

Sociology 126
Health of the Public:
Medicine and Disease in Social Context

Tuesday, Thursday 2:30–3:45 p.m.

Spring Term 2015

Location: SSS 114

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office hours: Thursday, 4:00–6:00 p.m., or by appointment, in Room 303, 17 Hillhouse Ave.

Course Websites:

<http://www.nicholaschristakis.net/pages/teaching/faq.html> and at CV2

A collection of links to many readings and other relevant articles is at j.mp/socy126

Course Description:

This course examines the social causes and context of illness, death, longevity, and health care in the USA today. Who stays healthy and who falls ill? Who has a long life and who has a short one? What is a good death and why do so few Americans achieve it? What is good medical care, who gets it, and why? What role do physicians play in producing health in our society? To what extent do factors outside individuals' control (factors such as genetics, geography, social networks, parental traits, or hospital quality) influence health and health care? Does socioeconomic inequality in society harm individual health? Do certain kinds of social networks or neighborhoods improve health? How do social factors get under our skin and literally become embodied? What are the collective constraints on individuals' life prospects? What is the difference between an individualistic and a public health-oriented perspective on illness? And what issues of ethics and justice are raised by such questions? Would a different organization of society, different public expenditures, or different public policies matter?

While exploring these questions, we will also consider how social scientists, biologists, epidemiologists, public health experts, and doctors address them—how they use theory to understand them and how they make “causal inferences” based on observational or experimental data. However, students are not expected to have in-depth knowledge of social science methods or statistics. The readings span the medical, public health, and social science literatures, and they reflect both qualitative and quantitative approaches. They also introduce new areas of “biosocial science” and techniques of “big data” as applied to health. In many ways, this course serves as an introduction to the field of public health.

Course Requirements:

- section attendance and participation (10%)
- in-class mid-term exam (non-cumulative) on February 12 (25%)
- in-class mid-term exam (non-cumulative) on April 7 (25%)
- take-home final exam (cumulative) (40%)

Please check the above mid-term dates now, at the time you enroll in the class, to make sure you have nothing that you can, as of now, anticipate will conflict with these exam dates (such as known sporting obligations, thesis deadlines, sibling graduations, etc.).

Each mid-term exam will have five short-answer questions (all past exams are online). There will be some choice. They will be administered on the above dates.

The final exam will consist of 2–3 essay questions, for a total of roughly 12–14 pages. There will be some choice, but all the questions will require in-depth engagement with the major themes of the whole course. All past exams are online. The exam will be distributed no later than Thursday, April 23 and will be due a week later. We will be asking you to submit both a hard copy of the exam and also to upload it to the “Assignments” section of the course site on Classes*v2 (instructions will be provided). Because various electronic checks will be performed on the submitted exams, please be sure that all your work is your own and that you cite sources appropriately. Please do not cut and paste text (from any source) without attribution, as this can lead to a lot of unhappiness.

We expect that all written work you do in this class will be your own, and that you will not cheat in any way. It’s really depressing for all involved when this happens; it is especially embarrassing for the student; and it results in a very bad grade.

If you feel any exam has been graded in error, please discuss this with your TF or the head TF first, and please review the exam re-grading policy on the course website.

Course FAQ:

Answers to a selection of common questions is below, but many more are addressed at: <http://nicholaschristakis.net/pages/teaching/faq.html>. Please check the FAQ before emailing us.

- Sociology 126 also counts as Global Health 140.
- There are no prerequisites.
- We allow the use of laptops in class to take notes. But please do not use your laptops to do unserious things that might distract those around you: it’s disrespectful.
- Office hours are often attended by many students, and are generally seen as fun. Show up!
- *Graduate students* taking SOCY 126 for credit should see the instructor in order to arrange different requirements.

Collaboration:

Discussion and the exchange of ideas are essential to academic work. However, you should ensure that any written work you submit for evaluation is the result of your own research and writing, and that it reflects your own approach to the topic. You must also properly cite any books, articles, websites, lectures, etc., that have helped you with your work (we do not care what citation format you follow, so long as you follow one). In particular, students should be aware that collaboration on the take-home final exam is not permitted.

Sections:

Sections will meet from the third week of class, beginning Monday, January 26. To assign section times, we are using the online section preference selection tool available to you via OCS. Please rank three potential time slots for sections in order of your preference. You may change your preferences during the preregistration period, which closes at 12pm on Thursday, January 15. Places will be assigned on the basis of a computerized random selection at the end of this period. Notice of section assignments will be available on Friday, January 16. There are many time slots to choose from, and we will work hard to find you a section time that you can make.

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Sara Bastomski – sara.bastomski@yale.edu

Others wonderful TF's to be named....

Books and Readings:

Books are available for purchase at the Yale Coop. Readings from books and articles average about 60 pages per session (range 15–200), or 120 pages per week. Given very low demand in prior years, there is no course packet available for purchase. Readings are available online in the “Resources” section of Classes*v2, and also linked via the syllabus for you to print out. The books are also on 24-hour reserve at Bass Library.

Christakis, N.A. and Fowler J.H. *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. New York: Little Brown, 2009.

Harris, J. *Enhancing Evolution: The Ethical Case for Making Better People*. Princeton: Princeton University Press, 2007.

Illich, I. *Limits to Medicine: Medical Nemesis, The Expropriation of Health*. New York, NY: London: Marion Boyars Publishers, 1999 [1976].

Martin, E. *The Woman in the Body: A Cultural Analysis of Reproduction*. Boston: Beacon Press, 2001 [1987].

Marmot, M. *The Status Syndrome: How Social Standing Affects Our Health and Longevity*. New York: Holt, 2005.

Thaler R.H. and Sunstein C.R. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven, CT: Yale University Press, 2008.

January 13 (Tuesday)

I. Course Introduction

We will briefly review the burden of illness and death in the USA, touching on the costs, family effects, and implications for people's well-being. We will also review the leading causes of death and how they vary by certain socio-demographic attributes. We will note geographic variation in illness and mortality and also the relevance of circumstances of birth (including diverse *in utero* exposures, birthweight, birth order, parental occupation, etc.) to lifelong health. In short, we will introduce the basic biosocial facts to be explored in the course. And we will introduce the tension between individualistic and collective perspectives on medical care. We will in particular consider the case of suicide and the extent to which it reflects individual decision-making or collective constraints.

January 15 (Thursday) and January 20 (Tuesday) **What Medical Care Has and Has Not Achieved**

What are the benefits of medical care? How much do doctors actually help people? What are the relative roles of curative and preventative maneuvers in the health of the public? On the population level, what have been the benefits of "big medicine"? We will consider how the nature of illness and death has changed over the last century in the U.S., as part of the "health transition." And we will introduce some ways of defining and measuring health other than mortality, including morbidity, physical functioning, quality of life, and "utility." We will also begin to consider the major determinants of health at the population level.

II. Session 1: The Health Transition (January 15)

Cutler D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004, Chapter 1 (pp. 1–9).

Fries, JF. Measuring and Monitoring Success in Compressing Morbidity. *Annals of Internal Medicine* 2003; 139(5): 455-459.

Omran AR. The Epidemiologic Transition: A Theory of the Epidemiology of Population Change. *Milbank Memorial Fund Quarterly* 1971; 29: 509–538. [Please just read the partial extract and extension reprinted in the *Bulletin of the World Health Organization* 2001; 79(2): 161–170.

III. Session 2: The Role of Medical Care (January 20)

Cutler D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004, Chapter 5 (pp. 47–60).

Cunningham SA, Mitchell K, Narayan KMV, and Yusuf, S. Doctors' Strikes and Mortality: A Review. *Social Science and Medicine* 2008; 67(11): 1784–1788.

Bailar JC and Gornik HL. Cancer Undefeated. *New England Journal of Medicine* 1997; 336(22): 1569–1574. [Along with commentaries, retorts, rejoinders, and ripostes in *New England Journal of Medicine* 1997; 337: 935–938.]

Kramer BS and Klausner RD. Grappling with Cancer—Defeatism versus the Reality of Progress. *New England Journal of Medicine* 1997; 337(13): 931–934.

Preston S. American Longevity: Past, Present, and Future. Distinguished Lecturer in Aging Series, Center for Economic Policy, Syracuse University Policy Brief 7, 1996 (pp. 1–18).

January 22 (Thursday) and January 27 (Tuesday)
The Social Distribution of Illness

We will examine how disease and survival are distributed by basic socioeconomic variables. What is the role of sex, race, ethnicity, education, income, marital status, and other social variables in patient preferences, patient risks, patient care, and health outcomes? What are the methodological challenges of demonstrating and interpreting differences and inequalities in health outcomes and care? How do we distinguish the problem of unequal outcomes from that of unequal treatment, and what is the ethical implication of this difference?

IV. Session 1: Socioeconomic Status and Health (January 22)

Goldman DP, Smith JP. Can Patient Self-Management Help Explain the SES Health Gradient? *PNAS: Proceedings of the National Academy of Science* 2002; 99: 10929–10934.

Link BG and Phelan J. Social Conditions as Fundamental Causes of Disease. *Journal of Health and Social Behavior* 1995 (Extra Issue): 80–94.

Pickett KE, and Lauderdale DS. Widening Social Inequalities in Risk for Sudden Infant Death Syndrome. *American Journal of Public Health* 2005; 95: 1976–1981.

Smith JP. Healthy Bodies and Thick Wallets: The Dual Relation Between Health and Economic Status. *Journal of Economic Perspectives* 1999; 13: 145–166.

Deaton A. Policy Implications of the Gradient of Health and Wealth. *Health Affairs* 2002; 21(2): 13-30.

V. Session 2: Unequal Treatment or Unequal Outcomes with Respect to Race and Ethnicity (January 27)

Baicker K, Chandra A, Skinner JS, Wennberg JE. Who You Are and Where You Live: How Race and Geography Affect the Treatment of Medicare Beneficiaries. *Health Affairs*, “web exclusive” doi: 10.1377/hlthaff.var.33 (pp. 33–44).

Blackhall LJ, Murphy ST, Frank G, Michel V, and Azen S. Ethnicity and Attitudes Toward Patient Autonomy. *JAMA* 1995; 274: 820–825.

Lauderdale D. Birth Outcomes for Arabic-Named Women in California Before and After September 11. *Demography* 2006; 43: 185–201.

January 29 (Thursday)

VI. The Social Construction of Illness and Medicine

How are the seemingly objective, natural or scientific concepts of “body,” “illness,” or “treatment” influenced and determined by social phenomena and the medical system itself? How does the way people come to view the world have concrete and measurable effects on their health? How do people cognitively construct medically relevant concepts, such as diagnostic categories, and how do these constructions in turn influence medical care and human experience?

We will consider diverse examples, ranging from childbirth to plastic surgery to mental illness to cardiac care.

Martin, E. *The Woman in the Body: A Cultural Analysis of Reproduction*. Boston: Beacon Press, 1987, pp. 27–67.

Ecker JL and Frigoletto FD. Cesarean Delivery and the Risk-Benefit Calculus. *New England Journal of Medicine* 2007; 356: 885–888.

Jaarsma P and Welin S. Autism as a Natural Human Variation: Reflections on the Claims of the Neurodiversity Movement. *Health Care Analysis* 2012; 20: 20–30.

Sharpe K. The Smart Pill Oversell. *Nature* 2014; 506: 146-148

February 3 (Tuesday)

VII. Death and Dying

We will explore the nature of dying in the U.S. and what might be done to improve end-of-life care. We will consider the nature of a good death, how death affects family members, and where death occurs. We will examine how social policy or clinical arrangements (e.g., with respect to hospice care) affect the experience of dying. We will discuss the role of physician decision-making and begin to consider the process by which physicians are socialized to their role as doctors.

Butler K. What Broke My Father’s Heart: How Putting in a Pacemaker Wrecked My Family’s Life. *New York Times Magazine* June 18, 2010, pp. 39–43.

Kleinman, A. *The Illness Narratives: Suffering, Healing, and the Human Condition*. New York: Basic Books, 1988, Chapter 3, “The Vulnerability of Pain and the Pain of Vulnerability,” (pp. 56–74) and Chapter 9, “Illness Unto Death” (pp. 146–157).

Lynn J *et al.* Perceptions by Family Members of the Dying Experience of Older and Seriously Ill Patients. *Annals of Internal Medicine* 1997; 126: 97–106.

Steinhauser KE, *et al.* Factors Considered Important at the End of Life by Patients, Family, Physicians, and Other Care Providers. *JAMA* 2000; 284: 2476–2482.

Loggers ET, Starks H, Shannon-Dudley M, Back AL, Appelbaum FR, and Stewart FM. Implementing a Death with Dignity Program at a Comprehensive Cancer Center. *New England Journal of Medicine* 2013; 368: 1417–1424.

Christakis NA and Lamont EB. Extent and Determinants of Error in Doctors’ Prognoses for Terminally Ill Patients: Prospective Cohort Study. *British Medical Journal* 2000; 320: 469–473.

February 5 (Thursday)

VIII. Iatrogenesis and Medical Error

How common and serious are medical errors? What is the difference between harm, error, and maloccurrence? What is a “therapeutic misadventure”? How do physicians cope with the inevitability of mistakes and harm? In what ways is “iatrogenesis” (doctor-caused injury) a widespread socio-medical phenomenon? Why does harm occur and what, if anything, can be done about it? What ethical and policy issues are raised by medical mistakes?

Illich, I. *Medical Nemesis: The Expropriation of Health*. New York, NY: Pantheon Books, 1976, Part I (pp. 1–107). [Page numbers may depend on edition; read until the subsection titled “Black Magic”]

Classen, David C., et al. ‘Global trigger tool’ shows that adverse events in hospitals may be ten times greater than previously measured. *Health Affairs* 2011; 30: 581-589.

Reason J. Human Error: Models and Management. *British Medical Journal* 2000; 320: 768–770.

IX. February 10 (Tuesday)

Religion and Health

Religion has numerous instrumental and symbolic effects on physical and mental health, and numerous aspects of religion may be relevant, from affiliation to religiosity to observance. Religious sentiments are also highly relevant to people’s choices regarding their own care, and their attitudes regarding medical advances.

Jarvis GK, and Northcott HC. Religion and Differences in Morbidity and Mortality. *Social Science and Medicine* 1987; 25: 813–824.

Phillips DP and Smith DG. Postponement of Death Until Symbolically Meaningful Occasions. *JAMA* 1990; 263: 1947–1951.

Strawbridge W, Cohen R, Shena S, and Kaplan G. Frequent Attendance at Religious Services and Mortality over 28 Years. *American Journal of Public Health* 1997; 87: 957–961.

X. February 12 (Thursday)

MIDTERM #1

February 17 (Tuesday) and February 19 (Thursday)

Health Behaviors

How do individuals’ choices and behaviors affect individuals’ health risks and health status? We will consider a range of health-related behaviors that are socially patterned and that can have substantial effects on both individual and population health. We will also explore the role of broader social policies and environmental effects on individual outcomes.

XI. Session 1: Obesity and Exercise (February 17)

McGinnis JM and Foege WH. Actual Causes of Death in the United States. *JAMA* 1993; 270: 2207–2212.

Mello MM, et al. Obesity—The New Frontier of Public Health Law. *New England Journal of Medicine* 2006; 354: 2601–2610.

Byberg, Liisa, et al. Total Mortality After Changes in Leisure Time Physical Activity in 50-Year-Old Men: 35 Year Follow-Up of Population-Based Cohort. *British Medical Journal* 2009; 338: b688

Chang VW and Christakis NA. Self-Perception of Weight Appropriateness in the U.S. *American Journal of Preventive Medicine* 2003; 24: 332–339

Randall A. Black Women and Fat. *New York Times*, May 6, 2012, p. SR5.

XII. Session 2: Tobacco, Alcohol, and Firearms (February 19)

- Schroeder SA. Tobacco Control in the Wake of the Master Settlement Agreement. *New England Journal of Medicine* 2004; 350: 293–301.
- Cahn Z and Siegel M. Electronic Cigarettes as a Harm Reduction Strategy for Tobacco Control: A Step Forward or a Repeat of Past Mistakes? *Journal of Public Health Policy* 2011; 32: 16-31
- Kellermann AL, *et al.* Injuries due to Firearms in Three Cities. *New England Journal of Medicine* 1996; 335: 1438–1444.
- Hemenway, D. Regulation of Firearms. *New England Journal of Medicine* 1998; 339: 843–845.
- Kellermann, AL and Rivara FP. Silencing the Science on Gun Research. *JAMA* 2013; 309: 549-550.
- Wechsler H, Lee JE, Kuo M, and Lee H. College Binge Drinking in the 1990's: A Continuing Problem—Results from the Harvard School of Public Health 1999 College Alcohol Study. *Journal of American College Health*. 2004; 52: 159–168.
- McMurtrie B. Why Colleges Haven't Stopped Binge Drinking: Decades of Attention Without Much Difference. *Chronicle of Higher Education* December 2, 2014. Available at: <http://chronicle.com/article/Why-Colleges-Haven-t-Stopped/150229/>
- Randolph W and Viswanath K. Lessons Learned from Public Health Mass Media Campaigns: Marketing Health in a Crowded Media World. *Annual Review of Public Health* 2004; 25: 419-437.

February 24 (Tuesday), February 26 (Thursday), and March 3 (Tuesday)
Inequality, Social Hierarchy, Stress, and Social Support

What do baboons in the Serengeti, civil servants in London, and actors in Hollywood have in common? How does relative position, and not just absolute position, matter to health? How can social structure be stressful? How can it be salubrious? What are the health consequences of stress and how might an individual's social support buffer the adverse effect of stress on health?

XIII. Session 1: Social Inequality and Individual Health (February 24)

- Lochner K, Pamuk E, Makuc D, Kennedy BP, and Kawachi I. State-Level Income Inequality and Individual Mortality Risk: a Prospective, Multilevel Study. *American Journal of Public Health* 2001; 91: 385–391.
- Lynch JW, Davey-Smith G, Kaplan GA, and House JS. Income Inequality and Mortality: Importance to Health of Individual Income, Psychosocial Environment, and Material Conditions. *British Medical Journal* 2000; 320: 1200–1204
- Subramanian SV and Kawachi I. Income Inequality and Health: What Have We Learned So Far? *Epidemiologic Reviews* 2004; 26: 78–91.
- Deaton A and Lubotsky D. Mortality, Inequality, and Race in American Cities and States. *Social Science and Medicine* 2003; 56: 1139-1153.
- Kondo, Naoki, *et al.* Income Inequality, Mortality, and Self-Rated Health: Meta-Analysis of Multilevel Studies. *British Medical Journal* 2009; 339: b4471

XIV. Session 2: Stress, Status, and Social Hierarchy (February 26)

Marmot, M. *The Status Syndrome: How Social Standing Affects Our Health and Longevity*.
New York: Holt, 2005, Chapters 1–6 and 10. (176 pages)

Sapolsky, RM. The Influence of Social Hierarchy on Primate Health. *Science* 2005; 308: 648–652.

XV. Session 3: Social Support and the Health Benefits of Relationships (March 3)

House JS, Landis KR, and Umberson D. Social Relationships and Health. *Science* 1988; 241: 540–545.

Cohen S *et al.* Social Ties and Susceptibility to the Common Cold. *JAMA* 1997; 277: 1940–1944.

XVI. March 5 (Thursday)

Neighborhood Effects on Health

We will consider how neighborhoods, as a particular form of collective social structure, may influence individual health. We will examine how local social capital and collective efficacy play a role in health. And we will examine how local physical infrastructure and medical resources affect health. In the process, we will examine geographic variation in a large variety of seemingly objective medical procedures, including the striking differences in care at the end of life and the widely varying patterns of elective surgery across the U.S.. And we will consider the phenomenon of “physician-induced demand” for medical care.

Browning CR, Wallace D, Feinberg SL, and Cagney KA. Neighborhood Social Processes, Physical Conditions, and Disaster-Related Mortality: The Case of the 1995 Chicago Heat Wave. *American Sociological Review* 2006; 71: 661–678.

Keizer K, Linderberg S, and Steg L. The Spreading of Disorder. *Science* 2008; 322: 1681–1685

Leventhal T and Brooks-Gunn J. Moving to Opportunity: An Experimental Study of Neighborhood Effects on Mental Health. *American Journal of Public Health* 2003; 93: 1576–1582.

Omer SB, Salmon DA, Orenstein WA, deHart P, and Halsey N. Vaccine Refusal, Mandatory Immunization, and the Risks of Vaccine-Preventable Diseases. *New England Journal of Medicine* 2009; 360: 1981–1988.

March 7–22

NO CLASS, Spring Break

March 24 (Tuesday), March 26 (Thursday), and March 31 (Tuesday)

Health and Social Networks

Can there be a non-biological transmission of disease? How does the health care delivered to one person affect the health of others? Does treating depression in parents prevent asthma in

their children? Does weight gain or seatbelt use or drinking by those close to you directly affect your health? We will examine the difference between social support (measured at the individual level) and social networks (construed at the group level); and we will consider how illness and health-related phenomena (ranging from sexual practices to smoking to obesity to emotions) might spread within a social network and result in positive and negative “externalities.” We will explore the evolutionary significance and biological basis for social network structure and function. We will consider very new work involving interventions in online and offline networks to improve health, including a variety of experiments in this area. We will also evaluate some of the ethical implications of using network methods to target interventions. And we will introduce the idea of *computational social science* and of *big data*.

XVII. Session 1: Social Network Function (March 24)

Christakis, NA and Fowler JH. *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. New York: Little Brown, 2009, Chapters 1–4 (134 pages).

XVIII. Session 2: Social Network Structure (March 26)

Christakis, NA and Fowler JH. *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. New York: Little Brown, 2009, Chapters 5, 7–9. (132 pages)
Apicella CL, Marlowe FW, Fowler JH, and Christakis NA. Social Networks and Cooperation in Hunter-Gatherers. *Nature* 2012; 481: 497–501.
Bearman PS, and Moody J. Suicide and Friendships Among American Adolescents. *American Journal of Public Health* 2004; 94: 89–96.
Papachristos AV and Wildeman C. Network Exposure and Homicide Victimization in an African American Community. *American Journal of Public Health* 2013; e1–e8.

XIX. Session 3: Social Network Interventions (March 31)

Christakis NA and Fowler JH. Social Network Sensors for Early Detection of Contagious Outbreaks. *PLoS One* 2010; 5(9): e12948.
Centola D. The Spread of Behavior in an Online Social Network Experiment. *Science* 2010; 329: 1194–1197.
Valente TW, Ritt-Olson A, Stacy A, Unger JB, Okamoto J, and Sussman S. Peer Acceleration: Effects of a Social Network Tailored Substance Abuse Prevention Program Among High-Risk Adolescents. *Addiction* 2007; 102: 1804–1815.
Valente TW. Network Interventions. *Science* 2012; 337: 49–53.

April 2 (Thursday)

XX. Social Capital

We will examine the very important concept of “social capital,” first advanced by Coleman in 1988, and also the nature of “emergent” properties of social systems. How and why do groups of people come to have properties that do not inhere in the individuals themselves? And to what productive ends, both good and bad, might social capital be put—by individuals and by policymakers?

Coleman J. Social Capital in the Creation of Human Capital. *American Journal of Sociology* 1988; 94: S95–S120.

Hardin, G. The Tragedy of the Commons. *Science* 1968; 162: 1243–1248.

XXI. April 7 (Tuesday)

MIDTERM #2

April 9 (Thursday) and April 14 (Tuesday)

Behavior Genetics, Gene-Environment Interactions, and Social Epigenetics

We will consider the cutting-edge field of *biosocial science*, and in particular focus on the ways in which our genes are in conversation with our social environment. To what extent does our genetic makeup influence our behaviors? To what extent do our genes increase or decrease our risk for illness given particular environmental exposures? What are the biological bases of resilience? And how does the social environment come to regulate our genome? How do social exposures “get under our skin”? How are they literally embodied?

XXII. Session 1: How the Biological Becomes Social and Behavior Genetics (April 9)

Ebstein, RP et al. Genetics of Human Social Behavior. *Neuron* 2010; 65: 831-844.

Slavich, GM and SW Cole. The Emerging Field of Human Social Genomics. *Clinical Psychological Science* 2013; 8: 667-669.

Caspi A et al. Influence of Life Stress on Depression: Moderation by a Polymorphism in the 5-HTT Gene. *Science* 2003; 301: 386–389.

Caspi, A, Hariri AR, Holmes A, Uher R, and Moffitt TE. Genetic Sensitivity to the Environment: The Case of the Serotonin Transporter Gene and its Implications for Studying Complex Diseases and Traits. *American Journal of Psychiatry* 2010; 167: 509-527.

XXIII. Session 2: How the Social Becomes Biological, Gene-Culture Co-Evolution, and Social Epigenetics (April 14)

Laland KN, Odling-Smee J, and Myles S. How Culture Shaped the Human Genome: Bringing Genetics and the Human Sciences Together. *Nature Reviews Genetics* 2010; 11: 137-148.

Miller G. The Seductive Allure of Behavioral Epigenetics. *Science* 2010; 329: 24–27.

Szyf M. Lamarck Revisited: Epigenetic Inheritance of Ancestral Odor Fear Conditioning. *Nature Neuroscience* 2014; 17: 2-4.

Guenard F, Deshais Y, Cianflone K, Kral JG, Marceau P, and Vohl MC. Differential Methylation in Glucoregulatory Genes of Offspring Born Before Versus After Maternal Gastrointestinal Bypass Surgery. *PNAS: Proceedings of the National Academy of Sciences* 2013; 110: 11439-11444.

April 16 (Thursday), April 21 (Tuesday), and April 23 (Thursday)
Public Policy and Health and Health Care

We will examine some macro and micro public policies that can affect individual and public health. As a powerful illustration, we will examine how society might respond to the emergence of new bio-technologies that promise to provide “super-human” enhancements to the human body, and we will consider moral aspects of these developments as well as how society might regulate them. We will also consider the implications of lack of insurance for the health of over 46,000,000 Americans, a number slated to substantially decrease with the implementation of recent health reform legislation. We will close with a consideration of some illustrative individual, local, and national efforts to improve the health of the public, and with a recapitulation of the fundamental tension between individual and collective perspectives on health and health care. And we will discuss what a new era of “big data” can offer public policy as it relates to health and health care.

XXIV. Session 1: Social Control of Individual Use of New Biotechnologies (April 16)

Harris, J. *Enhancing Evolution: The Ethical Case for Making Better People*. Princeton: Princeton University Press, 2007, Chapters 1–8. (143 pages)

XXV. Session 2: A Selection of Policy Interventions (April 21)

Thaler RH and Sunstein CR. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven, CT: Yale University Press, 2008. Chapters 1-5, 10-11 (125 pages).

Andersen RE, Franckowiak SC, Snyder J, Bartlett SJ, and Fontaine KR. Can Inexpensive Signs Encourage the Use of Stairs? Results from a Community Intervention. *Annals of Internal Medicine* 1998; 129: 363–369.

Volpp KG, *et al.* A Randomized Controlled Trial of Financial Incentives for Smoking Cessation. *New England Journal of Medicine* 2009; 360: 699–709.

Sommers, Benjamin D., *et al.* Health Reform and Changes in Health Insurance Coverage in 2014. *New England Journal of Medicine* 2014; 371: 867-874.

XXVI. Session 3: Public Health and Individual Experience (April 23)

McGinnis JM, Williams-Russo P, and Knickman JR. The Case for More Active Policy Attention to Health Promotion. *Health Affairs* 2002; 21: 78–93.

D. Lazer *et al.* Computational Social Science. *Science* 2009; 323: 721–723

Take-Home Final Exam

The exam will be distributed no later than April 23 (probably at 5:00 p.m. that day) and will be due approximately a week later, as will be discussed in class.