

Sociology 190
Life and Death in the USA:
Medicine and Disease in Social Context

Monday, Wednesday 3-4
Spring Term 2012
Location: Yenching Auditorium

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Course Website:

iSite: <http://www.courses.fas.harvard.edu/0021>

Course Description:

This course examines the social causes and context of illness, death, longevity, and health care in the U.S. 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 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 introduce new areas of “biosocial science.” In many ways, this course serves as an introduction to the field of public health.

Course Requirements:

- section attendance and participation (15%)
- in-class mid-term exam (non-cumulative) on February 22 (25%)
- in-class mid-term exam (non-cumulative) on April 9 (25%)
- take-home final exam (cumulative) (35%)

Regarding the mid-term exams: Each exam will have a few multiple choice questions and one or two short essays. There will be some choice. They will be administered on the above dates.

Regarding the final exam: It will consist of 2-3 essay questions, for a total of roughly 15-18 pages. There will be some choice, but all the questions will require in-depth engagement with the major themes of the whole course. The exam will be distributed on April 25 and will be due at a time to be determined (during reading period). We will be asking you to submit both a hard copy of the exam and also to upload it to a secure part of the course website (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.

Professor Christakis reviews grades; if you feel your exam has been graded in error, please discuss this with your TF or the head TF first, but then do feel free to talk to him about it.

Course FAQ:

A selection of common questions is below, but many more are addressed at:
[**http://christakis.med.harvard.edu/pages/teaching/faq.html**](http://christakis.med.harvard.edu/pages/teaching/faq.html)

Sociology 190 counts for GenEd credit, in the "United States in the World" area.

In contrast to last year, we *will* indeed be offering the class pass/fail this year.

Graduate students taking Soc 190 for credit should see the instructor in order to arrange different requirements.

Use of Laptops in Class:

We allow the use of laptops in class to take notes, of course. But please do not use your laptops to do unserious things that might distract those around you; it's disrespectful.

Sections:

Sections will meet beginning the third week of class. There will be online registration for sections; section timing has yet to be determined, but there will be many time slots to choose from.

The head TF is:

Keren Ladin
Department of Health Policy
kladin@fas.harvard.edu
office hours:
Mondays, 1:00-2:55, or by appointment
CGIS K-311

Books and Readings:

Books are available for purchase at the Harvard Coop Book Store. Readings from books and articles average about 55 pages per session (range 15-200), or 110 pages per week. Given very low demand in prior years, there is no course packet available for purchase. Readings are available online via Hollis e-reserves, and also linked via the course website for you to print out. A course packet of readings is also on reserve at Lamont Library.

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

Cutler, D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004.

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.

January 23 (Mon)

I. Course Introduction

We will briefly review the burden of illness and death in the U.S., 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 *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 25 (Wed) and January 30 (Mon)

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."

II. Session 1: The Health Transition (January 25)

Cutler D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004, Chapters 1-2 (pp. 1-21).

Fries JF. Measuring and Monitoring Success in Compressing Morbidity. *Annals of Internal Medicine* 2003; 139: 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, Available at: <http://www.scielosp.org/pdf/bwho/v79n2/v79n2a11.pdf>

III. Session 2: The Role of Medical Care (January 30)

Cutler D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004, Chapter 5, "The Heart of the Matter" (pp. 47-60).

Bailar JC and Gornik HL. Cancer Undefeated. *New England Journal of Medicine* 1997; 336: 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: 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). available online (<http://www-cpr.maxwell.syr.edu/pbriefs/pb7.pdf>)

February 1 (Wed) and February 6 (Mon)
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 (February 1)

- Goldman DP, Smith JP. Can patient self-management help explain the SES health gradient? *Proceedings of the National Academy of Science* 2002; 99: 10,929-10,934.
- 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.

V. Session 2: Unequal Treatment or Unequal Outcomes with Respect to Race and Ethnicity (February 6)

- 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" 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.

February 8 (Wed)

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(9): 885-888.
- Block JJ. Issues for DSM-V: Internet Addiction. *American Journal of Psychiatry* 2008; 165: 306-307.

February 13 (Mon)
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, p. 39-43.
- 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.
- 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 15 (Wed)
VIII. Iatrogenesis and Medical Error

How common and serious are medical errors? What is the difference between harm, error, and maloccurrence? 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). [pages numbers may depend on edition; read until the subsection entitled "Black Magic"]
- Brennan TA, *et al.*. Incidence of Adverse Events and Negligence in Hospitalized Patients. *New England Journal of Medicine* 1991; 324: 370-376.
- Reason J. Human Error: Models and Management. *British Medical Journal* 2000; 320: 768-770.

February 20
NO CLASS, Presidents' Day

IX. February 22 (Wed)
MIDTERM #1

February 27 (Mon) and February 29 (Wed)
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.

X. Session 1: Obesity and Exercise (February 27)

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.

Paffenbarger RS, Hyde RT, Wing AL, and Hsieh CC. Physical Activity, All-Cause Mortality, and Longevity in College Alumni. *New England Journal of Medicine* 1986; 314: 605-613.

XI. Session 2: Alcohol, Tobacco, and Firearms (February 29)

Schroeder SA. Tobacco Control in the Wake of the Master Settlement Agreement. *New England Journal of Medicine* 2004; 350: 293-301.

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

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.

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.

XII. March 5 (Mon)
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: 957-61.

March 7 (Wed), March 19 (Mon), and March 21 (Wed)
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 (March 7)

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.

March 10-18
NO CLASS, Spring Break

XIV. Session 2: Stress, Status, and Social Hierarchy (March 19)

Marmot, M. *Status Syndrome: How Your Social Standing Directly Affects Your Health and Life Expectancy*. London: Bloomsbury, 2004, 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 21)

House JS, Landis KR, and Umberson D. Social Relationships and Health. *Science* 1988; 241: 540-45.

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

March 26 (Mon), March 28 (Wed), and April 2 (Mon)
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 in 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. 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*.

XVI. Session 1: Social Network Function (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 1-4 (134 pages).
Carrell SE, Hoekstra M, and West JE. Is Poor Fitness Contagious? Evidence from Randomly Assigned Friends. 2010; NBER working paper 16518, available at:
<http://www.nber.org/papers/w16518.pdf>

XVII. Session 2: Social Network Structure (March 28)

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)
Bearman PS, and Moody J. Suicide and Friendships among American Adolescents. *American Journal of Public Health* 2004; 94: 89-96.
Uzzi B and Spiro J. Collaboration and Creativity: The Small World Problem, *American Journal of Sociology* 2005; 111: 447-504.

XVIII. Session 3: Social Network Interventions (April 2)

Carrell SE, Sacerdote BI, and West JE. From Natural Variation to Optimal Policy: A Cautionary Tale in How Not to Improve Student Outcomes, September 30, 2010, available at:
<http://www.econ.ucdavis.edu/faculty/scarrell/sortexp.pdf>
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.

April 4 (Wed)

XIX. 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.

XX. April 9 (Mon)
MIDTERM #2

XXI. April 11 (Wed)
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 wide-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.

XXII. April 16 (Mon)
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 make-up 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?

Beauchamp JP, et al., Molecular Genetics and Economics, *Journal of Economics Perspectives* 2011; 25(4): 57-82.

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

Check, E. “How Africa Learned to Love the Cow,” *Nature* 2006; 444: 994-996. [reporting on: Tishkoff SA, et al., “Convergent Adaptation of Human Lactase Persistence in Africa and Europe,” *Nature Genetics* 2007; 39 (1): 31-40.]

Szyf M, McGowan P, and Meaney MJ. The Social Environment and the Epigenome. *Environmental and Molecular Mutagenesis* 2008; 49: 46-60

April 18 (Wed), April 23 (Mon), and April 25 (Wed)
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 development 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.

XXIII. Session 1: Social Control of Individual Use of New Biotechnologies (April 18)

Harris, J. *Enhancing Evolution: The Ethical Case for Making Better People*. Princeton: Princeton University Press, 2007, chaps 1-6, 8. (128 pages)

XXIV. Session 2: Access to Health Care and Health Insurance, and a Selection of Policy Interventions (April 23)

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.

Brook R, *et al.*. Does Free Care Improve Adults' Health? Results from a Randomized Controlled Trial. *New England Journal of Medicine* 1983; 309: 1426-34.

Cutler, D. *Your Money or Your Life*. Cambridge: Oxford University Press, 2004, Chapters 7-10 (pp. 76-123).

Nattinger AB, Hoffmann RG, Shapiro R, Gottlieb MS, and Goodwin JS. The Effect of Legislative Requirements on the Use of Breast-Conserving Surgery. *New England Journal of Medicine* 1996; 335: 1035-1040.

Redelmeier DA and Tversky A. Discrepancy Between Medical Decisions for Individual Patients and for Groups. *New England Journal of Medicine* 1990; 322: 1162-1164.

XXV. Session 3: Public Health and Individual Experience (April 25)

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

Take-Home Final Exam

The exam will be distributed at 6:00 pm on April 25 and will be due approximately seven days later, as discussed in class.