sergievsky Center, and the School of Social Work. Among the faculty are leading scholars in neuro-developmental science, stress and adversity, developmental psychopathology, genetic factors, suicide, trauma, stigma, methodological issues, and mental health services research. Faculty in the cluster work regularly with other clusters in the Department, particularly lifecourse and social epidemiology.

Selected highlights

- The cluster has launched a groundbreaking Global Mental Health Program (GMHP) which aims to catalyze our work and that of our colleagues across the University around mental health research and interventions in lower and middle-income countries. Work in the GMHP is focused on building new research, intervention, and educational opportunities, all to the end of promoting populations' mental health globally. A joint initiative of the Psych /Neuro and Lifecourse clusters, this program engages students and faculty from both CUMC and Morningside campuses with international partners throughout the world. (See GMHP, page 7).

- Also situated within the Psych / Neuro cluster is Columbia's arm of the National Center for Disaster Mental Health Research, under the leadership of Dr. Sandro Galea. This Center is a collaboration of four academic institutions: Columbia, Dartmouth, Yale, and the Medical University of South Carolina. An explicit goal of the Center is to have the resources and infrastructure in place to allow researchers to launch studies quickly after a disaster to identify the mental health consequences of such mass traumatic events. The Center also aims to bring cutting edge methodological approaches to bear and engages cells-to-society etiologic questions, including assessments of genetic, endocrine, and environmental factors in the production of population health after traumatic events. Recent post-disaster assessments related to the Center include research after Hurricane Ike in Texas and research after the recent earthquake in Haiti.

- Dr. Michaeline Bresnahan is engaged in the International Collaboration for Autism Epidemiology (iCARE) project, which unites a multi-national network of disease and birth registries including Denmark, Sweden, Finland, Norway, Australia, and Israel. The project will establish logistic and technical infrastructure for multi-registry autism research including the creation of a virtual data set approach to analysis, establish written guidelines for registry-based research collaboration, and demonstrate the capabilities of the multi-registry approach to elucidate etiologic pathways to autism by thoroughly investigating candidate factors for perinatal adversity in relation to autism, beginning with gestation length and fetal growth. Under Dr. Bresnahan's leadership, Columbia serves as the data coordination site, with primary responsibility for data harmonization.

- Dr. Renee Goodwin and colleagues have been studying the interrelationships among asthma, smoking, and mental disorders, with a focus on an intergenerational perspective. One line of research focuses on a hypothesis that a parallel rise in smoking among women over the past several decades may be one contributing factor to the epidemic of asthma in children (via increased exposure to secondhand smoke). Dr. Goodwin and her co-investigators have found in several studies that despite an overall decline in smoking on a national level, cigarette smoking continues to increase among women, especially younger women of lower socioeconomic status. They are also currently working in collaboration with neuroscience researchers on the Morningside campus and the Genome center to examine potential mechanisms of the relationship between asthma and depression and anxiety, using a combined approach that includes both epidemiologic methods and animal models.

- Psych / Neuro Epidemiology cluster leader Dr. Sandro Galea is also leading several studies concerned with understanding the psychiatric impact of military deployment, particularly in the aftermath of the wars in Iraq and Afghanistan. Dr. Galea and his colleagues have focused principally on mental health among National Guard and reserve soldiers who have been deployed in these conflicts in numbers far exceeding any previous conflict. This work, in collaboration with colleagues across the country, involves a cohort of guard and reservists nationally and a large 10-year cohort of national guard members in Ohio. This project aims to establish the factors across the lifecourse that intersect with military experience to influence the mental health of soldiers.

- Dr. Magdalena Cerdá is joining the Department and the Psych/Neuro cluster this January, coming from the New York Academy of Medicine's Center for Urban Epidemiology Studies, where she has been a researcher. Her body of scholarship highlights one of the cluster's core values: placing mental health as a central public health issue. Her research focuses on violence, drug use, and psychiatric disorders in the U.S. and Latin America, examining how they can be influenced by external factors such as exposure to traumatic events or the public services and infrastructure of a neighborhood. Dr. Cerdá was a Robert Wood Johnson fellow at the University of Michigan. At Columbia, Dr. Cerdá will conduct research with New York City's Department of Transportation, as well as research abroad in Colombia and Brazil.

- Dr. Deborah Hasin was awarded a U01 grant to be PI on a collaborative investigation into the relationship between childhood maltreatment and personality disorders. Dr. Hasin, her co-investigators Drs. Daniel Pilowsky and Melanie Wall, and

postdoctoral fellow Dr. Katherine Keyes are collaborating with Boston University, the University of Minnesota, and University of Missouri, and—in an unusual feature —intramural investigators at the Laboratory of Epidemiology and Biometry at the National Institute on Alcohol Abuse and Alcoholism. They will analyze data from 34,653 participants in the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) to understand the relation between adverse childhood experiences, personality psychopathology, and alcohol disorders.

Lifecourse Epidemiology

Overview: The Lifecourse Epidemiology cluster carries out studies in birth cohorts across the globe, with the aim of deepening our understanding of the origins and unfolding of health and disease over the lifecourse. Virtually all of the work in the cluster involves interdisciplinary collaborations with faculty in Epidemiology and across CUMC. Primary collaborators include the Imprints Center for Genetic and Lifecourse Studies, the Institute of Human Nutrition (College of Physicians and Surgeons, Columbia University), and the Division of Developmental Neuroscience (New York State Psychiatric Institute).

Selected highlights

- Studies of the Dutch Hunger Winter have a long and storied history in our Department, including the original work led by Drs. Zena Stein and Mervyn Susser, and the studies of prenatal famine and schizophrenia led by Dr. Ezra Susser. Since his recruitment back to this Department about ten years ago, Dr. Bertie Lumey has initiated and led a groundbreaking population-based follow-up study of persons exposed and unexposed to the Dutch Hunger Winter. One of the intriguing results of recent years was the finding of epigenetic effects related to periconceptional exposures. Dr. Lumey is working with Drs. Mary Beth Terry, Ezra Susser, and many other investigators across the medical center (and in Holland) to pursue these epigenetic findings.

- Dr. Ronald Wapner of Ob/Gyn plays a central role in a series of multisite pregnancy cohort studies funded by NICHD. He has generously offered to collaborate with Epidemiology investigators to use these remarkable cohorts as a base for further studies of early determinants of health and disease over the early life course. Dr. Pam Factor-Litvak has been particularly involved in these collaborations. An exciting initiative currently under development is led by Drs. Ezra Susser and Pam Factor-Litvak, in collaboration with Dr. Abraham Aviv at UMDNJ. The proposal will focus on the determinants of telomere length at birth. Its significance lies in the fact that leukocyte telomere length is related to cardiovascular (and probably other) diseases, and to longevity, yet only recently was it recognized that individuals vary widely in leukocyte telomere length at birth, and therefore, prenatal influences on leukocyte telomere length may have important implications for health and disease across the entire life course.

- The results of the core Early Determinants of Adult Health or "EDAH" (PI Dr. Ezra Susser) program project (and selected related studies) will be published as a special issue of the Journal of Developmental Origins of Health and Disease. This will include papers on early origins of neuropsychiatric disorders, mammographic density, male fertility, and anthropometry including obesity. A large series of studies has been built over 20 years in collaboration with the leaders of Child Health and Development Study in Oakland, California, and the New England Collaborative Perinatal Cohort Study. These two relatively similar studies began as pregnancy/birth studies in 1959-1966 and have been used in a broad array of follow-ups over the past two decades. Life Course Cluster faculty Drs. Ezra Susser, Jennie Kline, and Pam Factor-Litvak, among others, have been addressing the prenatal and early life origins of schizophrenia and other neurodevelopmental outcomes in these groups for many years. The EDAH program project brought together the two cohorts in a multisite study focused on sibling pairs and on neuropsychiatric, breast cancer, and cardiovascular risk outcomes. Under the umbrella of EDAH, investigators in our Department subsequently developed numerous independent grants, including large and ongoing studies of prenatal endocrine disruptors and effects on male fertility and reproduction (Dr. Factor-Litvak), and of early origins of mammographic density (Dr. Mary Beth Terry). They also include a study of how health disparities emerge over the lifecourse co-led by Dr. Bruce Link and Dr. Susser. New initiatives are still emerging, one of which is an especially innovative proposal by Dr. Kline to study early influences on menopause in the New England cohort.

Formalize and sustain a system of mentoring of junior faculty

B STRATEGIC PLAN ELEMENT 6

The Department has a long tradition of mentoring junior faculty to maximize their opportunities for success. Building on our commitment to this goal we have developed a more structured mentoring system that capitalizes on past strengths and on the current school-wide momentum toward improving mentoring throughout Mailman.

1. Each junior faculty member (assistant professor, un-tenured associate professor on tenure track, or other junior faculty who requests participation in the program) has been assigned a formal scientific mentor. Mentors are assigned by the Chair's office, in consultation with both potential mentor and mentee. In general, the mentor is from within the mentee's same cluster.
2. Upon assignment, Dr. Friedewald, in his capacity as Vice Chair, generally meets with both mentee and mentor to review expectations of mentoring using as a template the new mentoring guidelines issued by the Dean's office.
3. The mentor and mentee are encouraged to meet monthly to review the mentee's progress.
4. Dr. Friedewald also meets with individual mentees regularly. Dr. Friedewald's role is to supplement the scientific mentor's role, to serve as a general ombudsman as needed, to address cross-cutting issues that may be of interest to all of the junior faculty, and to continue to interact with the Dean's Office and the other Departments.
5. Drs. Friedewald and Galea meet regularly to review all junior faculty and to discuss changes if needed.
6. Annual reviews of all faculty are conducted through a more formalized faculty evalulation system (see Strategic Plan Element #8).
7. Dr. Galea meets with all junior faculty at least annually to discuss the review and is available to meet with all junior faculty as needed throughout the year.

Develop and administer a junior faculty grant review mechanism

B STRATEGIC PLAN ELEMENT 7

In 2010, the Department implemented a system that allows junior faculty access to senior faculty for guidance and feedback on grant writing. The Junior Faculty Grant Review (JFGR) program does not supplant ongoing mentoring relationships between junior faculty and their official mentor or between junior faculty and disciplinary-specific colleagues with whom they are working on projects. Instead, it provides an opportunity for informal but structured feedback on evolving grant proposals. It additionally supplements other resources that are available to help junior faculty with grant submission, including the MSPH R^2 initiative and the ongoing CUMC CTSA grant writing workshops.

The JFGR program pairs junior faculty with senior faculty for reviews on all stages of grant proposals. The program works as follows:

1. Each year, two senior faculty members serve as faculty reviewers. These senior faculty are fully committed and engaged in the program. Drs. Mary Beth Terry and Neil Schluger served as JFGR reviewers for 2010. Both have an extensive track record of grant funding and mentoring and are well suited to advising junior faculty on grant submissions.
2. Junior faculty (assistant professor, un-tenured associate professor on tenure track, or other junior faculty who request participation in the program) who are writing grant proposals email Ms. Erin Gilbert , Department Special Projects Coordinator, about their project. Ms. Gilbert matches the faculty member with one of the grant reviewers based on workload and timing.
3. The program is available to junior faculty working on an R-submission or its equivalent. K-awards may be eligible for review on a case-by-case basis. Junior faculty submitting such awards are also strongly encouraged to seek advice from their official mentors.
4. After reviewing the grant proposal, senior faculty reviewers return comments, by email and/or in person within two weeks. The junior faculty mentee can email back comments or questions or ask to meet with the senior faculty mentor for additional feedback. Meetings are held within two weeks from when they are requested.
5. To ensure that the program is viable and provides time for suitable feedback, participants follow this timeline:
    a. Specific Aims should be sent for review at least 3 months before planned submission of the grant proposal.
    b. If a junior faculty member wants to request comments on a proposed budget for the grant, the budget needs to be reviewed by senior faculty at least 2 months before submission.
    c. A full draft of the proposal should be reviewed at least six weeks before submission.
6. Although the reviewers make efforts to accommodate requests on a shorter timeline, they are under no obligation to do so.
7. The two JFGR senior faculty members stay in contact with one another and make sure that at least one of them is available at any given time to offer proposal comments within the proscribed timeframe.
8. The JFGR senior faculty reviewers keep a record of all review interactions to facilitate program review.
9. The JFGR program is reviewed annually and improved as needed.

Introduce and conduct annual faculty reviews

Beginning in 2010, the Department of Epidemiology is conducting an annual review of every faculty member appointed in the Department.

The annual review serves four important purposes. First, as a key component of our faculty development efforts, it provides a clear picture of individual faculty achievements over the past year and also help to identify areas that need improvement. Second, it enables the Chair to evaluate the Department's overall strengths and weaknesses. Third, given the large number of jointly appointed faculty between our Department and others, it helps the Chair understand each faculty member's engagement in the Department and identify new directions and synergies. Fourth, it provides faculty members with an opportunity to step back and reflect on their accomplishments over the last year.

For full-time faculty, the review also helps us determine salaries for the next academic year. For junior faculty, we also use this review to get a picture of all important promotion milestones, and for joint, adjunct, and part time faculty, it helps us to assess the nature of their scholarly contributions and, where appropriate, make recommendations for changes that may better serve the interests of the faculty member and the Department.

The elements submitted for the annual evaluation are simple: a current CV in Committee on Appointments and Promotions (COAP) format together with any teaching evaluations for the past year. Faculty are welcome, but not required, to include a brief (one page maximum) memorandum addressed to the Chair as a narrative accompaniment. CVs are submitted in MS Word format and adhere closely to the attached COAP format guidelines. Elements on the CV that are new in 2010 such as grants awarded, papers published, courses taught, and students assigned are highlighted in yellow. CVs include full information about student mentoring, thesis advising, and dissertation committee service.

For full-time faculty whose administrative home is Epidemiology, the evaluation also includes a quantitative component that is used to determine salary increases. Faculty members are assigned a score from 1 – 10 for each of the three categories. In most cases, research carries the most weight, although special consideration is given for faculty members whose primary role is other than research. The summary score aims to reflect overall academic performance for the year, taking into consideration both quantitative information such as the number of publications and course-evaluation scores, and qualitative information such as the quality or impact of research and service work and guidance provided to our students. The summary score is then used to translate into absolute (not proportional) salary increases. Thus any two faculty who receive the same score and have not recently been promoted will typically receive the same absolute increase in their annual salaries.

The primary purpose of this review is to assess how we are doing as a department and as individuals, and then respond accordingly to maximize our performance. As such, the Department Chair and Vice Chair work with interested faculty members to develop a plan to address areas identified as in need of improvement.

Articulate promotion procedures and benchmarks

The Chair's Office, working with the Epidemiology Committee on Appointments and Promotions (COAP), developed and presented a comprehensive internal guide to faculty appointments and promotions, including clear criteria for appointment and promotion, policies, and procedures.

Epidemiology is the first and only department or school in the University to publish a clear set of guidelines for appointments and promotions. These guidelines were developed with the Epidemiology COAP in response to faculty requests for transparency and consistency in the appointment and promotions process. Faculty will also benefit from detailed step by step instructions for moving through the process.

These guidelines generally represent the minimal level of achievement expected before a faculty member will be considered for promotion. The intention in presenting them is to help faculty in considering their own trajectory and achievements against a set of commonly understood expectations. However, achievement of these markers does not in any way guarantee that a faculty member will be proposed for promotion, nor that promotion will be granted by the relevant committees. In evaluating any candidate for potential promotion, the Department Chair, and relevant committees (departmental COAP, school-wide COAP, CUMC COAP, and University-wide ad hoc) will use their discretion, considering the candidates' track record broadly and her/his promise as a scholar. For example, it is possible that a candidate with fewer publications than listed, but with a small number of groundbreaking publications, would be viewed very favorably for promotion. Similarly, the slope of the H-index, m, can be considered as a marker of promise, separately from the absolute H-index.

These guidelines do not reflect the official policies of the Mailman School, the Columbia University Medical Center, or Columbia University at large.

The complete Department of Epidemiology Internal Guide to Appointments and Promotions is appended (Appendix 2).

Engage Department senior faculty and Columbia leaders in Department stewardship

B STRATEGIC PLAN ELEMENT 10

In addition to ongoing informal outreach from the Chair's office to senior faculty and Columbia leaders, we have instituted two faculty committees that meet regularly to advise on and engage in the Department's progress.

Chair's Leadership Group (CLG)

The CLG is an advisory committee to the Chair that meets monthly, serving to link the Chair's office to departmental functions and to advise the Chair on issues that arise. Membership includes each of the other standing committee chairs, the leaders of departmental clusters, and the Vice Chair.

Department Advisory Committee (DAG)

The DAG is a complement to a Chair's Leadership Group. It comprises senior faculty from around the University who meet with the Department Chair and Vice Chair to exchange information and to consider how the Department of Epidemiology can be better useful to work taking place in the School, CUMC, and the University at large. Members of this group also provide advice informally between meetings.

The membership of the DAG, CLG, and other Department committees is appended (Appendix 3).

Renew the Epidemiology doctoral curriculum

Over the past several months, the Doctoral and Curriculum Committees have worked closely with the Chair's office to develop an updated PhD program, to be implemented in the fall of 2011. A new epidemiology training sequence has been designed to provide a coherent framework for the course offerings, aligned with the Department Strategic Plan, streamlined, and with more flexibility for students.

Courses are now are organized in terms of core methods courses [which have been enhanced], core skills courses, and substantive courses. While the number of required courses has been reduced, some new course offerings will now be required. The new doctoral sequence provides foundational strength in the biologic and social determinants of population health and in innovative methodologic approaches applied to all our areas of strength.

Doctoral Required Courses, Fall 2011

Core Methods Sequence

P6400	Epi I: Principles of Epidemiology M
P8438	Epi II: Design and Conduct of Observational Epidemiology M
P8400	Epi III: Applied Epidemiologic Analysis M
P9400	Epi IV: Critical Thinking in Epidemiology
P9485	Epi V: Concepts in Causal Inference
TBA	Epi VI: Advanced Topics in Epidemiologic Methods

Core Skills Sequence

P8483	Applications of Epidemiologic Research Methods I M
TBA	Applications of Epidemiologic Research Methods II
TBA	Publications, Presentations, and Grants
TBA	History of Epidemiology
TBA	Biology and Physiology for Epidemiologists

M Master's level course

Course descriptions are in Appendix 4.
Department doctoral graduates 2000–2010 are cited in Appendix 5.

Increase departmental Training grants consistent with Department direction

C STRATEGIC PLAN ELEMENT 12

Doctoral and postdoctoral training programs led by Epidemiology faculty address a diverse range of health domains, among them psychiatric epidemiology, cancer, HIV/AIDS and other infectious diseases, and neurodevelopmental disorders.

Two new training programs were launched in 2010: one has been funded, and one we expect to be funded shortly. These two are described below. A complete listing of training programs in the Department is appended (Appendix 6).

Columbia-South Africa Training Program for Research on HIV-Associated Malignancies

Director: Alfred I. Neugut, MD, PhD, Myron M. Studner Professor of Cancer Research (in Medicine) and Professor of Epidemiology

Building on the longstanding success of two of our existing training programs, the Fogarty AIDS International Training and Research Program (active for 16 years) and the T32 and R25 grants that make up the Epidemiology Cancer Training Program (active for 25 and 7 years respectively) the Department of Epidemiology has been awarded a new NIH-funded training program designed to build research capacity on HIV-related malignancies in resource limited settings. In sub-Saharan Africa, Kaposi sarcoma, non-Hodgkin lymphoma, and cervical cancer incidence and mortality rates have risen dramatically as the HIV/AIDS epidemic has evolved. Access to anti-retroviral therapy and survival with AIDS are improving, but HIV-related malignancies are an increasingly urgent public health problem for men, women, and children in South Africa. In collaboration with our South Africa partners, CAPRISA and the University of KwaZulu-Natal, the program will train medical professionals and researchers in South Africa to conduct research at the intersection of HIV and cancer.

Interdisciplinary Training in Nutritional and Population Health Sciences

Co-Directors: Ezra Susser, MD, DrPH, Professor of Epidemiology and Psychiatry; Richard Deckelbaum, MD, Professor of Nutrition, Pediatrics, and Epidemiology

Drs. Ezra Susser and Pam Factor-Litvak, along with Drs. Debra Wolgemuth and Richard Deckelbaum at the Institute of Human Nutrition (IHN) recently applied for T-32 funding for a new interdisciplinary training program with a focus on basic research in nutritional and metabolic biology in the IHN, and population health science in EPI. In November, 2011, the application received a review score well within the range that is usually funded (funding cannot be guaranteed until the NIH has a budget for the new fiscal year and the Institute determines its grants awards). This type of training program is a direct response to the need to advance and participate in interdisciplinary training in order to better align education and research opportunities with contemporary scientific practice. Members of the Lifecourse Cluster, the Imprints Center, IHN, and faculty from the Division of Developmental Neuroscience (New York State Psychiatric Institute) have a long history of collaboration and thus were in a strong position to submit such a proposal. A major stated theme of the proposal is to "train investigators with translational skills applicable to defining the effects of nutrients and nutrition early in the lifecycle on health outcomes later in life." From the Epidemiology Lifecourse Cluster, Drs. Susser and Factor-Litvak are on the Steering Committee, and Drs. Jennie Kline and LH Lumey are Faculty Mentors.

Planned for 2011

Establish clear faculty teaching expectations and reward faculty teaching

STRATEGIC PLAN ELEMENT

13

Clarify and improve opportunities for student support

STRATEGIC PLAN ELEMENT

14

Communicate our value proposition to candidates to recruit high priority students

STRATEGIC PLAN ELEMENT

15

Communicate clearly and consistently, internally and externally

The Department of Epidemiology has taken substantial steps in 2010 to promote clear, consistent communication within the Department, to the Columbia University Medical Center campus, and to the wider epidemiology community.

Effective communication about the work of our faculty, new initiatives, and administrative infrastructure is central to our goals of increasing collaborative efforts and improving the Department's internal operations. Over the past year, the Department has increased the number of faculty meetings and undertaken new communications efforts in the form of a weekly summary from the Department Chair and a regular newsletter.

Faculty Meetings

In 2010 the Department increased the frequency of our faculty meetings, from quarterly to monthly. These meetings are structured, with presentations about the strategic plan, new initiatives, policy updates and opportunity for discussion and feedback.

DATE	TOPIC
Friday January 15, 2010	Meet the new Department Chair
Friday February 19, 2010	Department finances
Friday March 12, 2010	Department vision and strategic direction
Friday April 23, 2010	Achieving the Department's Strategic Vision
Friday, May 14, 2010	Master's Committee
Friday, June 11, 2010	Clusters/Junior Faculty Grant Review
Friday, July 16, 2010	Doctoral Committee
Friday, September 17, 2010	School-wide curriculum
Friday, October 15, 2010	Innovation in epidemiology
Friday, November 19, 2010	Faculty development
Friday, December 17, 2010	MS in epidemiology

Week N Summary

Every Sunday the Department Chair sends an email summarizing the past week and noting events and deadlines coming in the week ahead. These communications keep faculty and staff informed about the many events and initiatives the Department is involved in, building on our larger goal of encouraging collaboration. It also consolidates to once per week all necessary department-wide communications from the Chair.

Newsletters

In 2010 the Department began publishing a regular newsletter describing information about the work of our faculty, staff, and students, as well as useful information about our educational, service and administrative functions. The newsletter also serves as a platform for communicating our Strategic Plan broadly. With the work of a professional graphic designer, the newsletter's cutting edge appearance is a fitting aesthetic for communicating the many ways our Department is at the forefront of innovation in the field of epidemiology.

Maximize efficiency of Chair's office operations

The Chair's office has improved its functioning significantly over the course of the year through a focus on transparency, clarification of responsibilities, and collaboration.

Three senior administrators are responsible for 1) grants and finance, 2) academic programs, and 3) human resources, faculty affairs, and communications. Each has her own team but meets regularly and works together with the other two to meet shared departmental aims as defined on the Strategic Plan. Four Senior Cluster Administrators (SCAs) are also closely integrated in the central administration, resulting in streamlined processes, shared skills, and mutual support.

The three senior administrators are:

Administrative Director
Barbara Aaron

Associate Director for Academic Programs
Liliane Zaretsky

Department Administrator
Kathleen Dodd

The four SCAs are:

Chronic Disease Epidemiology
Erica Peña

Epidemiology Innovation and Social Epidemiology
Emily Milligan Alexandrino

Infectious Disease Epidemiology and Lifecourse Epidemiology
Christina McCarthy

Psych/Neuro Epidemiology
Neil Rhodes

Optimize departmental grants management and administrative functions

D STRATEGIC PLAN ELEMENT 18

Cluster Structure

In July of 2010 the Department launched its new cluster configuration. The clusters are designed to serve as catalysts for scientific innovation by creating a structure for formal interaction among our faculty and trainees at all levels (post and pre doctoral).

We aspire to 5 key areas of scientific strength, with potential to develop more over time. To accomplish this, we have organized the Department into 6 clusters that encompass both our extant areas of strength and areas that may grow over time:

1. Chronic disease epidemiology
2. Epidemiology innovation
3. Infectious disease epidemiology
4. Lifecourse epidemiology
5. Psych/Neuro epidemiology
6. Social epidemiology

The clusters are designed as intellectual hubs that bring faculty together to develop innovative projects and programs. Each cluster is led by a senior faculty member with a history and interest in building the Department's intellectual capital around their particular area. Cluster leaders are responsible for (a) catalyzing the Department's work around their particular area, (b) nurturing junior scholars including faculty and students who are part of the cluster, (c) working with the cluster administrator on organizing a monthly cluster seminar (during the academic year) that promotes intellectual discussion around the cluster topic in the Department, (d) participating in the monthly meetings of the Chair's Leadership Group and advising the Chair on issues relevant to the development of the Department's work in areas relevant to their cluster.

This cluster structure provides the opportunity for the growth of new clusters. The Epidemiology innovation cluster is explicitly designated to include areas in which we are not yet sufficiently strong enough to bud off into a full cluster but which will encourage faculty participation and creativity with the aim of developing fully fledged areas of scientific strength that can stand on their own.

One of the central intentions of the cluster structure is to engage trainees at all levels. Predoctoral and postdoctoral trainees will find a natural home within one of the clusters, and master's students are encouraged to identify a cluster home and attend cluster functions.

The clusters also serve as administrative nodes in the Department, with each cluster leader working closely with a Senior Cluster Administrator (SCA) who is responsible for the smooth administrative functioning of the cluster, organization of monthly cluster seminars, and pre- and post-award management. The SCA works closely with the Department Administrator and the individual faculty to optimize our departmental operations ranging from research, education, and service programs in the Department.

SCAs are responsible for (a) in conjunction with relevant faculty, supervision of administrative staff working within the cluster, (b) working with the cluster leader on organizing a monthly cluster seminar during the academic year, (c) working with cluster faculty on grant submission and with faculty and the Department Administrator on post-award management, (d) working with the Department Administrator and the Chair's office on overall department management.

We have also streamlined the pre-, peri- and post-grant award processes, with the SCAs now interacting directly with the Sponsored Projects Administration in order to streamline all financial transactions for each cluster, for a speedier and more efficient grant submission process.

To support our strategic vision, the Department of Epidemiology carried out a rigorous selection process to assemble a team of highly-skilled staff that is responsible for performing critical administrative, communications, and human resources work. Our team draws top professionals from across the University and from outside of the school.

Skill Building

To encourage the growth of our staff, we are holding monthly meetings among the SCAs and quarterly meetings with "all staff" to develop and exchange skills that advance the highest standards of administrative support.

And in order to communicate our streamlined structure, we developed a comprehensive Guide to Administration that provides clear policy and procedure around the most critical functions of the Department (Appendix 7). We have also developed a visual snapshot of the life cycle of a typical grant as a tool to establish a yearly calendar of critical milestones for both faculty and administrators (Appendix 8).

Year-end statistics on grants

2010 was another strong year for the Department of Epidemiology. Our success is best summed up by the numbers:

159	Grants submitted, ranking Epidemiology first of all departments in the Mailman School for number of grants submitted in fiscal year 2009-2010
95	Actively funded public and private projects in the Department with $15.2 million in funding (The total lifetime worth of current grants is $75 million)
$17 Million	Amount in funding for fiscal year 2010-2011 thus far

Appendices

1. Faculty Advertisement
2. Department of Epidemiology Internal Guide to Appointments and Promotions
3. 2010-2011 Committee Membership
4. Doctoral Course Descriptions
5. Doctoral Graduates 2000-2010
6. Training Grants
7. Guide to Administration
8. Grant Life Cycle
9. Faculty Publications July 1 – December 10, 2010