



Fall 2024, PPHA 37910
Race and Ethnic Differences in Health: Epidemiology, Behavior and Policy
Class Meeting Time: Tuesday and Thursday 2:00 p.m. – 3:20 p.m.

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Office Hours: Email anytime; TH. 1:00 -2:00 pm; and by appt.

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Course Description

The course will focus on health disparities between three racial/ethnic groups in the USA: non-Hispanic Black people, non-Hispanic White people and Hispanic people. These categories are imperfect and imprecise, and obscure important variation within each group, but are widely used by government statisticians, academic researchers and policymakers. For that reason, they are useful as a starting point of the study of racial/ethnic disparities in health.

The course will begin with a review of the human capital model of demand for health and healthcare over the life course. This disciplinary focus is intended to provide a framework (among other disciplinary frameworks) that can be used to identify potential causes and solutions to racial and ethnic health disparities. The conceptual model will be useful for designing and evaluating empirical research and in the formulation and evaluation of public policy concerned with racial and ethnic disparities in health. Conceptual models used by sociologists will also be reviewed and integrated into the human capital model.

The course will review the extent and magnitude of health disparities by race and ethnicity, and how those disparities evolve over the life course from birth to old age. At each age, racial and ethnic disparities in illnesses that account for a large share of poor health will be identified. The course will review and assess research intended to explain (identify causes of) racial and ethnic disparities at each age. Some of the primary explanations include access and use of medical care, socioeconomic status (income and education) and discrimination/racism—both as experienced by individuals and as manifested systemically, for example, by healthcare providers. Some major government interventions to reduce racial and ethnic disparities in health at each age will be reviewed and assessed in terms of efficacy.

The literature on racial and ethnic disparities in health is vast and a one-quarter course cannot reasonably cover everything. The course is intended to serve as an introduction to the topic and provide a conceptual and empirical foundation for further study. The course highlights the nature and extent of racial/ethnic disparities in health, how to place these disparities in a conceptual context, and it reviews representative descriptive and causal studies of possible explanations of racial/ethnic health disparities.

Course Objectives

The course is intended to provide the following learning objectives:

1. An understanding of the human capital model of the demand for health and health care and how that model can be used to formulate and evaluate research and policy intended to explain racial and ethnic disparities in health.
2. An understanding of sociological models of health disparities and how those models relate to the economic model.
3. A familiarity with the magnitudes of racial and ethnic disparities in health across the life course including the leading illnesses that account for much of the health disparities.
4. Knowledge of the Hispanic or immigrant paradox and possible explanations of it
5. Knowledge of important empirical issues related to measuring and interpreting associations between race and health, particularly with respect to socioeconomic status and discrimination
6. A basic understanding of the range of empirical evidence related to the major hypothesized explanations of and solutions to racial and ethnic disparities in health
7. The ability to combine theory and empirical methods to critically evaluate research and policy about the causes and solutions to racial and ethnic disparities in health.

Relationship to Curriculum

This course builds on the foundation of microeconomics provided in the core economics sequence. In this course, we will focus on consumer theory as it relates to choices about health and healthcare, and the unique aspects of those choices, for example, how biological and clinical factors, and the uncertainty of illness, affect those choices. The course also contributes to a better understanding of diversity and how racial and ethnic diversity interacts with society and the health care system to affect health. The course will build on the core methods courses in statistics and program evaluation through an assessment of empirical research related to explanations of racial and ethnic disparities in health.

Course Format

In-person meetings during scheduled class time—Tuesday and Thursday 2:00 pm to 3:20 pm.

Course Policies:

Academic Integrity: Please review: (<https://studentmanual.uchicago.edu/Policies>)

“It is contrary to justice, to academic integrity, and to the spirit of intellectual inquiry to submit the statements or ideas of work of others as one's own. To do so is plagiarism or cheating, offenses punishable under the University's disciplinary system. Because these offenses undercut the distinctive moral and intellectual character of the University, we take them very seriously and punishments for them may include expulsion from the University.”

“Proper acknowledgment of another's ideas, whether by direct quotation or paraphrase, is expected. In particular, if any written or electronic source is consulted and material is used from that source, directly or indirectly, the source should be identified by author, title, and page number. Any doubts about what constitutes "use" should be addressed to the instructor.”

Artificial Intelligence (AI) Tools

Students are not allowed to use any AI powered tool, program, plugin, chatbox or any similar tool to complete (e.g., write) assignments. This means that tools like ChatGPT, Google Bard, Microsoft Co-pilot or any similar tool that facilitates the completion of a graded assignment is strictly prohibited.

Harris has an AI detector program within Canvas that automatically scans documents at the point of submission, when the AI detector program flags a submission, the TA Team will proceed to investigate and determine if a submission violates the Harris Integrity Policy. Any submission found to be in violation of the policy shall be reported and students will receive an automatic zero.

Students may use AI tools to gather information much in the way that a research assistant is used to increase scholar productivity. **A good rule is that AI tools are allowed pre-writing: before content is created, writers can use some tools to research topics, collect examples, brainstorm ideas, craft outlines, etc.** For example, AI tools are helpful to identify studies/citations that have addressed the problem, or a similar problem, to the problem in the assignment. AI tools are also useful for retrieving a definition/discussion of a concept related to course material, or to generate a basic supply and demand graph (much like a Google image search) that will be modified for the assignment, or to see how a concept is discussed by other authors.

Students using AI should be transparent about their use and make sure it aligns with academic integrity. If AI tools have been used, then that use must be properly documented and credited:

- In-text citation format: example: (OpenAI, 2023), or (OpenAI, 2023; see appendix A for the full transcript).
- Reference list format: Example: OpenAI. (2023). ChatGPT (May 3 Version) [Large language model]. <https://chat.openai.com>

Use of Web and Email:

I will post course materials to the university's CANVAS web-based course management system: the URL is <http://courses.uchicago.edu/>. Students are responsible for any and all material posted there. I encourage the use of email and I try to respond in a timely fashion. My email address is kaestner@uchicago.edu. Please be sure to set your notifications on CANVAS so that you receive all communications from me sent through this platform.

Class Attendance and Participation:

I understand that circumstances may sometimes require you to miss a class, although with a 9-week quarter, any absence represents a significant loss of time. Students who need to miss class because of work, sickness, or other reasons, shall notify me in a timely manner as to when they will be absent. I will make every reasonable effort to honor the request, not penalize the student for missing the class, and if an examination or project is due during the absence, give the student an exam or assignment equivalent to the one completed by those students in attendance. A similar process for notifying me should be followed for students who wish to observe their religious holidays. Again, I will make every reasonable effort to honor the request and not penalize the student for missing the class.

Class participation:

There are frequent (five) class participation assignments that are intended to encourage student engagement, and to allow students to articulate course content in their own words, deepen their understanding of the course content and to provide an opportunity for students to learn from one another. Everyone is expected to participate, and everyone should feel comfortable expressing their view. I understand that it may be difficult for some students to speak publicly, but the class is a welcoming, respectful community. The class discussions are an active learning process and, by definition, learning means not knowing already. So, feel free to think creatively and openly even though sometimes it will be a miss hit.

Disability Accommodation (<https://disabilities.uchicago.edu/>):

The University of Chicago seeks to provide an environment conducive to learning, teaching, working, and conducting research that values the diversity of its community. The University strives to be supportive of the academic, personal, and work-related needs of each individual and is committed to facilitating the full participation of students with a disability in the life of the University. Students with a disability, particularly those that require an accommodation, should contact Student Disability Services (<https://disabilities.uchicago.edu/>).

Harris students are not required to submit their accommodations letter to the instructor. Students from other divisions in the University must submit their accommodations letter to either the instructor or the Harris Dean of Students Office. Students who do not yet have formal accommodations in place but who feel they need accommodations on a temporary or ongoing basis should contact the Harris Dean of Students Office or Student Disability Services.

Course Requirements

Books:

- Textbook: LaVeist, T. A., & Isaac, L. A. (Eds.). (2013). *Race, ethnicity, and health: A public health reader* (2nd ed.). Jossey-Bass/Wiley.

The textbook is a reader with many articles that summarize issues and evidence. It is a handy reference tool.

Assignments and Grades:

- There will be five, one-page assignments intended to stimulate engagement with course material and class discussion. These assignments will account for 40% of the final grade (8% each).
- There will be three, three-page assignments that ask you to synthesize the material related to adult, infant and child health, and to recommend evidence-based policies to address racial/ethnic disparities in health at these ages. These assignments will account for 60% of the final grade (20% each).
- Late Assignments: Unless explicitly agreed upon in advance, late assignments will not be accepted.
- **All assignments are to be completed independently without assistance except from TAs or Professor.**

Assignments

Assignment #1: Due Oct. 8th

Prepare a one-page paper (1-inch margins, 11-12 point font, single to double spacing depending on your needs) that does the following:

1. Briefly describe and compares racial/ethnic disparities in cardiovascular mortality to racial/ethnic disparities in cancer mortality. Use the CDC Wonder data base (<https://wonder.cdc.gov/ucd-icd10-expanded.html>) on underlying cause of death 2018-2022 to measure racial/ethnic disparities in cardiovascular disease (I00-I99, Diseases of the circulatory system) and cancer (C00-D48, Neoplasms).
2. Discuss potential causes of the differences in racial/ethnic disparities for the two types of mortality using the human capital model as a framework for your discussion

This assignment will be graded as “satisfactory” or “unsatisfactory”. A “satisfactory” grade requires: a professional preparation and well-written answers that reflect a minimum level of understanding of the course material. If the paper reads as if you never enrolled in this class and attended lectures, then it is not satisfactory. An “unsatisfactory” grade indicates that the preparation was unprofessional and/or an answer that failed to reflect course material or that was incoherent.

A “satisfactory” grade is worth 8 points. An “unsatisfactory” grade is worth 0 points.

Assignment #2: Due Oct. 22nd

Read: Bécares L, Zhang N. Perceived Interpersonal Discrimination and Older Women's Mental Health: Accumulation Across Domains, Attributions, and Time. *Am J Epidemiol.* 2018 May 1;187(5):924-932. doi: 10.1093/aje/kwx326. PMID: 29036550; PMCID: PMC5928463.

Prepare a one-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper that does the following:

1. Briefly summarize the article making sure to describe the data and sample used; the measure of discrimination used; the outcomes examined; the research design and method of analysis; results; and conclusion (contributions of the article in terms of evidence it provided about the causes of and/or solutions to racial/ethnic disparities in health).
2. Discuss the credibility of this study in terms of establishing the causal effect of racism on health. Make sure to reference whether it is a structural approach or a reduced form approach.

This assignment will be graded as “satisfactory” or “unsatisfactory”. A “satisfactory” grade requires: a professional preparation and well-written answers that reflect a minimum level of understanding of the course material. If the paper reads as if you never enrolled in this class and attended lectures, then it is not satisfactory. An “unsatisfactory” grade indicates that the preparation was unprofessional and/or an answer that failed to reflect course material or that was incoherent.

A “satisfactory” grade is worth 8 points. An “unsatisfactory” grade is worth 0 points.

Assignment #3: Due Oct. 29th

Read: Marcella Alsan, Owen Garrick, and Grant Graziani. Does Diversity Matter for Health? Experimental Evidence from Oakland. *American Economic Review* 2019, 109: 4071–4111

Prepare a one-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper that does the following:

1. Briefly summarize the article making sure to describe the data and sample used; the outcomes examined; the research design and method of analysis; results; and conclusion (contributions of the article in terms of evidence it provided about the causes of and/or solutions to racial/ethnic disparities in health). Be sure to describe precisely the research question under investigation.
2. Read closely the sections “External Validity” and “Health Valuation”. Briefly, discuss the quality of the evidence and arguments in these sections.

This assignment will be graded as “satisfactory” or “unsatisfactory”. A “satisfactory” grade requires: a professional preparation and well-written answers that reflect a minimum level of understanding of the course material. If the paper reads as if you never enrolled

in this class and attended lectures, then it is not satisfactory. An “unsatisfactory” grade indicates that the preparation was unprofessional and/or an answer that failed to reflect course material or that was incoherent.

A “satisfactory” grade is worth 8 points. An “unsatisfactory” grade is worth 0 points.

Assignment #4: Due Nov. 10th

Prepare a (maximum) three-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper summarizing your (informed) view of the major causes of racial/ethnic disparities in cardiovascular health and what evidence-based policies you would recommend to diminish those disparities.

This assignment will be graded as follows:

- 4 (A)=excellent (professional preparation, answered specific questions directly and germanely, provided interesting analysis/insight)
- 3 (B)=good (professional preparation, answered specific questions directly and in most cases germanely; provided some analysis/insight)
- 2 (C)=average (professional preparation, answered specific questions directly but with some error; little analysis)
- 1 (D)=unacceptable (unprofessional preparation, incomplete answers to specific questions, mostly incorrect answers; no analysis).

Assignment #5: Due Nov. 12th

Read:

- Greenwood, Brad N., Rachel R. Hardeman, Laura Huang, and Aaron Sojourner. "Physician–patient racial concordance and disparities in birthing mortality for newborns." *Proceedings of the National Academy of Sciences* 117, no. 35: 21194-21200.
- Physician-Patient Racial Concordance and Birthing Mortality in Newborns, by George J. Borjas and Robert VerBruggen

Prepare a one-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper that does the following:

1. Briefly summarize the Greenwood et al. article making sure to describe the data and sample used; the outcomes examined; the research design and method of analysis; results; and conclusion (contributions of the article in terms of evidence it provided about the causes of and/or solutions to racial/ethnic disparities in health).
2. Describe the Borjas and VerBruggen critique.
3. Discuss the scientific plausibility of the Greenwood et al. paper taking note that the outcome was infant mortality *conditional* on (adjusting for) infant health at birth. By scientific plausibility I mean the theory and evidence to support the hypothesis. It will help to think of the causal model (theory) underlying the hypothesis and to evaluate the likelihood that there exist causal pathways linking the treatment (racial concordance) to the outcome (infant mortality). Note that it is a reduced form approach, so be sure to consider the links from racial concordance to the proximate causes and the effect of proximate causes.

This assignment will be graded as “satisfactory” or “unsatisfactory”. A “satisfactory” grade requires: a professional preparation and well-written answers that reflect a minimum level of understanding of the course material. If the paper reads as if you never enrolled in this class and attended lectures, then it is not satisfactory. An “unsatisfactory” grade indicates that the preparation was unprofessional and/or an answer that failed to reflect course material or that was incoherent.

A “satisfactory” grade is worth 8 points. An “unsatisfactory” grade is worth 0 points.

Assignment #6: Due Nov. 19th

Prepare a (maximum) three-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper summarizing your (informed) view of the major causes of racial/ethnic disparities in infant health and what evidence-based policies you would recommend to diminish those disparities.

This assignment will be graded as follows:

- 4 (A)=excellent (professional preparation, answered specific questions directly and germanely, provided interesting analysis/insight)
- 3 (B)=good (professional preparation, answered specific questions directly and in most cases germanely; provided some analysis/insight)
- 2 (C)=average (professional preparation, answered specific questions directly but with some error; little analysis)
- 1 (D)=unacceptable (unprofessional preparation, incomplete answers to specific questions, mostly incorrect answers; no analysis).

Assignment #7: Due Nov. 21st

Read:

- Costello EJ, Compton SN, Keeler G, Angold A. Relationships Between Poverty and Psychopathology: A Natural Experiment. *JAMA*. 2003;290(15):2023–2029. doi:10.1001/jama.290.15.2023
- Cesarini, D., Lindqvist, E., Östling, R., & Wallace, B. (2016). Wealth, health, and child development: Evidence from administrative data on Swedish lottery players. *The Quarterly Journal of Economics*, 131(2), 687–738.

Prepare a one-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper that:

- Briefly summarize each article making sure to describe the data and sample used; the outcomes examined; the research design and method of analysis; results; and conclusion (contributions of the article in terms of evidence it provided about the causes of and/or solutions to racial/ethnic disparities in health).
- Discuss the scientific plausibility of the hypothesis that income will cause child health. By scientific plausibility I mean the theory and evidence to support the hypothesis. It will help to think of the causal model (theory) underlying the hypothesis and to evaluate the likelihood that there exist causal pathways linking the treatment (income) to the outcome (child health). Note that it is a reduced form approach, so be sure to consider the links from income to the proximate causes and the effect of proximate causes.

This assignment will be graded as “satisfactory” or “unsatisfactory”. A “satisfactory” grade requires: a professional preparation and well-written answers that reflect a minimum level of understanding of the course material. If the paper reads as if you never enrolled in this class and attended lectures, then it is not satisfactory. An “unsatisfactory” grade indicates that the preparation was unprofessional and/or an answer that failed to reflect course material or that was incoherent.

A “satisfactory” grade is worth 8 points. An “unsatisfactory” grade is worth 0 points.

Assignment #8: Due Dec. 10th

Prepare a (maximum) three-page (1-inch margins, 11-12 point font, single to double spacing depending on your needs) paper summarizing your (informed) view of the major causes of racial/ethnic disparities in child health and what evidence-based policies you would recommend to diminish those disparities.

This assignment will be graded as follows:

- 4 (A)=excellent (professional preparation, answered specific questions directly and germanely, provided interesting analysis/insight)
- 3 (B)=good (professional preparation, answered specific questions directly and in most cases germanely; provided some analysis/insight)
- 2 (C)=average (professional preparation, answered specific questions directly but with some error; little analysis)
- 1 (D)=unacceptable (unprofessional preparation, incomplete answers to specific questions, mostly incorrect answers; no analysis).

Detailed Course Outline

Weeks 1-2, Oct. 1, 3, 8, 10: Racial and Ethnic Disparities in Adult Cardiovascular Disease (CVD) and Mortality

1. Facts: Racial/ethnic Disparities in Cardiovascular-related Health

- Racial/ethnic disparities in CVD mortality (e.g., stroke, heart attack) by age, year and sex
- Racial/ethnic disparities in hypertension (high blood pressure) by age, year and sex
- Racial/ethnic disparities in hypercholesterolemia (high cholesterol) by age, year and sex
- Racial/ethnic disparities in diabetes by age, year and sex
- Racial/ethnic disparities in weight status by age, year and sex

2. Theory: Causes and Explanations

- Human capital production function and proximate causes of health: biological factors, clinical and medical factors, and health behavior
- Life cycle (life course) considerations—health as a cumulative process of investment in proximate causes and depreciation
- “Weathering” as a form of depreciation of health
- Complementarities of human capital investments: education and health
- Causes of (proximate) causes: education, income, insurance, racism, etc.
- Racism: a fundamental cause

Readings:

- (Presented by Professor, student does not have to read) Grossman, Michael. 2000. “The Human Capital Model,” in eds., Anthony Culyer and Joseph Newhouse Handbook of Health Economics. Elsevier Science, Chapter 7:347-405.
- (Presented by Professor, student does not have to read) Becker, Gary. 2007. Health as Human Capital: Synthesis and Extensions Oxford Economic Papers, 59(3):379-410
- Chapter 17, LaViest et al.
- Phelan, J. C., Link, B. G., & Tehranifar, P. (2010). Social Conditions as Fundamental Causes of Health Inequalities Theory, Evidence, and Policy Implications. *Journal of Health and Social Behavior*, 51(1 suppl), S28-S40.
- Phelan, Jo C., and Bruce G. Link. "Is racism a fundamental cause of inequalities in health?." *Annual Review of Sociology* 41, no. 1 (2015): 311-330.
- Geronimus, A. T., Hicken, M., Keene, D., & Bound, J. (2006). "Weathering" and age patterns of allostatic load scores among blacks and whites in the United States. *American journal of public health*, 96(5), 826–833.
- Crimmins EM, Thyagarajan B, Levine ME, Weir DR, Faul J. Associations of Age, Sex, Race/Ethnicity, and Education With 13 Epigenetic Clocks in a Nationally Representative U.S. Sample: The Health and Retirement Study. *J Gerontol A Biol Sci Med Sci*. 2021 May 22;76(6):1117-1123

3. Prenatal Environment and the Developmental Origins of Disease

- “Barker” hypothesis and the developmental origins of disease
- Epigenetics

Readings

- Chapter 10 LaViest et al.
- Almond, Douglas, and Janet Currie. 2011. "Killing Me Softly: The Fetal Origins Hypothesis." *Journal of Economic Perspectives*, 25 (3): 153-72.
- Barker, D. J., & Thornburg, K. L. (2013). The obstetric origins of health for a lifetime. *Clinical Obstetrics and Gynecology*, 56, 511–519
- Lumey, L. H., Stein, A. D., & Susser, E. (2011). Prenatal famine and adult health. *Annual review of public health*, 32, 237–262.
- Douglas Almond. “Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population. *Journal of Political Economy* 2006 114:4, 672-712.
- Tobi, Elmar W., Roderick C. Slieker, René Luijk, Koen F. Dekkers, Aryeh D. Stein, Kate M. Xu, Biobank-based Integrative Omics Studies Consortium et al. "DNA methylation as a mediator of the association between prenatal adversity and risk factors for metabolic disease in adulthood." *Science advances* 4, no. 1 (2018): eaao4364.

Week 3, Oct. 15, 17: From Theory to Empirics

1. Mechanics—Structural Approach to Measuring the Contribution of Proximate Causes to Racial/ethnic Disparities in Health
 - Specify the causal model
 - Identify the causal effect of proximate causes of health
 - Measure racial/ethnic disparities in proximate causes of health
 - Multiply the causal effect of the proximate cause by the racial/ethnic disparity in that cause to obtain the amount/share of racial/ethnic disparity in health explained by that cause
2. Problems that Arise in Structural Approach
 - Identifying (causal) effect of proximate causes is difficult
 - Effects of proximate causes may be moderated (differ) by race/ethnicity
3. Example of the Structural Approach
 - Racial/ethnic disparities in hypertension and treatment of hypertension
 - Causal effect of treatment of hypertension on CVD mortality
 - How much can racial/ethnic disparities in treatment of hypertension explain racial/ethnic disparity in CVD mortality?

Readings:

- Lu, Yuan, Yuntian Liu, Lovedeep Singh Dhingra, Daisy Massey, César Caraballo, Shiwani Mahajan, Erica S. Spatz, Oyere Onuma, Jeph Herrin, and Harlan M. Krumholz. "National trends in racial and ethnic disparities in antihypertensive medication use and blood pressure control among adults with hypertension, 2011–2018." *Hypertension* 79, no. 1 (2022): 207-217.
 - Al Kibria GM. Racial/ethnic disparities in prevalence, treatment, and control of hypertension among US adults following application of the 2017 American College of Cardiology/American Heart Association guideline. *Prev Med Rep.* 2019 Mar 16;14:100850. doi: 10.1016/j.pmedr.2019.100850. PMID: 31061780; PMCID: PMC6488531.
 - Turnbull, F. "Blood Pressure Lowering Treatment Trialists' Collaboration. Effects of different blood-pressure-lowering regimens on major cardiovascular events: results of prospectively-designed overviews of randomized trials." *Lancet* 362 (2003): 1527-1535.
 - Gu, Qiuping, Charles F. Dillon, Vicki L. Burt, and Richard F. Gillum. "Association of hypertension treatment and control with all-cause and cardiovascular disease mortality among US adults with hypertension." *American journal of hypertension* 23, no. 1 (2010): 38-45.
 - Gueyffier, Francois, Florent Boutitie, Jean-Pierre Boissel, Stuart Pocock, John Coope, Jeffrey Cutler, Tord Ekblom et al. "Effect of antihypertensive drug treatment on cardiovascular outcomes in women and men: a meta-analysis of individual patient data from randomized, controlled trials." *Annals of internal medicine* 126, no. 10 (1997): 761-767.
4. Mechanics—Reduced Form Approach to Measuring the Contribution of Distal Causes to Racial/ethnic Disparities in Health
 - Specify the causal model
 - Identify the causal effect of distal causes—or causes of causes—of health
 - Measure racial/ethnic disparities in distal causes of health
 - Multiply the causal effect of the distal cause by the racial/ethnic disparity in that distal cause to obtain the amount/share of racial/ethnic disparity in health explained by that distal cause

 - Or (implicitly)
 - Identify the causal effect of distal causes on proximate causes of health
 - Measure racial/ethnic disparities in distal causes of health
 - Multiply the causal effect of the distal cause on the proximate cause by the racial/ethnic disparity in the distal cause
 - Multiply that by the causal effect of the proximate cause to obtain the amount/share of racial/ethnic disparity in health explained by that distal cause

5. Problems that Arise in Reduced Form Approach

- Identifying (causal) effect of distal causes is difficult
- Identifying the effect of the distal cause on the proximate cause is difficult (and often not done)
- Effects of distal causes may be moderated (differ) by race/ethnicity
- Effects of proximate causes may be moderated (differ) by race/ethnicity

Readings:

- Holland, Paul W. "Causation and race." *White logic, white methods: Racism and methodology* (2008): 93-109.
- VanderWeele, T. J., & Robinson, W. R. (2014). On the causal interpretation of race in regressions adjusting for confounding and mediating variables. *Epidemiology (Cambridge, Mass.)*, 25(4), 473–484.
- Jay S. Kaufman, Richard S. Cooper, Commentary: Considerations for Use of Racial/Ethnic Classification in Etiologic Research, *American Journal of Epidemiology*, Volume 154, Issue 4, 15 August 2001, Pages 291–298.
- Nuru-Jeter AM, Michaels EK, Thomas MD, Reeves AN, Thorpe RJ Jr, LaVeist TA. Relative Roles of Race Versus Socioeconomic Position in Studies of Health Inequalities: A Matter of Interpretation. *Annu Rev Public Health*. 2018 Apr 1;39:169-188.

6. Example of the Reduced Form Approach

- Racial/ethnic disparities in education
- Causal effect of education on CVD mortality
- How much can racial/ethnic disparities in education explain racial/ethnic disparity in CVD mortality?

- Or (implicitly)

- Causal effect of education on treatment of hypertension (one pathway)
- Multiply the causal effect of education on treatment of hypertension by the racial/ethnic disparity in education
- Multiply that by the causal effect of treatment of hypertension on CVD mortality
- How much can racial/ethnic disparities in education explain racial/ethnic disparity in CVD mortality through hypertension (one pathway)?

Reading:

- Neil M Davies, Matt Dickson, George Davey Smith, Gerard van den Berg, Frank Windmeijer. 2017. "The Causal Effects of Education on Health, Mortality, Cognition, Well-being, and Income in the UK Biobank." *Nature: Human Behavior*.
- Zhang, Xin, Shi-liang Yu, Lu-ming Qi, Li-na Xia, and Qing-tang Yang. "Association of educational attainment with hypertension and type-2 diabetes: A Mendelian randomization study." *SSM-Population Health* 25 (2024): 101585.
- Wang, Yiyang, Chaojie Ye, Lijie Kong, Jie Zheng, Min Xu, Yu Xu, Mian Li et al. "Independent associations of education, intelligence, and cognition with hypertension and the mediating effects of Cardiometabolic risk factors: a Mendelian randomization study." *Hypertension* 80, no. 1 (2023): 192-203.

Weeks 4, Oct. 22, 24: Measuring and Incorporating Discrimination in the Empirical Analysis

1. Measuring Discrimination

- Interpersonal discrimination
- Provider bias
- Systemic racism

Readings:

- Krieger, Nancy, Kevin Smith, Deepa Naishadham, Cathy Hartman, and Elizabeth M. Barbeau. "Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health." *Social science & medicine* 61, no. 7 (2005): 1576-1596.
- David Williams: <https://scholar.harvard.edu/davidrwilliams/node/32397>, Everyday Discrimination Scale, Major Experiences of Discrimination

- Landrine, H., & Klonoff, E. A. (1996). The Schedule of Racist Events: A Measure of Racial Discrimination and a Study of Its Negative Physical and Mental Health Consequences. *Journal of Black Psychology*, 22(2), 144-168. <https://doi.org/10.1177/00957984960222002>
- Schimmack, U. (2021). Invalid Claims About the Validity of Implicit Association Tests by Prisoners of the Implicit Social-Cognition Paradigm. *Perspectives on Psychological Science*, 16(2), 435-442.
- Balascio, Phoebe MS; Moore, Mikaela BS; Gongalla, Megha; Regan, Annette PhD; Ha, Sandie PhD; Taylor, Brandie D. PhD, MPH; Hill, Ashley V. DrPH, MPH. Measures of Racism and Discrimination in Preterm Birth Studies. *Obstetrics & Gynecology* 141(1):p 69-83, January 2023
- Jahn, Jaquelyn L. "Invited commentary: comparing approaches to measuring structural racism." *American Journal of Epidemiology* 191, no. 4 (2022): 548-551.

2. Evidence on the Role of Discrimination as Explanation of Racial/ethnic Disparities in Health

Readings: Provider Bias:

- Chapters 28-31 La Viest et al.
- van Ryn, M.; Burgess, D.J.; Dovidio, J.F.; Phelan, S.M.; Saha, S.; Malat, J.; Griffin, J.M.; Fu, S.S.; Perry, S. The impact of racism on clinician cognition, behavior, and clinical decision making. *Du Bois Rev.* 2011, 8,199–218.
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Readings: Interpersonal Discrimination

- Chapters 6-9 La Viest et al.
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Readings: Communication and Trust

- Marcella Alsan, Owen Garrick, and Grant Graziani. Does Diversity Matter for Health? Experimental Evidence from Oakland. *American Economic Review* 2019, 109: 4071–4111

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Week 5, Oct. 29, 31: Causal Estimates of the Effect of Widely Cited Distal Causes on Health

1. Education

Reading:

- Neil M Davies, Matt Dickson, George Davey Smith, Gerard van den Berg, Frank Windmeijer. 2017. "The Causal Effects of Education on Health, Mortality, Cognition, Well-being, and Income in the UK Biobank." *Nature: Human Behavior*.
- Brunello, Giorgio, Margherita Fort, Nicole Schneeweis, and Rudolf Winter-Ebmer. "The causal effect of education on health: What is the role of health behaviors?." *Health economics* 25, no. 3 (2016): 314-336.

2. Income

Readings:

- David Cesarini, Erik Lindqvist, Robert Östling, Björn Wallace, Wealth, Health, and Child Development: Evidence from Administrative Data on Swedish Lottery Players, *The Quarterly Journal of Economics*, Volume 131, Issue 2, May 2016, Pages 687–738
- Miller, Sarah, Elizabeth Rhodes, Alexander W. Bartik, David E. Broockman, Patrick K. Krause, and Eva Vivalt. Does Income Affect Health? Evidence from a Randomized Controlled Trial of a Guaranteed Income. No. w32711. National Bureau of Economic Research, 2024

3. Health Insurance

Readings:

- Katherine Baicker, Ph.D., et al (Oregon Health Study Group). 2013. "The Oregon Experiment — Effects of Medicaid on Clinical Outcomes." *N Engl J Med* 368:1713-1722.
- Kaestner, Robert. "Mortality and science: A comment on two articles on the effects of health insurance on mortality." *Econ Journal Watch* 18, no. 2 (2021): 192.

4. Hospital quality and residential segregation

- Baicker K, Chandra A, Skinner JS. Geographic variation in health care and the problem of measuring racial disparities. *Perspect Biol Med*. 2005 Winter;48(1 Suppl):S42-53.
- Chandra, Amitabh, Pragya Kakani, and Adam Sacarny. "Hospital Allocation and Racial Disparities in Health Care." NBER Working Paper Series, No. 28018, November 2020.
- Silber JH, Rosenbaum PR, Kelz RR, Gaskin DJ, Ludwig JM, Ross RN, Niknam BA, Hill A, Wang M, Even-Shoshan O, Fleisher LA. Examining Causes of Racial Disparities in General Surgical Mortality: Hospital Quality Versus Patient Risk. *Med Care*. 2015 Jul;53(7):619-29

Week 6-7, Nov. 5, 7, 12: Preterm Birth and Infant Health (Preterm Birth as important measure of infant health)

1. Size and persistence of racial/ethnic disparities

2. Identity proximate causes of infant health (preterm birth)

Readings:

- <https://www.marchofdimes.org/find-support/topics/birth/preterm-labor-and-premature-birth-are-you-risk>
- Zhang, G., Feenstra, B., Bacelis, J., Liu, X., Muglia, L.M., Juodakis, J., Miller, D.E., Litterman, N., Jiang, P.P., Russell, L. and Hinds, D.A., 2017. Genetic associations with gestational duration and spontaneous preterm birth. *New England Journal of Medicine*, 377(12), pp.1156-1167.

Supplemental Readings:

- Institute of Medicine. 2007. *Preterm Birth: Causes, Consequences, and Prevention*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/11622>.
Chapter 4: Sociodemographic and Community Factors Contributing to Preterm Birth
Chapter 5: Medical and Pregnancy Conditions Associated with Preterm Birth
Chapter 6: Biological Pathways Leading to Preterm Birth
Chapter 8: The Role of Environmental Toxicants in Preterm Birth

3. Specify the causal model

4. Evidence of effects of prenatal care

Readings:

- Cygan-Rehm, Kamila, and Krzysztof Karbownik. "The effects of incentivizing early prenatal care on infant health." *Journal of Health Economics* 83 (2022): 102612.
- Yan, Ji. "Healthy babies: does prenatal care really matter?." *American Journal of Health Economics* 6, no. 2 (2020): 199-215.
- Sonchak, Lyudmyla. "Medicaid reimbursement, prenatal care and infant health." *Journal of health economics* 44 (2015): 10-24.

5. Evidence of effects of health insurance

Readings:

- Currie, Janet, and Jonathan Gruber. "Saving babies: The efficacy and cost of recent changes in the Medicaid eligibility of pregnant women." *Journal of political Economy* 104, no. 6 (1996): 1263-1296.
- Margerison, Claire E., Robert Kaestner, Jiajia Chen, and Colleen MacCallum-Bridges. "Impacts of Medicaid expansion before conception on prepregnancy health, pregnancy health, and outcomes." *American Journal of Epidemiology* 190, no. 8 (2021): 1488-1498.
- Dave, Dhaval M., Robert Kaestner, and George L. Wehby. "Does public insurance coverage for pregnant women affect prenatal health behaviors?." *Journal of Population Economics* 32 (2019): 419-453.

Supplemental Readings:

- Howell, Embry M. "The impact of the Medicaid expansions for pregnant women: a synthesis of the evidence." *Medical care research and review* 58, no. 1 (2001): 3-30.
- Corman, Hope, Dhaval Dave, and Nancy E. Reichman. "The effects of prenatal care on birth outcomes: Reconciling a messy literature." In *Oxford research encyclopedia of economics and finance*. 2019.

6. Evidence of effects of income and education

Readings:

- Hilary Hoynes & Doug Miller & David Simon, 2015. "Income, the Earned Income Tax Credit, and Infant Health," *American Economic Journal: Economic Policy*, American Economic Association, vol. 7(1), pages 172-211 (if interested, see Dench D, Joyce T. The earned income tax credit and infant health revisited. *Health Econ.* 2020 Jan;29(1):72-84. doi: 10.1002/hec.3972. Epub 2019 Nov 23. PMID: 31758742.)
- Reader, Mary. "The infant health effects of starting universal child benefits in pregnancy: Evidence from England and Wales." *Journal of Health Economics* 89 (2023): 102751.
- Lyu, Wei, Wehby, George, and Robert Kaestner. (in progress). *Effects of Income on Infant Health: Evidence from the Expanded Child Tax Credit and Pandemic Stimulus Checks*.
- McCrary, J., & Royer, H. (2011). The effect of female education on fertility and infant health: evidence from school entry policies using exact date of birth. *American Economic Review*, 101(1), 158-95.

7. Evidence on the effects of racism

a. Stress and infant health

Readings:

- Almeida, Joanna, Laia Bécaries, Kristin Erbetta, Vani R. Bettegowda, and Indu B. Ahluwalia. "Racial/ethnic inequities in low birth weight and preterm birth: the role of multiple forms of stress." *Maternal and child health journal* 22 (2018): 1154-1163.
- Grobman WA et al. Racial Disparities in Adverse Pregnancy Outcomes and Psychosocial Stress. *Obstet Gynecol.* 2018 Feb;131(2):328-335.
- Phelan, A. L., M. R. DiBenedetto, I. M. Paul, J. Zhu, and K. H. Kjerulff. "Psychosocial stress during first pregnancy predicts infant health outcomes in the first postnatal year." *Maternal and child health journal* 19 (2015): 2587-2597.
- Anna Aizer & Laura Stroud & Stephen Buka, 2016. "Maternal Stress and Child Outcomes: Evidence from Siblings," *Journal of Human Resources*, 51, 523-555

Supplemental Readings:

- Braveman, Paula, Tyan Parker Dominguez, Wylie Burke, Siobhan M. Dolan, David K. Stevenson, Fleda Mask Jackson, James W. Collins Jr et al. "Explaining the Black-White disparity in preterm birth: a consensus statement from a multi-disciplinary scientific work group convened by the March of Dimes." *Frontiers in Reproductive Health* (2021): 49.

b. Interpersonal; racism

Readings:

- Mustillo S, Krieger N, Gunderson EP, Sidney S, McCreath H, Kiefe CI. Self-reported experiences of racial discrimination and Black-White differences in preterm and low-birthweight deliveries: the CARDIA Study. *Am J Public Health.* 2004 Dec;94(12):2125-31.
- Braveman, Paula, Katherine Heck, Susan Egarter, Tyan Parker Dominguez, Christine Rinki, Kristen S. Marchi, and Michael Curtis. "Worry about racial discrimination: A missing piece of the puzzle of Black-White disparities in preterm birth?." *PloS one* 12, no. 10 (2017): e0186151.
- Bower, Kelly M., Ruth J. Geller, Nancy A. Perrin, and Jeanne Alhusen. "Experiences of racism and preterm birth: findings from a pregnancy risk assessment monitoring system, 2004 through 2012." *Women's Health Issues* 28, no. 6 (2018): 495-501.
- Rosenberg, Lynn, Julie R. Palmer, Lauren A. Wise, Nicholas J. Horton, and Michael J. Corwin. "Perceptions of racial discrimination and the risk of preterm birth." *Epidemiology* (2002): 646-652.
- Greenwood, Brad N., Rachel R. Hardeman, Laura Huang, and Aaron Sojourner. "Physician–patient racial concordance and disparities in birthing mortality for newborns." *Proceedings of the National Academy of Sciences* 117, no. 35 (2020): 21194-21200.

8. NICU quality and residential segregation

- E.A. Howell, T. Janevic, P.L. Hebert, N.N. Egorova, A. Balbierz, J. Zeitlin. Differences in morbidity and mortality rates in black, white, and Hispanic very preterm infants among new york city hospitals *JAMA Pediatr*, 172 (3) (2018), pp. 269-277
- J. Profit, J.B. Gould, M. Bennett, et al. Racial/ethnic disparity in NICU quality of care delivery *Pediatrics*, 140 (3) (2017), Article e20170918, 10.1542/peds.2017-0918
- J.D. Horbar, E.M. Edwards, L.T. Greenberg, et al. Racial segregation and inequality in the neonatal intensive care unit for very low-birth-weight and very preterm infants *JAMA Pediatr*, 173 (5) (2019), pp. 455-461

Week 7-8, Nov. 14, 19: Hispanic-Immigrant Paradox

1. Conceptual Model

- Immigrant status as a cause?
- Connections between immigrant status and proximate and distal causes of infant health
- Potential explanations of immigrant paradox

2. Infant Health

Readings:

- Chapters 11, 14 LaViest et al.:
- Singh, G. K., & Yu, S. M. (1996). Adverse pregnancy outcomes: differences between US- and foreign-born women in major US racial and ethnic groups. *American journal of public health*, 86(6), 837–843. <https://doi.org/10.2105/ajph.86.6.837>
- Robert A. Hummer, Daniel A. Powers, Starling G. Pullum, Ginger L. Gossman, W. Parker Frisbie; Paradox found (again): Infant mortality among the Mexican-origin population in the United States. *Demography* 1 August 2007; 44 (3): 441–457.
- Sanchez-Vaznaugh EV, Braveman PA, Egerter S, Marchi KS, Heck K, Curtis M. Latina Birth Outcomes in California: Not so Paradoxical. *Matern Child Health J.* 2016 Sep;20(9):1849-60.
- Fishman SH, Morgan SP, Hummer RA. Smoking and Variation in the Hispanic Paradox: A Comparison of Low Birthweight Across 33 US States. *Popul Res Policy Rev.* 2018 Oct;37(5):795-824
- Ceballos, M., & Palloni, A. (2010). Maternal and infant health of Mexican immigrants in the USA: the effects of acculturation, duration, and selective return migration. *Ethnicity & health*, 15(4), 377–396.
- Andrasfay, Theresa^a; Goldman, Noreen^a Intergenerational Change in Birthweight, *Epidemiology*: September 2020 - Volume 31 - Issue 5 - p 649-658
- Landale, Nancy S., Oropesa, R.S., Llanes, Daniel, and Bridget Gorman. Does Americanization have Adverse Effects on Health?: Stress, Health Habits, and Infant Health Outcomes among Puerto Ricans. *Social Forces* 78(2):613-641, 1999.

3. Adult Health

Readings:

- Singh, G.K., & Siahpush, M. (2002). Ethnic-Immigrant Differentials in Health Behaviors, Morbidity, and Cause-Specific Mortality in the United States: An Analysis of Two National Data Bases. *Human Biology*, 74(1), 83–109.
- Crimmins EM, Kim JK, Alley DE, Karlamangla A, Seeman T. Hispanic paradox in biological risk profiles. *Am J Public Health.* 2007 Jul;97(7):1305–1310
- Boen CE, Hummer RA. Longer—but Harder—Lives?: The Hispanic Health Paradox and the Social Determinants of Racial, Ethnic, and Immigrant–Native Health Disparities from Midlife through Late Life. *Journal of Health and Social Behavior.* 2019;60(4):434-452.
- Hamilton, T.G.; Green, T.L. From the West Indies to Africa: A universal generational decline in health among blacks in the United States. *Soc. Sci. Res.* 2018, 73, 163–174.
- Palloni, A., & Arias, E. (2004). Paradox Lost: Explaining the Hispanic Adult Mortality Advantage. *Demography*, 41, 385–415. 10.1353/dem.2004.0024
- Fenelon A. Revisiting the Hispanic mortality advantage in the United States: the role of smoking. *Soc Sci Med.* 2013 Apr;82:1-9

Week 8-9, Nov. 21, Dec. 3: Child Health (asthma as important measure of child health)

1. Size and persistence of racial/ethnic disparities (asthma)

Readings:

- <https://www.nhlbi.nih.gov/health/asthma/causes>
- <https://www.ncbi.nlm.nih.gov/books/NBK551631/>

2. Specify the causal model

3. Evidence of effects of health insurance

Readings:

- Paradise, Julia, The Impact of the Children’s Health Insurance Program (CHIP): What Does the Research Tell Us? https://www.kff.org/wp-content/uploads/2014/07/8615-the-impact-of-the-children_s-health-insurance-program-chip-what-does-the-research-tell-us.pdf
- Janet Currie, Jonathan Gruber, Health Insurance Eligibility, Utilization of Medical Care, and Child Health, *The Quarterly Journal of Economics*, Volume 111, Issue 2, May 1996, Pages 431–466,

- Janet Currie, Sandra Decker, Wanchuan Lin, Has public health insurance for older children reduced disparities in access to care and health outcomes?, *Journal of Health Economics*, Volume 27, Issue 6, 2008, Pages 1567-1581
- Wherry, L. R., & Meyer, B. D. (2016). Saving teens: using a policy discontinuity to estimate the effects of Medicaid eligibility. *Journal of Human Resources*, 51(3), 556-588.

4. Evidence on provider Bias

Readings:

- Trivedi, Michelle, Vicki Fung, Elyse O. Kharbanda, Emma K. Larkin, Melissa G. Butler, Kelly Horan, Tracy A. Lieu, and Ann Chen Wu. "Racial disparities in family-provider interactions for pediatric asthma care." *Journal of Asthma* 55, no. 4 (2018): 424-429.

5. Evidence on income and education

Readings:

- Costello EJ, Compton SN, Keeler G, Angold A. Relationships Between Poverty and Psychopathology: A Natural Experiment. *JAMA*. 2003;290(15):2023–2029. doi:10.1001/jama.290.15.2023
- Cesarini, D., Lindqvist, E., Östling, R., & Wallace, B. (2016). Wealth, health, and child development: Evidence from administrative data on Swedish lottery players. *The Quarterly Journal of Economics*, 131(2), 687–738.
- Milligan, K., & Stabile, M. (2011). Do child tax benefits affect the well-being of children? Evidence from Canadian child benefit expansions. *American Economic Journal: Economic Policy*, 3, 175–205.
- Jacob Nielsen Arendt, Mads Lybech Christensen, Anders Hjorth-Trolle, Maternal education and child health: Causal evidence from Denmark, *Journal of Health Economics*, Volume 80, 2021, 102552
- Lindeboom, M., Llena-Nozal, A., & van Der Klaauw, B. 2009. Parental education and child health: Evidence from a schooling reform. *Journal of Health Economics*, 28(1), 109-131.

6. Evidence on neighborhood

Readings:

- Alexander, Diane, and Janet Currie. "Is it who you are or where you live? Residential segregation and racial gaps in childhood asthma." *Journal of health economics* 55 (2017): 186-200.
- Neighborhood: Kessler, R.C., Duncan, G.J., Gennetian, L.A., Katz, L.F., Kling, J.R., Sampson, N.A., Sanbonmatsu, L., Zaslavsky, A., Ludwig, J. (2014). "Associations of Housing Mobility Interventions for children in High-Poverty Neighborhoods with Subsequent Mental Disorders During Adolescence." *JAMA*. 311(9): 937-947

Week 9, Dec. 5: Catch-up, Recap and Discussion