THE ECONOMICS OF HEALTH CARE POLICY

SYLLABUS

HKS SUP-572, HSPH HPM-227ab, FAS ECONOMICS 1460

FALL SEMESTER 2016

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Section Meetings on selected Fridays at 10:15, T275, HKS

COURSE OUTLINE

August 31 - Introduction, Costs, and Financing (Class 1)

September 2 - Health Care Financing and the Labor Market, Incidence, the Theory of the Demand for Health Care and for Health Insurance (Class 2)

September 7 - Empirical Studies of the Demand for Health Care (Class 3)

September 12, 14, and 19 - Reimbursement Policy: Traditional Medicare (TM), Parts A and B (Classes 4-6)

September 21 - The Theory and Consequences of Selection in Health Insurance Markets with Individual Choice (Class 7)

September 26 - Medicare Part C and Risk Adjustment (Class 8)

September 28 - Commercial Health Insurance Markets and the Affordable Care Act (Class 9)

October 3 - Administrative Costs, Minimum Loss Ratios, and Antitrust (Class 10)

October 5, 12, and 17 - Testimony 1 (Classes 11-13)

October 19 – Variations (Class 14)

October 24 - Quality of Care (Class 15)

October 26 – Restructuring the American Health Care Delivery System (Class 16)

October 31 - Comparative Effectiveness Analysis (Class 17)
November 2 - Malpractice (Class 18)

November 7 - Pharmaceuticals and Medicare Part D (Class 19)

November 9 - Long Term Care and Medicaid (Class 20)

November 14 - Workforce and a Wrapup (Class 21)

November 16, 21, and 28 - Testimony 2 (Classes 22-24)

November 30 - In class exam (Class 25)
This course has a long reading list and a correspondingly heavy workload. In addition to the reading, there are slides for each class session, and for some of the sessions there are many slides. As a result, the workload is heavier than the typical HKS course, but – though this may be small consolation – it is less than a graduate level course in FAS. To try to help you, I have annotated the reading list to let you know my rationale for putting the reading on the syllabus so that you can read for the main points.

The reward for doing the required reading and working through the slides is that you should be qualified for any policy analytic job in the health care sector that does not require the research tools of a Ph.D. Also, the syllabus appears long in part because I have included a considerable amount of optional reading.

The required reading is in bold. You can download almost all the reading through the Harvard library system (http://eresearch.lib.harvard.edu/V/?func=find-db-1&mode=title); the URLs are listed in the syllabus. National Bureau of Economic Research (NBER) working papers can be downloaded free if you go to the NBER website (www.nber.org) through a Harvard account. I have assigned portions of three books, Free for All?, Pricing the Priceless, and Incentives and Choice in Health Care. They are all on reserve in the HKS library. If you prefer to purchase them, the first two are in paperback. In addition, I have made the book Inside National Health Reform optional; it too is in paperback. Some modest additional material is on the course website through CANVAS. Some of the items that I have placed on the course website such as “How to Think Like an Economist” are not called out on the syllabus but are just on the website as resources for you if you want to peruse them.

For each class session I will post slides on CANVAS the week prior to the class. I expect you to have gone through the slides before the class and to have done the required reading for that class. Both the reading and the slides have embedded questions, many of which we will talk about in class. I will not discuss each slide in class; there isn’t time to do that anyway.

A course requirement is to answer the following three questions and send them to me AND to the Course Assistants by noon of the day before the class:

1. What in the reading or the slides did you find most interesting? Briefly say why.
2. What in the reading or the slides did you find most puzzling?
3. What policy issue did you feel most worthy of discussion in class?

I have tried to make the slides as self-explanatory as possible. In many cases I have added explanatory material in the footer or in the notes below the slide if you use Normal View; in those cases I have put an * in the title or the body of the slide to alert you. I have tried to spell out acronyms in the footer or in the notes. Although I will try to avoid them, I will no doubt occasionally lapse into acronyms in class; if you don’t understand them, raise your hand; you will be doing your classmates a favor.

In addition to the requirement to submit answers to the three questions before each class, a second requirement of the course is to prepare “testimony” on two different occasions, one near the middle of the semester and the other at the end of the semester. You should write
In addition to writing your own testimony, everyone will read ten testimonies of other students and prepare one question per testimony for each author ("the witness"), who will answer selected questions about his or her testimony in class. In class you will have one minute to summarize the main point of your testimony and then we will turn to questions from the class that you will answer. The course assistants and I will select the specific questions to be answered since there will not be time in class to answer all ten questions that you receive, but you will not know which questions we have selected prior to class, so you should think about all the questions you get from your classmates. There will be an opportunity in class for give and take between the persons asking and answering the questions and others as well if someone else wants to follow up, and I encourage you to follow up. Come prepared with respect to the questions you have posed to your classmates so that you do not waste time by fumbling around trying to find your question. **Do NOT read your either your questions or your answers;** it is fine to have a few notes with you when you come to the front of the class to summarize your testimony and answer questions, but the time in class should be a conversation between two (or more) people, not reading from a prepared text. At an actual hearing in the US Congress, witnesses summarize their written testimony, usually in one or two minutes (Cabinet members have more leeway but they do not read their statements either), and then just respond to questions that they do not necessarily know in advance, though they certainly may have anticipated them. I have posted examples of previous students’ testimonies on the course website. For more professional (and longer than you are expected to write) examples of testimony, see testimony that MedPAC has prepared at [http://www.medpac.gov/](http://www.medpac.gov/). At the top of the MedPAC home page is a box titled “Documents.” Click on the menu in the “Documents” box and select “Congressional Testimony.”

Most policy makers neither want nor expect testimony to be laden with footnotes or citations. You should respect their expectations, and not make your testimony look like a law review article. That said, for purposes of this class you must still respect the scholarly standards of attribution and citation. That is, any words, data, or substantial ideas you take from someone else must be credited to the original author through a standard scholarly citation. Any substantial borrowing from others that is not so credited is plagiarism, which is one of the few ways you can get yourself expelled from Harvard. This is not hypothetical; it has unfortunately happened in this class. Please resolve this tension as follows: Write your testimony along the lines of the examples, i.e., without extensive footnoting or citation. BUT… add to the back of the formal memo a page of documentation, giving the sources of key information you have used in your memo. Document your sources in sufficient detail that a reader (e.g., you, if 3 months after writing the memo you are called upon by your boss to document your data sources) could locate and recover your key sources. Treat this documentation as an annex that would not necessarily be included in the memo handed in to the decision maker, but that would be appended to the back of the “file copy.” Such documentation is required for this class. It’s also a good practice
when you leave this classroom for the world outside. The examples of prior testimony on the website are from a time before I asked for documentation, so they do not have the extra page.

Finally, there will be an in-class examination during the last class of the semester. I have posted some prior final examinations on the course website.

Your grade will depend upon:

1) Your participation in class (I expect you to be in class on time) and the questions that you submit for each class session (50%);
2) The two testimony exercises, including the quality of your questions for others and your answers to the questions on your own testimony (16+% each), and;
3) The in-class examination in the final class session (16%).

I use the Kennedy School suggested grading curve as a guideline – around 40 percent A’s or A-’s – but this is not rigid.

The course assistants will conduct a review session on several Fridays. Although these sessions are optional, prior students have found them very helpful and I recommend that you attend. Although the assistants will review material from that week’s classes, you should submit any topics or questions you would like covered to the assistants beforehand. If they don’t receive questions, they have the option to cancel the session.

This course has several objectives:

1. **To enable you to think critically about health care policy.** This is the primary aim. Note that I slipped in the word “care” between “health” and “policy;” there is a large literature around health policy as well, especially around the socioeconomic determinants of health and promoting healthy behaviors, but there is not time to go into those topics; most, if not all, of you will likely think the reading list is already too long. The course will also not deal with classic public health issues, such as food and water safety. Henceforth, I will just use the shorthand of health policy rather than health care policy. I put this aim first, because of a quote from Eric Hoffer that I find apt: “In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists.” And the years since 2010 have certainly been a time of change in US health policy.

2. **To acquaint you with past analytical efforts in health policy, primarily by economists, who, however, often are writing for non-economists (since when they write for other economists in economics journals the technical level may be too high for non-economists and it is important to reach non-economists since they play an important role in formulating health policy).** This is intended to accomplish several things:

   a) To teach you some of what is known and not known about health policy;
   b) To show you how the economic theory and econometric methods you have learned in other classes have been applied to issues of health policy; and
c) To show you the connection between policy analysis and actual policy. Although there may not always seem to be an obvious connection, the manner in which issues appear on the policy agenda often is influenced by analysis, frequently with a substantial lag. Of course, there is also a reverse flow; what appears on the analysis agenda is certainly influenced by policy, though sadly by the time the analysis is done it is sometimes too late. A good policy analyst, like a good stock market analyst, is always trying to guess where things will be in a few years; both types of analysts are often wrong.

3. **To acquaint you with some of the relevant political and legislative history of American health policy issues.** The issues we deal with in this course - the demand for medical care; pricing and reimbursement; the quality and organization of care, including tort law; and the health care workforce - all have legislative and political histories, frequently long histories. Several of the optional books listed near the beginning of the syllabus (below) describe not only the history of American medical care generally but also the history of several of the policy issues that the course takes up, especially those around financing.

4. To distinguish where within the health care sector the market seems to work reasonably well and where it does not work so well and what the public policy options are for improving it in those domains where it does not work so well. For many reasons medical care does not resemble a classic textbook competitive market that is economically efficient, but incentives, including non-monetary incentives, are always important. You will have to decide where market failures are more tolerable and where government failures are more tolerable. Reasonable persons can and do differ on this issue.

5. I would also like to think you will **learn something about the difference between higher and lower quality research.** Toward that end I devote a few classes in the first part of the course primarily to research methods, and I emphasize methods at several points in the course; the purpose of these classes is to make you a better consumer of research.

6. Finally, some of you at some point in your careers are likely to work on health policy in the US. As mentioned above, this course should **prepare you for jobs of an analytical nature** that do not require the research tools of a Ph.D.

**Rules of Classroom Conduct**

I will follow the HKS rules for classroom conduct:

1. **Be on time.** Class starts at 8:40 am. At that time you should all be in your seats and ready to start class.
2. **Bring your name card.** It not only helps me learn your names but also helps your fellow students know who made a particular comment.
3. **Laptops, tablets, and smartphones are NOT to be used in class.** Since you can print off the slides in advance, there should be no need for access to them during class.
4. **No side conversations.** This is distracting to me and to your fellow students. If you have a question, please raise your hand. Although you will have asked questions in what you submit
before the class, some questions will inevitably occur to you during class. Feel free to ask; if you don’t understand something, the chances are good someone else doesn’t either.

5. **Eat responsibly.** Try to minimize the impact on others. Drinks are allowed.

6. **Please leave during class for emergencies only.** If you have to leave during class, please try to create a minimal disruption. If you must arrive late or leave early for a particular class, please let me know in advance.

7. **Cell phones off.** If there is an extraordinary reason why you must keep your phone on (e.g., you are awaiting critical medical news) please silence your ringer and let me know in advance that you may receive a call. Leave class to conduct your conversation.

**Academic Integrity Policy:**

You should write your own testimony and your own questions on the testimony of others. The testimony is not a group exercise. And of course the examination is not a group exercise.

**A semantic note on the Syllabus and on the slides:**

I use the acronym ACA to mean the Affordable Care Act. On December 24, 2009 and March 21, 2010 the Senate and House respectively passed the Patient Protection and Affordable Care Act of 2010. Three days after President Obama signed this Act into law, the House and Senate both passed the Health Care and Education Reconciliation Act, which amended the original legislation. By the ACA I mean the amended Act. Even though many of you will probably be familiar with key provisions of the ACA, in the slides I have tried to be self-explanatory when I refer to specific provisions. If you want a summary of the Act, you can read the second section of the McDonough book below, though the book does not deal with the 20,000+ pages of regulations to implement the Act that have been issued in the last six years, and it did not anticipate the Supreme Court decision making Medicaid expansion optional (NFIB vs Sibelius). If you are interested, you can read my early analysis of the Act, but that is certainly not required reading:

Joseph P. Newhouse, “Assessing Health Reform’s Impact on Four Key Groups of Americans,” *Health Affairs*, September 2010, 29(9):1714-24. Like the McDonough book, this paper was written before the 2012 Supreme Court decision that allowed states the option of not expanding Medicaid without losing all their federal Medicaid dollars.

**Background Material: General**

Background material on a number of topics covered in the course, as well as other topics in health policy, is available on the Kaiser Family Foundation website [www.kff.org](http://www.kff.org). Although I assume you have some basic familiarity with the financing and organization of health care in the US, for example, you have taken HKS SUP-500 or one of the undergraduate health policy courses, non-US students may find the descriptions of the Medicare and Medicaid programs on this website helpful. In addition the website has a host of other background material. You may also find the Commonwealth Fund website useful, [www.cmwf.org](http://www.cmwf.org). Three useful government websites are [www.cbo.gov/topics/health-care](http://www.cbo.gov/topics/health-care), which has the Congressional Budget Office materials related to health (some of the CBO material, however, is under “Budget”), [www.medpac.gov](http://www.medpac.gov), the Medicare
Payment Advisory Commission (MedPAC) site, which is extremely useful for Medicare issues, and www.macpac.gov, which has material on Medicaid and the Children’s Health Insurance Program (CHIP). Finally, a summary of a great many policy issues is available at http://www.healthaffairs.org/healthpolicybriefs/archives.php?search=&x=11&y=4, and the Health Affairs blog has material on current events. http://healthaffairs.org/blog/

I next list some books that those of you intending to pursue a career in health policy should read at some point, but they are not necessary for this course; there is already plenty of reading.

OPTIONAL:

Victor R. Fuchs, Who Shall Live? 3rd edition; Singapore: World Scientific, 2011. This classic monograph is an excellent exposition of the application of several elementary economics principles to health care, especially the need for choice. Although the numbers are now very dated, the analysis is generally still relevant. The 3rd edition reprints the 1974 first edition in its entirety and also has some additional later essays of Fuchs appended, along with a new introduction giving Fuchs’ views on how health and health care have evolved in the past four decades. The book is focused on the US.

Background: Historical (US)

The following books provide historical background on US health policy. All are in paperback.

OPTIONAL:

John E. McDonough, Inside National Health Reform; Berkeley: University of California Press, 2011. Part I is an insider’s account of the enactment of the ACA; Part II is an analysis of the ACA, title by title. Two chapters from Part II appear on the Optional reading for class 9. Parts of the book are now out of date, most notably the chapter on Medicaid (Title II), which was written before the Supreme Court’s 2012 decision made Medicaid expansion optional, as well as the material on the CLASS Act, which the Secretary decided could not be implemented.

Stuart Altman and David Shactman, Power, Politics, and Universal Health Care; Amherst, NY: Prometheus Books, 2011. A political history of the past century of health policy, though most of the book is focused on the past 40 years. The first author (and occasionally his mother) is a participant in many of the chapters; he is currently the chair of the Massachusetts Health Policy Commission.

David Blumenthal and James Morone, The Heart of Power, Berkeley: University of California Press, 2009. Each chapter is a description of health policy in each Presidential administration from Franklin Roosevelt to George W. Bush except for President Ford. The authors have rather harsh views of administration economists, although in my view they do not substantively rebut the arguments of the economists that they disparage. And they seem to ignore that many economists were (in their view) constructive contributors, e.g., Stuart
Altman (in both the Nixon administration and the 1992 Clinton transition), Gail Wilensky (George H.W. Bush), and Mark McClellan (George W. Bush).


**Background: Economics**

This is a course in the economics of health policy rather than a course in health economics, meaning the course investigates a number of health policy issues through the lens of economics rather than starting with economic theory and showing how it applies to health policy as a typical health economics course might do. The difference, however, is more in emphasis than substance, and health economics textbooks cover most of the course topics in some fashion. For those who wish to see a textbook treatment, I mention three textbooks here; finding the relevant sections should not be difficult.


An indispensable reference work for more advanced students of health economics is:

Handbook of Health Economics, vol. 1, eds., Anthony J. Culyer and Joseph P. Newhouse; Amsterdam: North Holland, 2000, and vol. 2, 2012, eds. Mark V. Pauly, Thomas G. McGuire, and Pedro Pita Barros. [http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science?_ob=TitleSrchURL&method=submitForm&term=Handbook%20of%20Health%20Economics&acct=C000014438&version=1&userid=209690&md5=f46d423af8c0e93de3d0773e6328d322](http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science?_ob=TitleSrchURL&method=submitForm&term=Handbook%20of%20Health%20Economics&acct=C000014438&version=1&userid=209690&md5=f46d423af8c0e93de3d0773e6328d322). Several chapters from the Handbook are on the reading list, although only two are required because many of the chapters are hard going unless you have the requisite economics background. A mathematical intermediate microeconomics course such as HKS API-101Z, FAS Economics 1011a, or HSPH HPM-206 and an undergraduate econometrics class will suffice for much of the Handbook, but a graduate level microeconomics course such as FAS Economics 2010 or 2020 (HKS API-111, 112) and graduate level econometrics is necessary for some parts.
**Health Care Systems Other than the United States**

Although the US health care financing and delivery systems are exceptional in some respects, there is much variety in the rest of the world as well – a fact many Americans can find surprising. If you wish to see sketches of 14 industrialized countries’ health care systems, including the US, see *International Profiles of Health Care Systems, 2013*, eds. Sarah Thomson, Robin Osborn, David Squires, and Miraya Jun; The Commonwealth Fund, November 2013, [http://www.commonwealthfund.org/Publications/Fund-Reports/2013/Nov/International-Profiles-of-Health-Care-Systems.aspx](http://www.commonwealthfund.org/Publications/Fund-Reports/2013/Nov/International-Profiles-of-Health-Care-Systems.aspx). In addition, there are a few papers on this reading list that draw on experience in other countries, especially the UK and the Netherlands.


**CLASS 1 - OVERVIEW OF MEDICAL COST DRIVERS AND HEALTH CARE FINANCING; FINANCING MEDICAL COSTS** (August 31)

This first class is an overview of issues around health care costs, focusing on why costs have risen historically, how they are financed, and the policy issues raised by different financing methods. Each method of financing creates economic inefficiencies. The slides for this class touch on the inefficiencies related to taxation, but those inefficiencies are covered much more extensively in any economics of public finance course. This session also takes up issues around the future financing of Medicare and Medicaid. I defer the issue of financing employment-based insurance to the next class. The Cutler-Zeckhauser chapter can be postponed to later in the semester if the reading load for this class is too great for your time, but I recommend that you do not postpone it.

Henry J. Aaron and Paul B. Ginsburg, “Is Health Spending Excessive? If So, What Can We Do About It?” *Health Affairs*, September/October 2009, 28(5):1260-75. An overview of the cost issue. Note that their Table 2 is in the same spirit as the slide that compares the excess of US health care cost growth over GDP growth to some other countries. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/28/5/1260.abstract](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/28/5/1260.abstract)

Alan M. Garber and Jonathan Skinner, “Is American Health Care Uniquely Inefficient?” *Journal of Economic Perspectives*, 22(4), Fall 2008, pp. 27-50. Suggests US health care is not on the flat-of-the-curve, as some infer from the US’ lower life expectancy and higher spending, but is instead inside the production possibility frontier (see the slides
for this class). More on this point in classes 14 and 15. 
http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.22.4.27

David M. Cutler, Sanjay Vian, and Allison B. Rosen, “The Value of Medical Spending in the United States, 1960-2000.” New England Journal of Medicine, 355(9), August 31, 2006, pp. 920-7. The paper makes the case that the benefits from the increased spending on medical care in the last half of the 20th century were worth it on the basis of reductions in mortality, even without accounting for gains in morbidity, though less so for the elderly. 

Victor R. Fuchs, “Eliminating ‘Waste’ in Health Care,” JAMA, December 9, 2009, 302(22):2481-2. Economists and clinicians define waste differently – but the economists’ definition is exceedingly hard to implement. You should think about why this is. 
http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/302/22/2481.full.pdf

M. Gregg Bloche, “Beyond the ‘R Word’? Medicine’s New Frugality,” New England Journal of Medicine, May 24, 2012, 366(21):1951-3. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp1203521 In practice reducing the rate of growth of cost ultimately means not giving some persons some medical services with positive benefits, or, more precisely, doing more of that than is done now. (Cutler’s book, The Quality Cure (Optional, below) argues that “ultimately” could be about two decades off, although I personally find that optimistic.) Some of the public still believes that cost should not be a factor in determining medical treatment, at least judging from the traction that the words “rationing health care” get in the public debate, but accounting for cost is inevitable given that the rate of growth must come down from historical levels – and in fact has been coming down as one of the slides shows. The issue is really the mechanism(s) that are used to ration and who gets what medical services.

David M. Cutler and Richard J. Zeckhauser, “The Anatomy of Health Insurance,” in Handbook of Health Economics, eds., Anthony J. Culyer and Joseph P. Newhouse; Amsterdam: North-Holland, 2000 http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science/article/pii/S1574006400801705. This chapter is an excellent introduction to and summary of the economics of health care financing. It is relevant to many parts of the course, although I do not work through the chapter in this or in subsequent classes. The chapter uses the calculus in some places; for those of you whose calculus is rusty, keep reading; the authors mostly explain verbally what they are doing. You do not have to have read the chapter to understand much of the material for the first few class sessions, but I have placed this chapter on the reading list at this point not only because it serves as background for many parts of the course but also because some of the early material in the course anticipates later material, and this chapter introduces some of that later material. In other words, you will understand the course as it unfolds better if you read this chapter now.

OPTIONAL:


Sheila Smith, Joseph P. Newhouse, and Mark Freeland, “Income, Insurance, and Technology,” Health Affairs, September/October 2009, 28(5):1276-84. This work updates the Newhouse 1992 paper (below) with seventeen new years of data and an explicit accounting for the endogeneity of technological change. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/28/5/1276.abstract](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/28/5/1276.abstract)

On the cost slowdown around the time of the ACA, see Amitabh Chandra, Jonathan Holmes, and Jonathan Skinner, “Is This Time Different? The Slowdown in Healthcare Spending” NBER Working Paper 19700, December 2013. [http://www.nber.org/papers/w19700?utm_campaign=ntw&utm_medium=email&utm_source=ntw](http://www.nber.org/papers/w19700?utm_campaign=ntw&utm_medium=email&utm_source=ntw). Although cost growth has increased recently, the excess of health care spending growth over GDP fell notably in the years just before and after the ACA’s passage. The degree to which each of several factors caused the slow down - the recession, the ACA, more cost sharing, or something else – is highly contentious.

Katherine Baicker, Mark Shepard, and Jonathan Skinner, “Public Financing of the Medicare Program Will Make Its Uniform Structure Increasingly Costly to Sustain,” Health Affairs, May 2013, 32(5):882-90. A non-technical summary of a model that calculates the welfare loss from increased taxes to finance the higher cost of public insurance. It uses the size of this welfare loss to argue for coverage of basic medical services and redistribution in other forms. This paper builds on more technical work by the authors (see reference 19 and the immediately following publication by two of the three authors).

Katherine Baicker and Jonathan Skinner, “Health Care Spending Growth and the Future of U.S. Tax Rates,” in Tax Policy and the Economy, ed. Jeffrey R. Brown, Chicago: University of Chicago Press, 2011. To finance CBO’s then projected federal health care spending, top marginal tax rates could rise to 70% by 2060; deadweight loss is $1.48 per dollar collected and GDP declines (relative to trend) 11%. Importantly, however, CBO’s projected health care spending has declined markedly since 2011 and so therefore have the required tax rates and the deadweight loss; see the slides for this class. [http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w16772](http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w16772)

because of the length of the reading list, but if you are so inclined, the book itself is short (123 pages), is written for a general audience, and is highly readable. The introduction and Chapters 1-6 are the most relevant to the material in this first class, but the remainder is the book is relevant to other parts of the course.

David M. Cutler, The Quality Cure; Berkeley: University of California Press, 2014. Another short, highly readable book by Cutler; this one makes the case that eliminating waste in the American system could buy around two decades of cost growth in line with GDP growth. Implicitly, however, that has been true for a long time; the issue is whether the share of GDP going to health care has risen to a level at which actions to reduce cost growth are likely to be implemented and if so the degree to which those actions will successfully target waste. Much of the rest of the course bears on that issue.

The following are two papers on what might account for differences in the level of spending between the US and the rest of the world.


Miriam J. Laugesen and Sherry A. Glied, “Higher Fees Paid To US Physicians Drive Higher Spending For Physician Services Compared To Other Countries,” Health Affairs, September 2011, 30(9):1647-56. The title gives the punch line. We will take up physician reimbursement in class 6. There is also a slide on this point in the slides for this class. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/30/9/1647

Victor R. Fuchs and John B. Shoven, “Funding Health Care for All Americans,” An overview of financing options for health care. The Fuchs-Emanuel plan that is referred to in the latter part of this document was a proposal to give everyone a health insurance voucher and have them buy insurance through an exchange, which anticipated the ACA’s provisions for those without employer-based insurance. This paper is on the reading list, however, because of its lucid explanation of the various financing options for health care. http://www.fresh-thinking.org/docs/workshop_071018/FundingHealthCareForAllAmericans-AnEconomicPerspective.pdf

Martin S. Feldstein, “The Effect of Taxes on Efficiency and Growth,” Cambridge, MA: NBER Working Paper 12201, May 2006. A non-technical paper that quantifies the inefficiencies induced by the American tax system. For those of you that want to read something on this subject but have not taken a public finance course, this would be a good choice. http://papers.nber.org.ezp-prod1.hul.harvard.edu/papers/w12201

for the high level of costs in the US compared with other countries. Emanuel served in the Obama Administration as Special Adviser to OMB Director Peter Orszag during the 2009-2010 health reform debate. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/299/23/2789.short


Joseph P. Newhouse, “Medical Care Costs: How Much Welfare Loss?” Journal of Economic Perspectives, 6:3, Summer 1992, pp. 3-21. This paper distinguishes the margin of costs at a point in time from that of costs over time (see also the slides) and argues that the growth in costs over time has on average been justified by the growth in the benefits. That is a similar argument to the required Cutler, et al. paper and is also found in the slides. The Smith, et al. paper above updates this one. http://links.jstor.org.ezp1.harvard.edu/sici?sici=0895-3309%28199222%296%3A3%3C3%3AMCCHMW%3E2.0.CO%3B2-M.

Chapin White, “Health Care Spending Growth: How Different Is The United States From The Rest Of The OECD?,” Health Affairs, January/February 2007, 26(1):154-61, places emphasis on the differences in the US rate of growth with other countries, while my 1992 paper emphasizes the similarities. There are some differences in our methods: 1) White’s initial year is 1970, mine is 1960; I use 1960 for most countries just to get a longer time series; 2) I focus on the largest economies (and I somewhat discount Germany because of reunification) whereas White looks at the entire OECD; 3) White looks at health care cost growth relative to GDP growth and accounts for aging, but these two differences roughly cancel out. Even though White emphasizes US exceptionalism, he also shows that the US is nowhere near the outlier in the rate of growth that it is in levels. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/cgi/reprint/26/1/154 If you want to see how these ideas/debates in the academic literature filter in to the policy process, have a look at Congressional Budget Office, “Technological Change and the Growth of Health Care Spending,” January 2008, http://www.cbo.gov/ftpdocs/89xx/doc8947/01-31-TechHealth.pdf.

CLASSES 2 - 3: THE DEMAND FOR MEDICAL CARE, HEALTH INSURANCE, AND COST SHARING

CLASS 2 – THE INCIDENCE OF EMPLOYER PAID PREMIUMS; HEALTH CARE COSTS AND THE LABOR MARKET; THE THEORY OF DEMAND FOR MEDICAL SERVICES; THE DEMAND FOR INSURANCE AND RISK
AVERSION (September 2)

This class is in three parts. First, we finish the financing discussion that we began in class 1 by taking up the incidence of employer-paid premiums and then drawing out some consequences for labor markets. The historical increase in health care costs has been part of the reason real cash wages have stagnated for several decades, a topic covered in this class, and also why the number of uninsured increased prior to the implementation of the ACA (I will cover the ACA in some detail in Class 9). The slides take up how the mandates in the ACA are likely affecting the labor market; there is no reading assigned on this material, however.

Second, we take up the demand for medical care as a function of cost sharing in health insurance (i.e., how much the patient pays at the point of service), with the limiting form of cost sharing being no insurance. The purpose of insurance generally is to reduce financial risk to the individual, but in doing so it generally changes individual actions. The economics literature refers to this phenomenon as moral hazard, a term it borrowed from the actuarial literature. In the health insurance case moral hazard usually refers to the increase in demand for medical care as individuals have more complete insurance, but it sometimes refers to a decreased effort to prevent illness, such as not exercising or not eating sensibly. In this class, however, we will focus on its effect on the demand for medical care. The slides cover the theory of the demand for medical care and moral hazard. This is a review of the theory of the consumer that should be familiar from your microeconomics course(s). The slides for the next class takes up the empirical work on this topic, although the Baicker and Goldman paper (assigned for this class in part to somewhat balance out the reading across classes) summarizes much of it.

The institutional context for cost sharing differs among countries. In general, cost sharing is more important in low and middle income countries than in high income countries. Moreover, in some low and middle income countries under-the-table payments, which add to cost sharing, may be de facto necessary to receive care, but these are rarely found in the US or northern European countries. Somewhat related analytically to under-the-table payments is balance billing, whereby the provider, usually the physician, is allowed to bill the patient for amounts in addition to the prescribed cost sharing. For “in-network” services (“networks” are specific physicians or providers that the patient pays less to use, more in class 16), balance billing plays little or no role in the US, and I will not consider it in this class, although the Class 6 Optional reading has one reading on it. Balance billing is important for out-of-network services (meaning providers who are not part of the network); we will take up issues around out-of-network services in Class 16.

Third, this class covers the demand for insurance, which from an economic point of view is a demand for risk reduction or for the smoothing over time of resources available for consumption. The tradeoff between risk reduction and efficiency losses from moral hazard is sometimes referred to as Zeckhauser’s dilemma after his classic 1970 paper, which is on the supplementary reading list.

The slides also cover the important distinction between positive and normative
economics and the key challenges in applying normative economics to medical care. Make sure you understand the distinction between positive and normative economics. Normative economics has challenges when behavioral biases are present. The final slides in the slide deck touch on some of these behavioral biases, including loss aversion and overweighting small probabilities and underweighting large ones. The material in this class just touches on the challenges of applying standard normative economics to medical care; I will come back to that issue in class 7 when we discuss the market for health insurance; see especially the Beshears, et al. paper for class 7.

Lawrence H. Summers, “Some Simple Economics of Mandated Benefits,” American Economic Review, 79(2): 177-183, May 1989. Covers the basic economics of the incidence of employer paid insurance premiums, whether they are mandatory, as in the ACA, or voluntary. Incidence refers to who ultimately pays a tax or pays for a mandate; it is one of the hardest economic concepts for non-economists. Although the notion that employees ultimately bear the cost of employer-paid premiums is almost universally accepted by economists (but often not by non-economists, including the Supreme Court majority in the Sibelius vs. Hobby Lobby case), the slides note some important caveats and draw out some implications of the theory. Those interested in more on this topic can consult Mark Pauly’s book on the subject that is on the supplementary reading list. http://www.jstor.org.ezp-prod1.hul.harvard.edu/stable/1827753?seq=1#page_scan_tab_contents

Katherine Baicker and Dana Goldman, “Patient Cost Sharing and Health Care Spending Growth,” Journal of Economic Perspectives, Spring 2011, 25(2):47-68. This paper has a misleading title, because it has little to do with the relationship between cost sharing and spending growth but a lot to do with the relationship between cost sharing and the level of spending. It is on the reading list because it is a good review of the cost sharing literature. The slides do not cover this material, but we will cover it more in Class 3. http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.25.2.47

Joshua T. Cohen, Peter J. Neumann, and Milton C. Weinstein, “Does Preventive Care Save Money? Health Economics and the Presidential Candidates,” New England Journal of Medicine, February 14, 2008, 358(7):661-663. http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/358/7/661.pdf This paper presents the health policy analysts’, as opposed to the general public’s, view of how public policy should approach preventive care. The provisions of the ACA, however, show the power of the general public’s view in the ACA’s mandate that preventive care services have no cost sharing. Related to this topic is the reaction of the public to the fall 2009 recommendations of the US Preventive Services Task Force on breast and cervical cancer screening (suggesting women between 40-50 not at high risk need not have annual screening and women over 50 need it only biannually) and its fall 2011 recommendation against the Prostate Specific Antigen (PSA) test for prostate cancer. If you want something more on these latter topics, there is a short discussion of the 2009 Task Force recommendations that explains false positives at http://www.nytimes.com/2009/12/20/business/20view.html?adxnnl=1&hpw=&adxnnlx=1261314342-1pI1E0YjZtkh/RiLmbQxg and the 2011 Task force recommendations at http://www.nytimes.com/2011/10/07/health/07prostate.html?scp=2&sq=psa%20test%20harris&st=cse, but these latter two readings are optional.
A comprehensive review of the demand for insurance, both theoretical and empirical, is the following reading. The theory is formally derived (meaning those with weak math backgrounds will likely struggle):


The following two papers expand the usual theory of demand and moral hazard to consider multiple goods, which is the context for preventive services. The usual theory, which treats one good, can be found in any of the textbooks listed at the beginning of the syllabus, and the slides for this class go over it as well.

Randall P. Ellis and Willard G. Manning, “Optimal Health Insurance for Prevention and Treatment,” Journal of Health Economics, December 2007, 26(6):1128-50 is a formal treatment of the standard theory of demand with both preventive and treatment services. The main result is that preventive services should have less cost sharing than treatment services, which comes from the individual’s ignoring the savings on treatment costs accruing to others in the insurance pool when deciding on the amount of preventive care. Ellis and Manning also show that if there are uncompensated monetary losses of treatment, such as time and travel, insurance rates on insured treatment services should be lower than they otherwise would be.

Dana Goldman and Tomas J. Philipson, “Integrated Insurance Design in the Presence of Multiple Medical Technologies,” American Economic Review, May 2007, 97(2): 427-432. An argument similar to that of Ellis-Manning and Chernew, et al., showing that if two services are substitutes, say hospital care and drugs (for example, more hospitalization if I don’t take my drugs), the cost sharing on drugs should be lower than if the two services were unrelated.

For those of you that have the economics background to understand it, the following work by Chetty and Szeidl explains why consumers may appear more risk averse to intermediate losses than standard theory would predict. I give the intuition in the slides (“Insurance 201”). This may partially explain consumer’s’ aversion to high deductible plans unless they are funded by the employer (i.e., unless the employer makes a lump sum transfer that can be used for out-of-pocket health spending and may carry over with interest to the following year). The usual concept of loss aversion, however, is another (not mutually exclusive) explanation of why consumers don’t like high deductible plans.


The slides discuss the normative assumptions needed to treat consumer and producer surplus as a measure of welfare. One frequently mentioned concern about applying standard welfare economics in this domain is the inability of the consumer/patient to judge the advice of the physician. This type of problem is not limited to health care, and the type of good or service where it arises is called a credence good. For more on credence goods (but this article is long and somewhat hard going), see Uwe Dulleck and Rudolf Kerschbamer, “On Doctors, Mechanics, and Computer Specialists: The Economics of Credence Goods,” *Journal of Economic Literature*, March 2006, 44(1):5-42. http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/002205106776162717


*Health Insurance and the Labor Market.* Almost 60 percent of non-elderly Americans obtain their health insurance through their place of employment or their spouse’s place of employment, and around 30 percent of the elderly have supplementary insurance (to Medicare) through their prior employer. Prior to the ACA, employment-based insurance had consequences not only for who pays the costs of health insurance (e.g., Summers, on the required list) but also for the efficiency with which the labor market operated, especially the phenomenon of “job lock,” which refers to workers not moving to jobs that they would otherwise move to because doing so would entail a change in their health insurance. (There was also “marriage lock” for
similar reasons.) For material on job lock from employment-based health insurance, see the Gruber *Handbook of Health Economics* (volume 1) chapter on the supplementary reading list and the literature cited there. The establishment of exchanges/marketplaces has presumably diminished job lock, although it is certainly the case for any given worker that his or her employer policy may be more generous than the policy that can be bought in the exchange, so job lock is still relevant.

The slide with the Kolstad-Kowalski data on wages in Massachusetts is by far the strongest evidence I know of on the incidence of employer paid premiums; the final version of their paper is published as Jonathan T. Kolstad and Amanda E. Kowalski, “Mandate-based Health Reform and the Labor Market: Evidence from the Massachusetts Reform,” *Journal of Health Economics*, 2016, 47:81-106. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629616000278/1-s2.0-S0167629616000278-main.pdf?_tid=3ad9f672-48f2-11e6-880a-00000aab0f01&acdnat=1468411768_c9616a11f5013785101ad4d1bb037c7d

One other paper along similar lines is:


A paper that deals with the consequences of rising health costs for median household income is:


Jeffrey Liebman and Richard J. Zeckhauser, “Simple Humans, Complex Insurance, Subtle Subsidies,” paper prepared for a Tax Policy Center conference, February 24, 2008. http://www.taxpolicycenter.org/tppcontent/healthconference_zeckhauser.pdf. Also in *Using Taxes to Reform Health Insurance*, eds. Henry J. Aaron and Leonard E. Burman, eds., Washington: Brookings, 2009. This paper is mainly about how insights from behavioral economics might affect health policy. We will see more along these lines in class 7. The concluding section, however, has positive comments on the role of the employer in structuring the market for health insurance that are relevant to the debate over replacing employment-based insurance with individually purchased policies, a debate that will continue with the implementation of exchanges/marketplaces. These comments contrast with much of the literature on the negative consequences of employment-based insurance.


Because of the many two-worker families, it is advantageous for each employer to provide less subsidy for dependent insurance, so that the family elects dependent coverage from the other employer. (Sometimes this takes the form of a bonus for not insuring dependents through one’s own employer.) For a model of dependent health insurance as a ruinous game, see:


There is a considerable debate over whether health insurance should be linked to employment. Many health policy analysts feel it should not be (e.g., Fuchs and Emanuel), a view embodied in the 2009-2010 ACA debate in the Wyden-Bennett bill. Their primary rationale is job lock and the efficiency of the labor market. There are, however, arguments that support employment-based insurance; those arguments related to selection (we will cover those arguments in classes 7 and 9) and also to individual consumers’ ability to choose wisely (see Liebman-Zeckhauser reading).

In the ACA debate the Wyden-Bennett bill, however, did not attract a lot of political support. Although this lack of support may have partly reflected the substantive arguments, it no doubt reflects the political difficulty of changing from employment-based insurance because of the amount of redistribution it would entail and, if a public program were the alternative, the amount of money that would be shifted to the government budget and would need to be raised through taxes (see the discussion of single payer in Vermont in class 10). Furthermore, because of worker investment in firm-specific capital (meaning the worker is more productive at his or her current firm and therefore earns more than at other firms), it is not clear that workers would promptly receive in wages what firms now pay in health insurance premiums (even if the incidence is on workers in the long run), so the redistribution that a move from employment-based insurance would cause is not easy to predict, at least in the short run. Nonetheless, we could well see employment-based insurance evolve toward a defined contribution model, meaning the employer gives the employee a specified dollar amount as a voucher to purchase a health insurance plan, perhaps on a private exchange (class 9). This changes the health insurance market to an individual model as compared with the employer choosing one or a few plans to offer to employees, which has been the traditional American model.

That the incidence of employer paid premiums is on workers is nearly universally accepted by economists, as noted above, but the issue of incidence within the work group is not resolved. There is not much literature and what literature there is conflicting, as the following two papers illustrate.
Frank A. Scott, Mark C. Berger, and John E. Garen, “Do Health Insurance and Pension Costs Reduce the Job Opportunities of Older Workers?” Industrial & Labor Relations Review, July 1995, 48 (4), pp. 775-91. This is one of the few papers in the literature that bears on incidence of employer paid premiums within a firm. It shows that companies with health insurance as a fringe benefit are less likely to hire 55-64 year old workers than companies without, as are companies with more rather than less health generous plans, suggesting that the incidence within the work group is not age-specific. This result contrasts with the Bhattacharya and Bundorf paper that follows as well as Gruber papers on the Supplementary list which suggest subgroup-specific incidence.


A paper on the other side of incidence within the work group is Jay Bhattacharya and M. Kate Bundorf, “The Incidence of the Health Care Cost of Obesity,” Journal of Health Economics, May 2009, 28(3):649-58. Shows that the incremental health care costs of obesity appear to be passed on in the form of lower cash wages, because obese workers without health insurance do not show a wage difference, whereas obese workers with health insurance do. In effect, the cost of health insurance accounts for a non-trivial amount of the apparent wage discrimination faced by obese females. They do not distinguish self-insured firms from non-self-insured firms, however; whereas self-insured firms, who cover about half the workers, pay any health costs of obesity, non-self-insured firms do not except for any indirect effects through experience rating, which is muted for many non-self-insured firms. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629609000113/1-s2.0-S0167629609000113-main.pdf?_tid=5fe5d46c-a638-11e4-ba78-00000aab0f01&acdnat=1422372358_54537a184b3e89bb1fe38d36f231236d

Workers 65 years of age and older face potential discrimination in the labor market because of a Medicare requirement that Medicare is the secondary payer for workers who are eligible for Medicare but who can obtain health insurance from their employer (provided the employer has 20 or more workers). For example, Harvard is the source of insurance for professors who are 65 or older and are still active employees. This requirement means that the employer’s insurance pays health care bills first. It was adopted in 1983 to prevent crowdout, i.e., employers dropping coverage of workers age 65 and over. Although this provision means that older workers with employer based insurance pay payroll taxes on their earnings to finance Medicare with little or no offsetting benefit, most current workers over 65 are getting a very good deal from Medicare, in terms of their lifetime taxes they have paid relative to their expected lifetime benefit. Nonetheless, the implicit tax on older worker’s earnings from this treatment by Medicare is roughly 15-25% at ages 65-74 for men and is 20-30% for women, thus discouraging work at older ages. See Gopi Shah Goda, John B. Shoven, and Sita Nataraj Slavov, “Implicit Taxes on Work from Social Security and Medicare,” in Tax Policy and the Economy, ed. Jeffrey R. Brown, Chicago: University of Chicago Press, 2011. An earlier version of their paper is available as http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w13383.

What Services Are Covered? Non-coverage is the extreme form of cost sharing, which is why these papers appear in the cost-sharing section of the reading list, even though their main thrust differs from the other material in this section. The ACA now mandates “essential benefits,” but
new products and procedures pose an issue as to whether they will be covered. See the supplementary list for descriptions of this issue in the UK and, in the context of drugs, Australia. We will come at this problem somewhat obliquely in Class 17 since policy issues around outcomes research and comparative effectiveness frequently arise in this context.


Describes three major Medicare coverage decisions. See also the editorial by Sean Tunis in the same issue. It has proven politically difficult for a US public insurance program to incorporate cost formally in coverage decisions (see the paper by Foote in the supplementary reading for Class 5). Note that in the Medicare context coverage and reimbursement are distinct issues and that a decision to reimburse at a low rate could effectively vitiate a decision to cover. I return to reimbursement of new technology in Class 5.

Mark B. McClellan and Sean R. Tunis, “Medicare Coverage of ICDs,” *New England Journal of Medicine*, 352(3), January 20, 2005, pp. 222-224. ICDs are implantable cardioverter defibrillators to prevent sudden cardiac death; they cost about $30,000 per case. Medicare liberalized its coverage criteria in 2005 at an approximate cost of $3 billion, but the quid pro quo was that data were to be collected on effectiveness in subgroups in order to potentially sharpen the coverage decision. Medicare has followed this precedent in several subsequent coverage decisions. Keep this point in mind when we come to the discussion of randomized trials versus observational studies in Class 17. [http://www.nejm.org/ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp048354](http://www.nejm.org/ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp048354)

Medicare coverage can be mandated by Congress (e.g., mammography for women between age 40 and 49), though it is more commonly left to CMS.

**CLASS 3 - ESTIMATING THE DEMAND FOR HEALTH CARE (September 9)**

This class starts with the various methods, both experimental and non-experimental, that have been used to estimate the response of demand to variation in cost sharing and the advantages and disadvantages of those methods. The intent of this class is to help you understand the strengths and weaknesses of the empirical studies in the literature on cost sharing, but the methods used in these studies turn up in many other applied contexts. Thus, you can think of this class as part of an introduction to research methods, which bears on my goal of improving your ability to distinguish studies that use stronger and weaker methods.

The slides for this class go over various methods of estimating how demand or utilization responds to price. One way to test your methodological understanding is by critiquing the methods of the studies below.

The first four papers are observational studies, and the next two described controlled experiments. The first of those two readings describes the RAND Health Insurance Experiment. Although it ended more than three decades ago, the RAND results are still taken
as the gold standard for the effects of cost sharing on utilization and health outcomes and are still frequently referred to by all sides in debates over cost sharing. The next reading describes the Oregon Health Insurance Experiment, which is of much more recent vintage and answers a different question than the RAND Experiment did. Specifically, whereas the RAND Experiment looked at the effect of varying cost sharing within an insured population, the Oregon Experiment looked at the consequences of no insurance vs Oregon Medicaid. The slides warn you to be prepared to discuss the differences in both the design and the results/conclusions of the RAND Experiment and the Oregon Experiment. This class will also cover applications of demand analysis, including the economics and politics of a catastrophic benefit in Medicare (no reading assigned) and Health Savings Accounts and Health Reimbursement Accounts (no reading assigned).


Amitabh Chandra, Jonathan Gruber, and Robin McKnight, “The Impact of Patient Cost Sharing on the Poor: Evidence from Massachusetts,” Journal of Health Economics, 2014, 33:57-66. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613001409/1-s2.0-S0167629613001409-main.pdf?_tid=13826402-bac7-11e4-9655-00000aab0f6c&acdnat=1424632671_b77e940935d1fc764e89e4c05bec54b4 Substantively this paper finds similar effects of cost sharing as the RAND Experiment, except it finds no evidence of effects on hospitalizations or ER use in a low income population. The ER use result differs from both RAND and Oregon. (Another paper by the same three authors that has similar methods is on the Optional list.) The authors use what the economics literature calls a regression discontinuity design; one group of people had their copayments increased (those from 100-200% of the Federal Poverty Limit, or FPL). Some people in another group (those from 200-300% of the FPL) also had their copayments increased and others in that group had them increased even more. How does this design compare to Scitovsky-Snyder? Don’t get bogged down in the econometrics of Generalized Linear Models in their estimation section; that is not the main point of assigning this reading. Focus instead on the variation in cost sharing that the authors use to generate their results. This variation is called “identification” in econometrics.


Benjamin D. Sommers, Katherine Baicker, and Arnold M. Epstein, “Mortality and Access to
Care After State Medicaid Expansions,” *New England Journal of Medicine*, September 13, 2012, 367(11):1025-34. Shows access improved and mortality fell among states that expanded Medicaid. As with Chandra, et al., the statistical methods in this paper will probably be beyond many of you; if so, just read it for the main results. The slides cover a potential statistical issue with this study known as the ecological fallacy. [http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa1202099](http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa1202099) There is a paper by Sommers, Long, and Baicker in the Optional reading with similar methods that looks at the insurance expansion in Massachusetts after 2006 (again using counties as the unit of observation) that gets similar results as this paper.

Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment*, Harvard University Press, 1993, ch. 2, p. 41, chapter 11. The slides cover some of the design issues, which are covered in more detail in chapter 2 of *Free for All?* Also, as a tie back to the theory of coinsurance in Class 2, be prepared to answer how the Participation Incentive in the RAND Experiment should be treated theoretically.


Niteesh K. Choudhry, Jerry Avorn, Robert J. Glynn, Elliott M. Antman, Sebastian Schneeweiss, Michele Toscano, Lonny Reisman, Joaquim Fernandes, Claire Spettell, Joy L. Lee, Raisa Levin, Troyen Brennan, and William H. Shrank, “Full Coverage for Preventive Medications after Myocardial Infarction,” *New England Journal of Medicine*, December 1, 2011, 365(22):2088-97. [http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa1107913](http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa1107913) Tests “value-based” insurance design (VBID), a notion popularized by Mark Fendrick and Michael Chernew (see Chernew, et al. in the Optional reading). The basic idea of VBID is to promote adherence by lowering the price to the patient of efficacious medications or procedures in order to improve outcomes, reduce total medical care cost, and reduce risk to the patient. The paper reports the results of a randomized trial of the VBID concept in the context of medication following myocardial infarction (“heart attack”). For patients in the treatment group, statins, beta blockers, ACE inhibitors, and ARB’s were free. Patients were enrolled over a 33 month period and followed for at least 9 months. Adherence improved, some outcomes improved, and the increased cost of drugs roughly offset the decreased cost of hospitalization and physician treatment. Risk to the patient was reduced both because the patient did not have to pay for drugs and because the cost of other medical treatment fell. Even with free drugs, however, adherence was poor,
a result that replicates the result for all preventive treatment in the RAND HIE (Free for All?, ch. 5, not required). However, a subsequent subgroup analysis showed a large effect for non-whites and no effect for whites; for the subgroup analysis see Choudhry, et al. in the Optional reading. What you should think about is how the intent of VBID fits with the concept of moral hazard? Importantly, a later trial, described in Asch, et al. in the Optional reading, showed that if both patients and physicians rather than either alone receive a financial incentive, adherence improves.

Robert H. Brook, “Health Policy and Public Trust,” JAMA, July 9, 2008, 300(2):211-3. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/cgi/reprint/300/2/211 This editorial could also fit at the end of the course, but I put it here because one of Brook’s three examples is the RAND Health Insurance Experiment, where he was the lead physician researcher. (The Rogers, et al. paper in the Optional reading for Class 4 is another one of his examples.) By having you read this, I hope you acquire a feel for the environment in which a policy researcher operates. If some of you manage policy research in your career, I hope you will remember this paper. If you want to read more (but not too much more) along these lines, you can get a reprise of the main theme at Robert H. Brook, “Quality, Transparency, and the US Government,” JAMA, April 1, 2009, 301:13:1377-8. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/301/13/1377.full

OPTIONAL:


Amitabh Chandra, Jonathan Gruber, and Robin McKnight, “Patient Cost Sharing, Hospitalization Offsets, and the Design of Optimal Health Insurance for the Elderly,” American Economic Review, March 2010, 100(1):193-213. This paper, based on a California sample, finds larger effects of cost sharing than the RAND Experiment and also large offset effects on other types of spending. http://www.aeaweb.org.ezp-prod1.hul.harvard.edu/articles.php?doi=10.1257/aer.100.1.193 The authors make no attempt to reconcile the different results of this paper with their required paper above, though one obviously involves the elderly and the other does not.

Sommers, et al. required paper, this paper finds an effect of the Massachusetts reform, the model for the ACA, on mortality. Do not get bogged down in the details of the econometrics, but try to understand the basic design that generates their results. 


But if you are up to speed on econometrics, you might note that although the authors carried out a standard correction for within-group clustering, their standard errors are nonetheless likely importantly understated because of few clusters; see Peng Li and David T. Redden, “Small Sample Performance of Bias-Corrected Sandwich Estimators for Cluster-Randomized Trials with Binary Outcomes,” Statistics in Medicine, 2015, 34:281-96. http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1002/sim.6344/full

Shifting back to empirical methods, there is a debate in economics about the value of program evaluation and experimentation more generally. If you want to read more about this, you can consult any or all of the following. There is a collection of papers in the June 2010 Journal of Economic Literature, with articles by Deaton, Imbens, and Heckman (best to read these in reverse order in my view), as well as a lead article by Lee and Lemieux on regression discontinuity designs. The Summer 2011 Journal of Economic Perspectives has several articles on field experiments (the Ludwig, et al. paper explicitly refers to the RAND Health Insurance Experiment, though it wrongly says it was the most expensive such experiment). The Spring 2010 Journal of Economic Perspectives also has a relevant symposium on “taking the con out of econometrics” (if you only have time for one paper in this symposium, read the Angrist and Pischke paper). Finally the March 2012 Journal of Economic Literature has two reviews of a book by Abhijit Banerjee and Esther Duflo of MIT that advocates randomized experiments in developing countries; the reviews are by Martin Ravallion and Mark Rosenzweig and give you a flavor of the debate between those who favor reliance on controlled experiments, two of whom are Banerjee and Duflo, and those who favor reliance on observational data, two of whom are the reviewers.


Sarah Taubman, Heidi L. Allen, Bill J. Wright, Katherine Baicker, and Amy N. Finkelstein, “Medicaid Increases Emergency-Department Use: Evidence from Oregon's Health Insurance Experiment,” Science Express, January 2, 2014. Shows results on emergency department use similar to those from the RAND Health Insurance Experiment; see O’Grady, et al. below or chapter 5 in Free for All? http://www.sciencemag.org.ezp-prod1.hul.harvard.edu/content/early/2014/01/02/science.1246183.full.pdf

Joseph P. Newhouse and Anna Sinaiko, “What We Know and Don’t Know about the Effects of Cost Sharing on Demand for Medical Care – and So What?” in Incentives and Choice in Health Care, eds. Frank A. Sloan and Hirschel Kasper; Cambridge: MIT Press, 2008, pp. 156-184. A review of the RAND Health Insurance Experiment and the
The review is similar to Baicker and Goldman on required list for the prior class. The book is on reserve in the HKS library.

If you want to see someone else’s take on the RAND results, see Jonathan Gruber, “The Role of Consumer Copayments for Health Care: Lessons from the RAND Health Insurance Experiment and Beyond,” Menlo Park, The Henry J. Kaiser Family Foundation, October 2006. http://www.kff.org/insurance/7566.cfm. Still another take is Aviva Aron-Dine, Liran Einav, and Amy Finkelstein, “The RAND Health Insurance Experiment, Three Decades Later,” Journal of Economic Perspectives, Winter 2013, 27(1):197-222. Although clearly indicating RAND was a landmark study, they worry about potential bias from refusal and attrition. I include this paper for balance, though I think it reflects an excessive concern with internal validity; I value internal validity too, but the method for calculating “Lee bounds” that they use in my view will almost always yield such loose bounds as to not be useful - even bordering on silly. Note also that the RAND health status results are less vulnerable to attrition than the spending results that Aron-Dine et al. are concerned with because the RAND group obtained end-of-experiment measures on 85% of those who left prematurely and did not die (77% including those who died). The issues around refusal and attrition are covered in ch. 2 of Free for All? – they are of obvious importance in assessing the results – and at greater length in a 2008 response to an earlier commentary by John Nyman that Aron-Dine, et al. cite.

Charles M. Kilo and Eric B. Larson, “Exploring the Harmful Effects of Health Care,” JAMA, July 1, 2009, 302(1):89-91. Free for All? concluded that there may have been no observed effect on average health outcomes from the additional services on the free plan because among a relatively healthy group of non-elderly, the additional services may have done as much harm as good. Three decades later this commentary in JAMA concludes that not much is known about harms. Although the authors’ comment that “the benefits that US health care currently deliver [sic] may not outweigh the aggregate health harms it imparts” seems (to me) vastly overblown, if I amend that statement to apply to health care services at the margin, the comment may well be true. Note also the US Preventive Task Force recommendation about mammography for women between 40 and 50 and its 2011 statement on PSA screening took explicit account of harms. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/302/1/89.short

Robert Kaestner and Anthony T. LoSasso, “Does Seeing the Doctor More Often Keep You Out of the Hospital?” Journal of Health Economics, January 2015, 39:259-72. Exploits an exogenous change in the outpatient price to find that, similar to the RAND results (but not the California Chandra, et al. results or the Trivedi results), a lower price of outpatient care increases both outpatient and inpatient utilization. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S016762961400099X/1-s2.0-S016762961400099X-main.pdf?_tid=a4462858-bba2-11e4-a99c-00000aacb35d&acdnat=1424726974_9b87394aead1e8ca70494e6978f2e56b

Exploits a sharp discontinuity in cost sharing at age 70 in Japan; cost sharing falls 60-80 percent at age 70. Effects on utilization are consistent with the RAND HIE; Shigeoka does not find effects on health outcomes. May differ from Card, et al., below because Japanese patients were insured at age 69; insurance in Japan at age 70 simply became more generous, whereas in Card, et al. some of those becoming eligible for Medicare were uninsured before becoming eligible. Thus, this finding is consistent with the speculation in chapter 11 of Free for All? that making insurance more generous may not much affect health on average.


events and a 70% (!) decrease in total spending for nonwhites. Although it is not completely clear from the paper, it sounds as if this subgroup analysis was not pre-specified; in particular, there was no randomization within racial group.

http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/33/5/863.full.pdf+html

J. Michael McWilliams, Alan M. Zaslavsky, Ellen Meara, and John Z. Ayanian, “Impact of Medicare Coverage on Basic Clinical Services for Previously Uninsured Adults,” *JAMA*, August 13, 2003, 290(6), pp. 757-64. When uninsured individuals turned 65 and became eligible for Medicare, they used more services compared with those who were insured when they turned 65. If you compare the increases for cholesterol, mammography, and prostate, they are pretty close the Oregon Experiment values. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/cgi/reprint/290/6/757. Note the subsequent study by these authors in the Optional Class 9 reading.

David Card, Carlos Dobkin, and Nicole Maestas, “Does Medicare Save Lives?” *Quarterly Journal of Economics*, May 2009, Vol. 124, No. 2: 597–636. A paper with the same basic design as the McWilliams, et al. study, but showing that for those admitted to the hospital through the emergency room, those over 65 receive somewhat more services and have somewhat lower mortality rates that persist for at least 9 months. Their results appear on the slides. http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/124/2/597.short

Thomas DeLeire, Laura Dague, Lindsey Leininger, Kristen Voskuil, and Donna Friedsam, “Wisconsin Experience Indicates That Expanding Public Insurance to Low-Income Childless Adults Has Health Care Impacts,” *Health Affairs*, June 2013, 32(6):1037-44. Results more dramatic that Oregon from insuring a previously uninsured adult population, but just a simple before-after design. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/32/6/1037.full.pdf+html

Nicole Lurie, Nancy B. Ward, Martin F. Shapiro, and Robert H. Brook., “Termination from Medi-Cal: Does It Affect Health?” *New England Journal of Medicine*, August 16, 1984, 311(7):480-4. Shows large effects from terminating a group on Medicaid. Thus, this is consistent with the conclusion that the move from no insurance to some insurance may be more important than the move from some insurance to full insurance, which was what the RAND Experiment tested. The Oregon Experiment results, however, did test the move from no insurance to some insurance and are much less dramatic than Lurie, et al.’s. Why might Lurie’s effects be overstated as an estimate of what would happen to health status if all the uninsured were given Medicaid coverage? For the purpose of answering this question ignore the shift of the Medicaid population into managed care, which occurred subsequent to the Lurie, et al. article; I am after a methodological issue. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/pdf/10.1056/NEJM198408163110735

Medicine (now the National Academy of Medicine) monograph series in the supplementary reading for Class 9, especially Care Without Coverage: Too Little. Too Late, as well as the Haas, et al. article under the supplementary materials for the Medicaid section. Kronick is especially critical of the IOM estimate. Kronick is now the Administrator of the Agency for Healthcare Research and Quality (AHRQ). http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/j.1475-6773.2009.00973.x/full


The first of the following three items takes up cost sharing in Medicare Parts A and B and the next two deal with cost sharing in the Medicare prescription drug benefit. I put them here because cost sharing for Medicare remains a policy issue.

Medicare Payment Advisory Commission, Report to the Congress: Aligning Incentives in Medicare; June 2010, ch. 2 and ch. 1, June 2012. Can be skimmed. Main idea is that cost sharing in Medicare is wrong headed; the lack of a catastrophic cap induces demand for
supplementary coverage, which in turn leads to greater on budget cost.  
http://www.mcpac.gov/documents/reports/Jun10_Ch02.pdf?sfvrsn=0 and  
http://www.mcpac.gov/documents/reports/jun12_ch01.pdf?sfvrsn=0

Congressional Budget Office, Issues in Designing a Prescription Drug Benefit for Medicare;  
Washington: CBO, October 2002, chapter 2.  A review of several issues that had to be  
resolved as part of a Medicare drug benefit.  The monograph discusses how cost sharing  
might be structured at the beginning of chapter 2 and the assumption on demand elasticity  
relevant to the CBO cost estimates is at the beginning of chapter 4.  Other parts of this  
document are relevant to later sections of the course; in particular, chapter 3 is relevant to  
the discussion of selection (class 7), and the discussion of the possibility of price setting on  
page 29 is relevant to the next few classes on administered prices.  Available on the web at  
http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/39xx/doc3960/10-30-  
prescriptiondrug.pdf

The change in insurance in the RAND Experiment did not stress the supply system in any  
local market; i.e., it estimated a partial equilibrium outcome.  In the following paper Amy  
Finkelstein estimates that the long-run effects of insurance changes are much larger.  On what is her  
identification of these effects based?  Note also that the effects she observes are conditional on the  
Medicare method of cost reimbursement of hospitals; with a different reimbursement system (e.g.,  
the prospective payment system now in effect that is described in class 4) the effects would likely  
have differed.

Amy Finkelstein, “The Aggregate Effects of Health Insurance: Evidence from the  
Would you say the estimated effects (granting the validity of her identification for the sake of argument) reflect induced new technology or greater investment in existing technology?  
http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/122/1/1.short

A related issue is whether physicians facing a variety of insurance policies in their practices  
tend toward uniformity in how they treat their patients.  Some evidence that this is the case is in:

Sherry Glied and Joshua Graff Zivin, “How Do Doctors Behave When Some (but not all)  

Note the Glied-Graff Zivin data are consistent with the RAND Experiment’s finding that  
most of the effect of varying patient payment was on the patient’s propensity to seek care; how  
physicians treated the patients once in the system seemed relatively little influenced by patient  
payment.  On this point see also Richard G. Frank and Richard J. Zeckhauser, “Custom Made  
Versus Ready to Wear Treatments: Behavioral Propensities in Physicians Choices,” Journal of  
prod1.hul.harvard.edu/science/article/pii/S0167629607000562

CLASS 4 AND 5 – MEDICARE PAYMENT TO INSTITUTIONAL PROVIDERS  
(MEDICARE PART A)
The prior two classes focused on the demand for care and especially how demand changes as a function of the demand price, or the price paid by the consumer/patient at the time of use. We now turn to the supply price, meaning the price received by providers. Supply prices differ from the demand prices by the amount of any insurance reimbursement. In many higher income countries in the world supply prices are administered, meaning they are set by a public entity. Examples include hospital prices in the UK National Health Service after 2006 and the system we will spend the next three classes studying, US Traditional Medicare (TM), sometimes also called Original Medicare. In the case of TM, the Congress and the Centers for Medicare and Medicaid Services (CMS) set take-it-or-leave-it prices for hospitals, physicians, and other medical care providers. If a provider accepts those prices for treating one Medicare patient, the provider must accept them for all Medicare patients. Because Medicare insures so many people, virtually all hospitals and the vast majority of physicians (though fewer psychiatrists) accept the Medicare price for Medicare patients.

Traditional Medicare (TM) consists of two parts, unimaginatively called Part A and Part B. Part A covers institutional providers and Part B covers outpatient services; originally Parts A and B constituted the entire public Medicare program, ignoring private supplementary Medicare insurance, sometimes called Medigap or Med Supp. In 1985 Medicare established Part C, in which an organization accepts a capitated payment to provide all medical services for a given period of time, and in the 2006 it established Part D to cover orally administered drugs (pills). We will deal with Part C in classes 8 and 16 and Part D in class 19. These next three classes take up Parts A and B.

Some of you, especially international students, may feel that these next three sessions are too much “in the weeds” about Medicare, especially since several years from now many of the details we go over here will surely have changed. My rationale for including this level of detail is to have you appreciate the policy issues and difficulties that arise when operating a large administered price system – and of course a single payer or all-payer system in the US would be an even larger administered price system.

One large picture comment: In my view if costs again start to rise at closer to historical rates, the United States is likely to face a choice between a single- or all-payer rate control scheme and a voucher scheme. Both methods have drawbacks, but I have chosen to illustrate the drawbacks of the rate control scheme by working through some of the reimbursement issues that TM faces. Later in the course we come to the drawbacks of a voucher scheme.

**General Background on the Medicare Administered Pricing Systems**

The place to start is with the Medicare Payment Advisory Commission’s “Payment System Basics,” which are available on the web at [http://www.medpac.gov/-documents/payment-basics](http://www.medpac.gov/-documents/payment-basics). When you go to this web site, links to primers on Medicare’s various methods of reimbursement will appear. You certainly don’t need to read all of these primers (although the sheer quantity suggests the complexity of administering prices), but those payment systems primers that you definitely should read include the ones we take up over the next three classes: the hospital acute inpatient services system; the outpatient hospital services
system; the four post-acute payment systems (home health, skilled nursing facility, inpatient rehabilitation facility, long-term care hospital); and the physician system. We will take up Part C, or the Medicare Advantage payment system, in class 8 and the Part D payment system for drugs in class 19, so you will ultimately need to read those primers as well, but they can be put off for now.

CLASS 4 - THE INPATIENT HOSPITAL PROSPECTIVE PAYMENT SYSTEM (IPPS) AND THE POST-ACUTE PAYMENT SYSTEMS (September 14)

Before we get into the minutiae of Medicare’s administered pricing systems, it is important to set a standard against which to compare their performance. As a general principle almost all economists favor competitively set prices over administered prices because of the distortions administered prices inevitably induce. A standard method for eliciting competitive prices is bidding or auctions, but strategic behavior in auctions can undermine the beneficial properties of auctions. Medicare has made some use of bidding, but its use has been quite limited for both political and substantive reasons. In particular, as the slides explain, it is difficult for Medicare to exclude suppliers who are not low bidders. In fact, it is difficult for Medicare to exclude any suppliers. Beneficiaries do not want “their doctor” excluded, and in many markets, especially smaller markets, all or almost all hospitals and doctors in certain specialties may need to be included to have sufficient capacity. If providers know they are not likely to be excluded, they have little incentive to bid low. That is the reason Medicare mainly relies on administered prices.

The political difficulties of using bidding in Medicare are illustrated by Medicare’s efforts to introduce bidding for the retail side of durable medical equipment, which would seem to be one of the easiest cases for using bidding since products are reasonably standardized (think wheel chairs or oxygen cylinders). Medicare finally succeeded in introducing bidding for durable medical equipment after nearly a decade of trying; see the material in the slides and on the course website. But it did so in a strange way, which is described by Ian Ayres and Peter Crampton, “Fix Medicare’s Bizarre Auction Program,” New York Times, September 30, 2010, which is available on one of the authors’ web site http://freakonomics.com/2010/09/30/fix-medicare-bizarre-auction-program/. A technical and much lengthier description of the problem, which is Optional, is Brian Merlob, Charles R. Plott, and Yuanjun Zhang, “The CMS Auction: Experimental Studies of a Median-Bid Procurement Auction with Nonbinding Bids,” Quarterly Journal of Economics, May 2012, 127(2):793-827.

Now on to the main Medicare payment systems. The slides for this class assume that you have read the MedPAC primers on the inpatient prospective payment system, as well as those on the four post-acute systems, Skilled Nursing Facilities, Home Health, Inpatient Rehabilitation Facilities, and Long-Term Care Hospitals.

Joseph P. Newhouse, Pricing the Priceless: A Health Care Conundrum; Cambridge: MIT Press, 2002, chapter 1. Sets out examples of the issues around administered prices in the context of Traditional Medicare (TM). Since the time the book was written, the IPPS system has introduced more categories by shifting from the DRG to the MS-DRG system;
the slides cover the newer MS-DRG system, but the economic principles underlying the two systems are the same. Note that the MS-DRG system that the Inpatient Prospective Payment System (IPPS) now uses is, in effect, “risk adjustment” for hospital admissions where diagnoses and severity levels are the main adjusters.

Jeroen N. Strujs and Caroline A. Baan, “Integrating Care through Bundled Payments – Lessons from the Netherlands,” New England Journal of Medicine, March 17, 2011, 364(11):990-1. http://www.nejm.org.ezproxy.harvard.edu/doi/10.1056/NEJMp1011849 The slides for this class discuss the concept of the power of a payment system. Deciding on the appropriate power of a payment system involves tradeoffs. Although it does not use this jargon, this short paper illustrates some of those tradeoffs, as well as raising concerns about market power from organizations capable of providing more integrated care (more on that in Classes 10 and 16).

OPTIONAL:


For those who have a strong economics background with a taste for theory, a classic article on regulating prices or quantities when the regulator only has a prior distribution on the true cost function and relies on the firm to report it – essentially the conditions Medicare faces – is David Baron and Roger Myerson, “Regulating a Monopolist with Unknown Costs,” Econometrica, July 1982, 50(4):911-30. http://www.jstor.org.ezproxy.harvard.edu/stable/pdfplus/1912769.pdf?acceptTC=true. Myerson shared the 2007 Nobel Prize in economics for his work on mechanism design, which is the domain of this article. The article shows that to induce the firm to report its costs truthfully, a regulator must pay it a surplus, the amount of which depends on a regulator’s prior distribution about the firm’s true cost function and the weight the regulator places on consumer surplus relative to producer surplus. Although the hospital’s accounting costs are auditable, the cost function, which determines the economically optimal price, is not.

One of the ongoing debates in the literature is the how much, if at all, hospital prices for private insurers increase if Medicare cuts its reimbursement, a phenomenon that the literature terms “cost shifting.” Some literature believes the markets hospitals face are separable and that hospitals maximize in the private insurance market so changes in Medicare rates do not affect private rates. For an example see Chapin White, “Contrary to Cost Shift Theory, Lower Medicare Hospital Payment Rates for Inpatient Care Lead to Lower Private Payment Rates,” Health Affairs, May 2013, 32(5):935-43. http://content.healthaffairs.org.ezproxy.harvard.edu/content/32/5/935.full.pdf+html. A second paper in this vein is by Chapin White and Vivian Wu, “How Do Hospitals Cope with Sustained Slow Growth in Medicare Prices?” Health Services Research, 2013, published on
Both White and White and Wu look at actual private prices, which is better than looking at the accounting margins as I did in Pricing the Priceless in finding suggestive evidence of cost shifting. (In his sole authored paper White instruments for Medicare prices, but you have to read the appendix to really understand what he did.) On the other hand, the argument made in Pricing the Priceless is that in competitive hospital markets (so that hospitals are not making rents) hospitals have to recover their joint costs, so that if Medicare cuts reimbursement hospitals will reach different bargains with private payers. And there is evidence in addition to that in Pricing the Priceless for this view as well. Vivian Wu, “Hospital Cost Shifting Revisited: New Evidence from the Balanced Budget Act of 1997,” International Journal of Health Care Finance and Economics, March 2010, 10(1):61-83. Wu uses the cuts in Medicare reimbursement from the 1997 Balanced Budget Act and finds that hospitals prices to private payers in urban markets, which are more competitive than rural markets, rose about $0.20 for each $1 cut in Medicare reimbursement.


Robert A. Berenson, Divvy K. Upadhyay, Suzanne F. Delbanco, and Roslyn Murray, “Payment Methods: How They Work.” A reasonably short (usually around 6 pages for each method) non-technical description of 8 payment methods that we will touch on over the next several classes including fee schedules, primary care capitation, per diem payment to hospitals, DRG’s, global budgets for hospitals, bundled episode payment, global capitation to an organization, and pay-for-performance. For each system the authors give its key objectives, strengths, weaknesses, design choices to mitigate weaknesses, compatibility with other payment methods, focus of performance measurement, and potential impact on provider prices. http://www.urban.org/policy-centers/health-policy-center/projects/payment-methods-and-benefit-designs

**Effects of the Hospital PPS on Quality of Care**

**OPTIONAL:**

Julian Pettengill and James Vertrees, “Reliability and Validity in Hospital Case Mix Measurement,” Health Care Financing Review, December 1982, pp. 101-128. Only an abstract is available online. http://ukpmc.ac.uk/abstract/MED/10309909. I have posted a pdf of this paper on the course website for those who are interested. The paper describes how the initial DRG system was built, which is broadly similar to the method used for the MS-DRG system. It provides a description of the original DRG system, but at a price in terms of more detail than you probably wanted to read.


Paul B. Ginsburg, “Recalibrating Medicare Payments for Inpatient Care,” New England Journal of Medicine, November 16, 2006, 355(20), pp. 2061-2064. http://content.nejm.org/doi/10.1056/NEJMp061930.pdf Covers much of the same ground as the MedPAC Payment Basics document. After more than 20 years, Medicare refined its relative payments in an effort to reduce the number of overpriced DRGs. Even though this was done on a budget neutral basis, the industry (or parts of it) successfully lobbied for a 3 year transition (a change from the initial proposed rule of no transition).

**Specialty Hospitals**

One could treat the emergence of specialty hospitals in some areas of medicine such as cardiac care as either technological change or as a response to flaws in the payment system or both. Specialty hospitals have been highly contentious, leading to a moratorium on new construction in the Medicare Modernization Act of 2003 that was continued in the ACA. I have included one Optional reading on this subject, but have left most of the material to the slides. There is more material on the Bibliographic list.

**Specialty Hospitals**

OPTIONAL:


**Upcoding**

OPTIONAL:

Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy, March 2012, pp. 55-56. Shows the coding response to MS-DRGs that the slides for this class show. For earlier material on coding effects see the supplementary reading list.
This issue will come up again in classes 8 and 18 with respect to Medicare Advantage.

CLASS 5 - SELECTED ISSUES IN MANAGING AN ADMINISTERED PRICE REIMBURSEMENT SYSTEM: REIMBURSEMENT OF POST-ACUTE CARE; GEOGRAPHIC ADJUSTMENT; OUTLIERS; REIMBURSEMENT OF TEACHING HOSPITALS; TECHNOLOGICAL CHANGE (September 16)

The Medicare Part A payment systems illustrate many of the issues that administered price systems face, as the last class pointed out. In this class I have assigned additional reading on some of these issues and given Optional reading on others. Any of you proposing to write testimony on Medicare reimbursement – or reimbursement generally - would do well to look into the Optional reading and to dip into relevant chapters of the various March and June MedPAC reports.


Bundling or Global Payments

Moving to more aggregated or global payment and away from disaggregated fee-for-service payments is a theme MedPAC has sounded and one that has led to numerous Center for Medicare and Medicaid Innovation (CMMI, which is part of CMS) demonstration projects. The Press, et al. and Hackbarth, et al. readings (Optional) describe the rationale for bundling payment, but how much of the variation in case mix across hospitals that Hackbarth, et al. describe is random? We don’t want penalize providers who randomly get a bad case mix draw, meaning sicker patients (or conversely reward those who randomly get a good one). The following paper takes up that issue. Robert Mechanic and Christopher Tompkins, “Lessons Learned Preparing for Medicare Bundled Payments,” New England Journal of Medicine, November 15, 2012, 367(20):1873-5. This paper points out that post-acute is a large component of spending for one major disease and that bundling post-acute spending with inpatient spending will pose issues at smaller hospitals because of randomness. CMMI has a demonstration project underway that bundles post-acute care. [http://www.nejm.org/ezp-prod1.hul.harvard.edu/doi/pdf/10.1056/NEJMp1210823](http://www.nejm.org/ezp-prod1.hul.harvard.edu/doi/pdf/10.1056/NEJMp1210823)

CMS has now moved to a mandatory bundled payment method for total hip and knee replacements that the following paper describes, but the paper also makes the point that CMS has probably set the bar too high with respect to quality (hospitals have to hit 3 metrics on quality to receive any savings) and that hospitals need more stop-loss protection. It also raises the issue of how far a strategy of bundling can proceed given that hips and knees are the most common procedure and are relatively homogeneous so there is less of a burden on risk adjustment; in other words, hips and knees are the lowest hanging fruit, so it certainly made

John K. Iglehart, “Bundled Payment for ESRD – Including ESA’s in Medicare’s Dialysis Package,” New England Journal of Medicine, February 17, 2011, 364(7):593-5. [http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp1014187](http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp1014187) If a policy maker is going to pay for a bundle of services, there obviously has to be some definition of what is in the bundle. For example, the bundle for the MS-DRG system is all non-physician services provided during the hospital stay. This paper shows how critical the choice of the definition of the bundle is, both for cost purposes, which is the context of much of the current debate, but also clinically, since the Medicare payment policy for End Stage Renal Disease (ESRD) – in particular the exclusion for decades of most drugs from the bundle of ESRD services that Medicare paid for - arguably induced poor clinical care. Bundling introduces a potential incentive for underservice; note CMS’ efforts to monitor this in ESRD. In short, this aspect of the ESRD program illustrates one of the problems of administered pricing. More generally, for those of you interested in single payer, the US has for practical purposes had an approximation to a single-payer system for those with ESRD, which gives a test case for how it could work in the US. (My qualification of “for practical purposes” accounts for ESRD patients with employment-based insurance having that insurance pay for the first 33 months of their care; after that, Medicare takes over for the remainder of the person’s life. This provision is to reduce the budgetary cost of Medicare.)

OPTIONAL:


Glenn Hackbarth, Robert Reischauer, and Anne Mutti, “Collective Accountability for Medical Care – Toward Bundled Medicare Payments,” New England Journal of Medicine, July 3, 2008, 359(1):3-5. [http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/359/1/3.pdf](http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/359/1/3.pdf) This is a precursor to the Mechanic readings that are required. Following a stream of academic literature that advocated bundling post-acute payments with the hospital payment, including the MedPAC report referenced in this paper, the ACA authorized a demonstration of bundled inpatient and post-acute payments for the period starting 3 days before and extending to 30 days after an admission for up to 8 conditions that the Secretary may choose. The demonstration has now started. The demonstration includes some models that also bundle physician services together with inpatient and post-acute services, a much larger task than simply bundling post-acute providers with hospital services.

Neeraj Sood, Peter J. Huckfeldt, José J. Escarce, David C. Grabowski, and Joseph P. Newhouse, “Medicare’s Bundled Payment Pilot for Acute and Postacute Care: Analysis and
Recommendations on Where to Begin,” Health Affairs, September 2011, 30(9):1708-17. http://content.healthaffairs.org/content/30/9/1708.abstract#search=%22Medicare%E2%80%99s%20Bundled%20Payment%20Pilot%20Acute%20Postacute%20Care%3A%20Analysis%20Recommendations%20Where%20Begin%22  Analyzes two issues with respect to the bundling demonstration referred to above and in the slides: which conditions to include in the demonstration and how many days after discharge the episode should end.


Geographic Adjustment and the Wage Index

Margaret Edmonds and Frank A. Sloan, “Geographic Adjustment in Medicare Payment: Phase I: Improving Accuracy,” Washington: NAP, 2011, chapter 1, pages 1-6 to 1-16 and page 1-21, chapter 2 (all). This report is copyrighted, but you can download a pdf for your personal use for free by registering at https://nam.edu/. (This report was done by the Institute of Medicine, but the Institute changed its name in 2015 to the National Academy of Medicine.) Registering will also give you free web access to other Institute of Medicine/National Academy of Medicine reports.) This report covers geographic adjustment for both the IPPS and the physician payment systems (Class 6) and recommends changes, mainly in the physician system. This report burrows into the details of Medicare reimbursement, but how Medicare adjusts for geographic differences in factor prices is a big deal, since the variation across the country is substantial. In other words, at the individual provider level quite a lot of money turns on both the hospital wage index and the Geographic Practice Cost Index (GPCI), the name for the analogous geographic adjuster in the physician system; see the values on the map on page 1-10 of the report. The hospital wage index differs across the country by more than a factor of 2, meaning a hospital in a high wage area gets much more for treating the same patient as an otherwise identical hospital in a low wage area. The wage index in principle should only be applied to the labor portion of factor costs plus any non-labor costs that vary geographically. This was in fact how the index operated for many years; only around 70% of the cost was adjusted by the wage index, so the payment did not change by the full factor of 2 difference. The Congress has, however, set a floor on the index so as to favor rural areas as well as certain states and localities (see the slides), so the index no longer operates in this fashion. The changes that this report recommends seem well justified to me on a policy basis; to date, however, the Congress has not adopted them, reflecting their political sensitivity – any geographic redistribution of Medicare monies is contentious – and probably the current dysfunctionality of the Congress.

OPTIONAL:

Setting wages according to varying labor market conditions is not only an issue in the US. This is a study of wages in the UK National Health Service, which, like some other countries, including Canada, imposes the same nominal wage throughout the system despite cost of living differences. (London is a much more expensive place to live relative to much of the rest of England.) They find that a 10% increase in the outside wage (outside the hospital) is associated with a 7% increase in the hospital death rate, suggesting that a hospital in a high outside wage area (e.g., London) attracts lower quality workers to hospitals.

Payment to Teaching Hospitals

Teaching hospitals throughout the world have higher costs than non-teaching hospitals. How to reimburse teaching hospitals has therefore been a policy concern from the outset of the PPS, since there was obviously going to be a problem if teaching and non-teaching hospitals were paid the same amount for patients with the same observable characteristics. This issue is covered in Pricing the Priceless, ch. 1 and in the slides, so there is no additional required reading. How Medicare pays teaching hospitals, however, affected the medical workforce as shown in the slides.

OPTIONAL:

Gail R. Wilensky and Donald M. Berwick, “Reforming the Financing and Governance of GME,” New England Journal of Medicine, August 28, 2014, 371(9):792-3. Summarizes a major Institute of Medicine report on Graduate Medical Education (GME). In my view it reflected the political difficulties of reforming GME although it did make some recommendations for change. If you are planning to write testimony on Medicare’s payments for Graduate Medical Education, you can download the full report, “Graduate Medical Education that Meets the Nation’s Health Needs,” at www.nap.edu.


Alan Benson, “Firm-Sponsored General Education and Mobility Frictions: Evidence from Hospital Sponsorship of Nursing Schools and Faculty,” Journal of Health Economics, January 2013, 32(1):149-59. Uses the same model of general training vs specific training as in Pricing the Priceless and the slides and applies it to hospital provided nursing education. Although nursing education is general, he applies an earlier hypothesis of Acemoglu and Pischke to argue that it may be analytically more similar to specific because of low geographic mobility of nurses. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S016762961200118X/1-s2.0-S016762961200118X-main.pdf?_tid=ccaf2b56-467f-11e5-b513-00000aacb35d&acdnat=1439995221_a83dc00a94c705053f9a89b17866adfb
Technological Change

Managing technological change in an administered price system is a critical issue, but there are many aspects of the topic of that I do not cover in the slides. One of the most important is the overarching issue that the amount of technological change we observe is almost certainly related to the incentives of the financing system. On this point see the Weisbrod paper on the supplemental reading list. One issue in dealing with technological change in the context of administered pricing is deciding what change or innovation justifies its cost (assuming the change is cost increasing) and is therefore worth paying for. In the Medicare context this is partly a coverage decision and partly a decision on how much to pay conditional on a decision to cover, decisions that are made separately by two different parts of CMS. The issue of whether the benefits exceed the costs is in the realm of willingness-to-pay studies, as well as studies employing QALYs, DALYs, etc. An important complication is that something that is actually used to treat patients may be (and usually is) worth it for some patients and not for others, so a decision to cover likely means some receive the service who don’t benefit (sometimes who will benefit is unknown and so this can generate knowledge about who benefits; see class 17 on CER) and a decision not to cover likely means some who would have benefitted won’t get the service.

With respect to reimbursement technological change should generally lead to some payment adjustment, since the existing reimbursement system is calibrated for the earlier technology. There are two related issues: how much to update budgets in administered price systems in order to pay for cost-increasing change; and how to update reimbursement when costs fall as something new scales up, learning-by-doing takes place, and unit costs fall. More concretely, these issues all have to do with how to incorporate new procedures, drugs, and devices into administered price systems, and the following reading deals with that issue.

Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy, March 2001, chapter 3 (http://www.medpac.gov/documents/contractor-reports/chapter-3-paying-for-new-technology-in-the-outpatient-prospective-payment-system-(march-2001-report).pdf?sfvrsn=0). How to incorporate new technology is an issue that plagues all administered price systems. In the Balanced Budget Reform Act (BBRA) the Congress authorized pass through payments for certain drugs, biologicals, and devices. Such payments potentially alter the nature of competition in the market for these products and give certain companies incentives to mark up prices.

OPTIONAL:

If you want a short piece on QALYs that analyzes some of their shortcomings for judging health benefit as well as the opposition to using them, see Peter J. Neumann, “What Next for QALYs?”, JAMA, May 4, 2011, 305(17):1806-7. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/305/17/1806.short

Outpatient Facility Payment
You should have read the MedPAC tutorial on the outpatient hospital payment system. Outpatient payment is another dilemma in Medicare payment policy, but it is covered in the slides, and other than the MedPAC primer, I have not assigned any further readings. Outpatient department payment needs to be considered in conjunction with both inpatient payment and physician office payment because of substitution possibilities between providing services in these various settings. The non-neutrality in the Medicare payment system between facility and office payment became a major policy issue as described in the next Optional reading. The issue was partially addressed in MACRA (see slides).

OPTIONAL:

Medicare Payment Advisory Commission, “Medicare Payment Differences Across Ambulatory Settings,” Report to the Congress, June 2013, chapter 2. Proposes equalizing some fees between the office-based setting and the outpatient department but not others.

OTHER OPTIONAL READING ON THESE TOPICS:

Post-Acute Care


Severity or Within-DRG Heterogeneity, Outliers


Technological Change


Daron Acemoglu and Amy Finkelstein, “Input and Technology Choices in Regulated Industries: Evidence from the Health Care Sector,” Journal of Political Economy, October
2008, 116(5):837-80.  http://economics.mit.edu/files/5678  Elaborates on a point made in chapter 1 of Pricing the Priceless, namely that hospitals substituted capital for labor with the introduction of the PPS because the PPS capped operating costs but not capital costs initially. Capital costs are now included in the DRG rate.

**Care at the End of Life and the Hospice Benefit**

This topic should perhaps be somewhere else in the course because it is certainly about more than reimbursement, but, given the course outline, it seems to fit best in the Medicare section, partly because over 75 percent of the deaths each year are among Medicare beneficiaries and partly because over a quarter of Medicare dollars in a year are spent on the 5-6 percent of beneficiaries who die (11 percent of annual Medicare dollars are spent on persons in their last month of life). Over 20 percent of these deaths occur in a hospice (60 percent of the cancer deaths do), and hospice by 2012 was a $15 billion a year benefit, increasing from just under $3 billion in the year 2000 (over 2 percent of the Medicare program). I have put the topic on the reading list, but because of the length of the required reading, I have made the entire subject optional. Some of you may wish to pursue it for your testimony.

The entire issue of the January 19, 2016 JAMA is devoted to the topic of care at the end of life.  http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/issue.aspx?journalid=67&issueid=934869&direction=P  Note especially the cross-national study of Bekelman, et al., which shows the US does reasonably well on deaths outside the hospital as a result does not even have the highest hospital spending per decedent over 65 in the last 180 days of life.


Haiden A. Huskamp, David G. Stevenson, Michael E. Chernew, and Joseph P. Newhouse, “A New Medicare End-of-Life Benefit for Nursing Home Residents,” *Health Affairs*, January/February 2010, 29(1):130-5. Takes up the issues around paying for hospice services for nursing home residents; the current hospice benefit doesn’t work very well in the nursing home context. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/1/130.full.pdf+html](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/1/130.full.pdf+html)


**CLASS 6 – PHYSICIAN PAYMENT (MEDICARE PART B) (September 21)**

An important point to take away from the readings for this class is that how and how much physicians are paid alters the services they deliver to their patients, although there are
conflicting results about how it alters them. In any event, both in instances of administered pricing, such as Traditional Medicare, as well as with negotiated prices in commercial insurance and managed Medicaid plans, the details of physician prices matter for how patients are treated. A second important point is that over the next several years how Medicare pays physicians will likely be changing in a major way.

To provide a concrete context for this class, review (or read) the MedPAC Payment Basics on physician payment. [http://www.medpac.gov/documents/payment-basics/physician-and-other-health-professional-payment-system-15.pdf](http://www.medpac.gov/documents/payment-basics/physician-and-other-health-professional-payment-system-15.pdf) This document outlines the payment system for 2016 and before. Also read:


Jeffrey D. Clough and Mark McClellan, “Implementing MACRA: Implications for Physicians and Physician Leadership,” *JAMA*, June 14, 2016, 315(22):2397-8. [http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/article.aspx?articleid=2524928](http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/article.aspx?articleid=2524928) A description of the 962 page Notice of Proposed Rulemaking (NPRN) for the Medicare Access and Chip Reauthorization Act of 2015 (MACRA); the NPRN was released in April 2016. MACRA is a big deal. First of all, it was bipartisan so it is likely to remain in place or largely remain in place irrespective of the outcome of the November 2016 elections. Second, as the slides indicate, the Congress is becoming more aggressive about both quality improvement in Medicare and about pushing physicians toward contracts that take financial risk. If you want more on this, see Steinbrook and CMS in the Optional reading. The readings below have some material on capitation, which is an organization taking full financial risk. We will go into greater detail on capitation and risk based contracting in classes 8 and 16, and we will go into greater detail on adjusting physician payment for quality in class 15.

OPTIONAL:

Centers for Medicare and Medicaid Services, “Quality Payment Program: Executive Summary,” April 27, 2016. [https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/NPRM-QPP-Fact-Sheet.pdf](https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/NPRM-QPP-Fact-Sheet.pdf) This overlaps with the required Clough and McClellan reading and has more detail on the proposed rule, which takes up 962 pages of the Federal Register. I don’t expect you to - and hope you don’t! - get bogged down in the detail around the measures, such as X points for this and Y for that, but here it is for those of you that want it.

A early description of MACRA, which “fixed” the Sustainable Growth Rate (the SGR) and so is sometimes referred to as the “doc fix.” This short paper was written before the NPRN came out approximately a year later; the NPRN fills in some of the details that Steinbrook notes will be forthcoming.

Paul B. Ginsburg, “Fee-for-Service Will Remain a Feature of Major Payment Reforms, Requiring More Changes in Medicare Physician Payment,” Health Affairs, September 2012, 31(9): 1977-83. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/9/1977.full.pdf+html Ginsburg gives some of the history of Medicare physician payment policy. He also points out that although many seem to believe that the shift to global or bundled payment eliminates the concern about fee schedules and relative value scales, this is not the case. Not only are Medicare relative value scales likely to remain, at least for now, the basis for pricing bundles, but they are also likely to retain a considerable role in physician reimbursement within most larger entities that share risk with insurers or take full risk. For example, a Medicare Advantage plan (class 8) may well pay physicians on a fee-for-service basis. We will take up shared risk in Medicare in more detail in Class 16.

*The Theory of Physician Payment and Supplier Induced Demand*

Thomas G. McGuire, “Physician Fees and Behavior,” in Incentives and Choice in Health Care, eds. Frank A. Sloan and Hirschel Kasper, pp. 263-288; Cambridge: MIT Press, 2008. This reading covers the economics of fee-based payment, and it concludes that the optimal payment is a base payment plus a fee at marginal cost. The context here is an independent physician, but increasingly physicians are working within organizations as employees rather than as self-employed professionals and those organizations may take financial risk (see the slides). That development, however, anticipates material later in the course, especially class 16. The idea of a base payment and an additional fee at the margin that McGuire describes is an idea we encountered in the last class on post-acute care (what should payment be at the margin?) and that we will encounter again with respect to drugs (Class 19). The patient-centered medical home (class 16) can be seen as a step toward this arrangement.

One of the policy applications of the economic theory in this chapter in the Medicare context is the so-called offset effect, or how much the budgetary cost of a general change in fees will be “offset” by changes in the quantity of services delivered by physicians. I cover this point in the slides, but if you want more, see the work CMS relies upon to estimate the offset effect, which is available on the CMS website http://www.cms.gov/actuarialstudies/downloads/physicianresponse.pdf. The CMS website material, however, is optional.

OPTIONAL:

For those of you who want a more technical and more extensive treatment of physician payment than McGuire’s chapter in the Sloan and Kasper book, read the following chapter:
Empirical Literature on the Effect of Fee Changes on Physician Behavior
An empirical application of the theory McGuire outlines in the chapter above is the following:

Mireille Jacobson, Craig C. Earle, Mary Price, and Joseph P. Newhouse, “How Medicare’s Payment Cuts for Cancer Chemotherapy Drugs Changed Patterns of Treatment,” Health Affairs, July 2010, 29(7):1391-9. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/7/1391.short](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/7/1391.short) As described in the slides, in 2005 Medicare drastically cut how much it paid oncologists for the chemotherapeutic agents they administered to their cancer patients. This paper examines how the treatment of lung cancer patients changed as a result. Oncologists responded to the cut by increasing the proportion of patients receiving chemotherapy (the income effect) and substituted toward those drugs whose profitability had fallen least (the substitution effect). Furthermore, this effect was concentrated among oncologists in community practice, whose incomes were directly affected as opposed to those working in clinics or at hospitals, whose income was not directly affected by these cuts (because the payment went to the clinic or hospital). There is a much longer NBER working paper on this subject in the Optional reading, and the slides cover some material from that paper. For those of you interested in how CMS is now proposing to reimburse cancer drugs, see Mailankody and Prasad in the Optional reading.

OPTIONAL READING:

Mireille Jacobson, Craig C. Earle, and Joseph P. Newhouse, “Geographic Variation in Physicians’ Responses to a Reimbursement Change,” New England Journal of Medicine, December 1, 2011, 365(22):2049-52. [http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp1110117](http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMp1110117). A follow on study to the article above by Jacobson, et al. showing a great deal of variability across states in the response to the payment change; while oncologists on balance increased the rate of chemotherapy, in a quarter of the states they decreased it. The number of patients is large, so the variation is real. Jacobson, et al. have no explanation for the variation; it is one more example of the geographic variation in physician behavior that we take up in class 14.

Mireille Jacobson, Tom Y. Chang, Joseph P. Newhouse, and Craig C. Earle, “Physician Agency and Competition: Evidence from a Major Change to Medicare Chemotherapy Reimbursement Policy,” NBER Working Paper #19247, July 2013, [http://papers.nber.org/papers/W19247?utm_campaign=ntw&utm_medium=email&utm_source=ntw](http://papers.nber.org/papers/W19247?utm_campaign=ntw&utm_medium=email&utm_source=ntw). Shows that oncologists not only increased chemotherapy in response to Medicare’s fee cut, but that the mortality rate fell as a result! Moreover, the rate fell more in the states that increased chemotherapy the most, and it fell more among the oldest old. Whether this was because oncologists had earlier underestimated the beneficial effects of chemotherapy before being induced to give more by the change in reimbursement or whether it was because they (and possibly the patients) preferred not to put their patients through the rigors of chemotherapy despite the gain in life expectancy is unknowable.

An analogous effect to that found by Jacobson, et al. is found for Chinese physicians; if they share in profits in proportion to drug spending, spending is 43% higher for insured patients. Americans generally buy orally administered drugs (pills) from a pharmacy, and American physicians have no financial stake in which (orally administered) drug they prescribe (assuming they have not taken global risk, which is still atypical, and even then it is unlikely there would be more than minimal financial risk on the individual physician as opposed to the organization they worked within). In contrast, East Asian patients, including Chinese, like American cancer patients, generally buy drugs from their physician or hospital, who until 2009 charged a markup on those drugs. See Fangwen Lu, “Insurance Coverage and Agency Problems in Doctor Prescriptions: Evidence from a Field Experiment in China,” which is posted on the course web site.

A somewhat similar paper to Jacobson, et al. but in a different country and a different clinical context is Irene Papanicolas and Alistair McGuire, “Do Financial Incentives Trump Clinical Guidance? Hip Replacement in England and Scotland,” Journal of Health Economics, December 2015, 44:25-36. There are two types of hip replacement, cemented and uncemented, with roughly equivalent clinical success rates, although the uncemented is more costly because of longer operating time. Prior to 2003-2004 both England and Scottish hospitals had global budgets, but in 2003-2004 England introduced a case-based reimbursement with cemented replacements reimbursed at a lower rate than uncemented given the shorter operating time. Using a diff-in-diff method with Scotland as a control, the paper shows this led to an increase in uncemented replacements. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629615000843/1-s2.0-S0167629615000843-main.pdf?_tid=06016f0c-c04e-11e5-87fd-00000aab0f01&acdnat=1453387884_501a8d02e5d7bc2ed2b5f1191e34a5

An additional paper related to this subject in a Chinese setting is Janet Currie, Wenchuan Lu, and Wei Zhang, “Patient Knowledge and Antibiotic Abuse: Evidence from an Audit Study in China,” Journal of Health Economics, September 2011, 30(5):933-49. http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science/article/pii/S0167629611000622 China, relative to many countries, exhibits a high rate of antibiotic use, which increases resistance to antibiotics (a worldwide externality) and may adversely affect the microbiome. This paper, like the Lu paper (and the Jacobson, et al. paper on chemotherapy), builds off the incentives Chinese physicians had to prescribe because they dispense the antibiotic. Currie, et al. had simulated patients visit physicians and describe symptoms that should not have led to antibiotic use. Nonetheless, the rate of antibiotic prescribing was high (around 60%), and expensive (not first-line) antibiotics were frequently prescribed, exacerbating the resistance problem and burdening the patient with greater out-of-pocket cost. A subset of the simulated patients indicated to the physician that they had learned from the internet that antibiotics should not be prescribed for flu or cold-like symptoms. This intervention markedly reduced antibiotic use.

There are conflicting studies in the literature on the direction of how changes in Medicare fees affect physician behavior. An often cited, early study that agrees with the Physician

On the other hand (and covered in the slides), Jeffrey Clemens and Joshua Gottlieb find the opposite. They analyzes a change in Medicare fees that resulted from a change in the definition of market areas and finds that an increase in fees was associated with an increase in services (the substitution effect dominated the income effect). Jeffrey Clemens and Joshua Gottlieb, “Do Physicians’ Financial Incentives Affect Medical Treatment and Patient Health?” American Economic Review, April 2014, 104(4):1320-49. http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/aer.104.4.1320

Rudy Douven, Minke Remmerswaal, and Ilaria Mosca, “Unintended Effects of Reimbursement Schedules in Mental Health Care,” Journal of Health Economics, July 2015, 42:139-50. Self-employed Dutch mental health providers are reimbursed on a fee schedule that is a function of minutes of therapy delivered to a given patient annually, but the schedule is a step function in the number of minutes. This paper shows that there are spikes in the distribution of the number of minutes just above the discontinuity at the step; in other words, providers will deliver a few more minutes of therapy to get the substantially higher payment, behavior similar to that of the LTCH’s in class 5. Non-self-employed Dutch mental health providers are not reimbursed with this schedule, and their minutes of therapy do not show such spikes. In subsequent unpublished work Douven has shown that there is considerable heterogeneity in psychiatrists’ and psychologists’ willingness to engage in this behavior. In terms of the classic Ellis and McGuire 1986 paper (Optional reading above) there is great variation in the value placed on patient benefit relative to income. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629615000363/1-s2.0-S0167629615000363-main.pdf?_tid=091bf645e-8e68-11e5-b363-00000aacb35f&acdnat=1447901498_b0cb4467a86c660aaf7a00892e3ab123

**Empirical Literature on the Basis of Payment**

Relative to the literature on fee-for-service pricing, there is less literature on the effect of the basis of payment (why do you think this is?), an issue that has come to the fore with the advent of greater bundling and various forms of risk-based payment to providers (but see Pricing the Priceless and remember that even if a bundled payment is made to an organization, the payment to the individual physician within the organization may be primarily or completely fee-for-service). Krasnik, et al. show the effect of changing from full to partial capitation, which can also be interpreted as a (partially) income-compensated fee change. Hickson, et al. show positive effects of fee-for-service relative to salary; that paper is unusual in this literature because the data come from a randomized trial, albeit a very small one.

Some delivery organizations, both in the US and outside it, employ salaried physicians.
Physician incentives in salaried systems relate to the criteria for promotion and merit increases, which are typically difficult for an external analyst to observe directly or even infer, but that does not mean the incentives aren’t present. Also the salary may be tied to “productivity,” which is a variant of fee-for-service. Don’t spend a lot of time with these two papers; read for the main result.

http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1663335&blobtype=pdf. Shows the effects of a change from full to partial capitation for the Danish General Practitioner (GP). The change resulted in increased provision of services per visit, fewer referrals, and less hospitalization. The paper uses the concept of supplier-induced demand, but without the usual normative connotation. See also Jensen in the Optional reading, below.

http://search.epnet.com.ezp1.harvard.edu/login.aspx?direct=true&db=aph&an=4732496&loginpage=Login.asp&scope=site A study in which 18 pediatric residents were randomly assigned to be paid by salary or fee-for-service. Those paid fee-for-service did more of things that were deemed good (e.g., continuity, fewer missed recommended visits).

OPTIONAL:


Conservative government introduced higher powered physician reimbursement for General Practitioners in the British National Health Service. GPs had long been capitated for their own services, but did not bear any financial consequences for decisions to hospitalize. In the new arrangement the government gave larger groups of GPs the option to receive a larger capitation and bear risk for (pay for) elective admissions (“fundholding”) from the capitation. (This has some similarities with Accountable Care Organizations.) This method was abolished in 1999 by the Labor government, and GPs were no longer at risk (but then was reintroduced by Labor in 2005 and now there is yet another variant under the Conservative government). This study shows that when fundholding was abolished, elective admissions increased 3.5 to 5.1 percent among GPs who had been fundholders relative to the increase among those who had not, suggesting that the financial risk associated with fundholding had kept down elective admissions. I have made this Optional because it will be harder going for those with weaker economics backgrounds. See also a followup article by Dusheiko, et al. on the supplementary list that deals with patient satisfaction and process measures of care.

Jason Barro and Nancy Beaulieu, “Selection and Improvement: Physician Responses to Financial Incentives,” NBER Working paper 10017, October 2003 (http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w10017.pdf). Shows that Florida physicians who were switched from a salaried basis of payment to a fee-for-service like payment increased the profitability of their practices (i.e., increased their number of billable services).

Hendrik Schmitz, “Practice Budgets and the Patient Mix of Physicians – The Effect of a Remuneration System on Health Care Utilization,” Journal of Health Economics, December 2013, 32(6)1240-9. http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science?_ob=ArticleListURL&_method=list&_ArticleListID=707813009&_sort=r&_st=13&view=c&md5=9ca28d15c847018616ba07a5e0e6bdbe&searchtype=a Shows that when Germany introduced both an individual budget cap for publicly insured patients and a global budget for physician expenditures, the number of visits by publicly insured patients fell and the number by the privately insured rose.


Jack Hadley and James D. Reschovsky, “Medicare Fees and Physicians’ Medicare Service Volume: Beneficiaries Treated and Services per Beneficiary,” International Journal of Health Care Finance and Economics, 6(2), June 2006, pp. 131-150. http://www.springerlink.com.ezp-prod1.hul.harvard.edu/content/5p80j52176701488/fulltext.pdf Finds that Medicare service volume is positively related to fees and that the income effect is important only at high Medicare shares. See also the paper by Hadley, Reschovsky, Catherine Corey, and Stephen Zuckerman, “Medicare Fees and the Volume of Physician Services,” Inquiry, Winter

Rose Anne Devlin and Sisira Sarma, “Do Physician Remuneration Schemes Matter? The Case of Canadian Family Physicians,” Journal of Health Economics, September 2008, 27(5): 1168-81. http://www.sciencedirect.com.ezp-prod1.hul.harvard.edu/science/article/pii/S0167629608000568 Shows that FFS payment induces substantially more visits among Canadian family physicians. Although all provinces offer an FFS scheme, they also offer various alternative schemes. The authors find that physicians who select FFS see fewer patients than those who do not, a puzzling finding but possibly an artifact of the econometrics employed (the authors note that one of their estimators is highly sensitive to specification).


**The Medicare Fee Schedule (the Resource-Based Relative Value Scale or RBRVS)**

OPTIONAL:

William C. Hsiao, Peter Braun, Daniel Dunn, et al., “Resource Based Relative Values: An Overview,” JAMA, 260(16), October 28, 1988, 2347-53. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/260/16/2347.short An overview and basic description of the initial RBRVS. There are numerous other articles that go into detail on the RBRVS in the same issue of the JAMA as this article; they are on the supplementary list.

**Practice Costs**


**Balance Billing**


**Supplier Induced Demand**
There is a huge, old, and in my view unhappy, literature that discusses supplier-induced demand (SID) that I have relegated to the supplementary reading list. It is to some degree covered by the McGuire chapter in the Handbook of Health Economics.

CLASSES 7-10 – SELECTION AND INDIVIDUAL AND SMALL GROUP INSURANCE MARKETS; AMERICAN HEALTH CARE REFORM AND THE AFFORDABLE CARE ACT (ACA); MEDICARE PART C AND RISK ADJUSTMENT, ADMINISTRATIVE COST AND MINIMUM LOSS RATIOS

The next four classes are about Medicare Part C, which is (mostly) an individual market and individual and small group commercial insurance markets and the ACA’s reforms to those markets as well as other ACA reforms. Class 7 begins by laying some theoretical groundwork on selection, because selection is a defining feature of unregulated as well as imperfectly regulated individual and small group insurance markets. It also touches on behavioral economics and health care. Classes 8 and 9 describe Medicare Part C and the ACA’s reforms to commercial individual and small group markets, respectively. Class 10 takes up the ACA’s introduction of Minimum Loss Ratios as well as the important distinction between economic costs and accounting costs.

CLASS 7 – SELECTION AND THE ECONOMICS OF INDIVIDUAL AND SMALL GROUP INSURANCE MARKETS; BEHAVIORAL ECONOMICS AND HEALTH CARE – (September 23)

The Rothschild-Stiglitz paper below is a classic paper on selection, but may be slow going for those of you with a weaker economics background. As a result, the slides go over the paper. If you understand the paper, those slides should be quick work. Note that Rothschild and Stiglitz make some key assumptions in deriving their results. First, they assume there is no regulator of the insurance market; insurers are free to offer any policy, and there is free entry and exit. As a corollary of there being no regulator, there is no risk adjustment (transfers from firms with better risks to those with worse risks), which I take up in classes 8 and 9. Second, they assume the only thing that matters in the choice of insurance is the person’s risk type (and there are only two types, which is not an innocuous assumption), but in reality other factors may matter as well. In particular, if risk aversion is greater among better risks, there could be favorable rather than adverse selection, meaning it is disproportionately better risks who choose the more complete insurance. Third, consumers differ only in their probability of a loss, not the amount of the loss (this assumption is also not innocuous). Fourth, insurers do not anticipate how other insurers will react to the policies and premiums that they offer consumers. In other words, there is no strategic behavior among insurers. Their striking result that there may be no equilibrium is sensitive to this last assumption.

You may wonder why you are being asked to read a paper with such an abstract and unrealistic model; the answer is that it is a classic paper that demonstrates the importance of asymmetric information in how markets of all kinds function, not just health insurance markets. Asymmetric information, however, seems particularly important in unregulated,
competitive individual and small group insurance markets because it leads directly to selection.

A few notes on the other required reading: Although employment-based insurance mostly solves the selection problem for larger employment groups, Cutler and Reber show how actions by a large employer can induce selection within the employment group if employees have a choice of plans. In effect, in this context there is an individual market within the employment group. Zick, et al. is a nice, short example of selection behavior, albeit on a small scale.

The last two required readings, Beshears, et al. and Loewenstein, et al., emphasize behavioral economics applications to consumer choice. Two findings of behavioral economics (at least) are relevant to selection of insurance plans. The first is that because of the complexity of health insurance plans, consumers often do not make optimal choices for themselves and their families. Ironically, however, this non-optimizing behavior may improve the functioning of the market by reducing selection (see the Handel, Optional reading). Second, once having made a choice of plan, consumers tend not to revisit that choice in subsequent years when they are to renew (“inertia”). Like the finding with respect to complexity, inertia can reduce selection, but it also can increase plan markups, since existing consumers tend to be relatively price inelastic. The Abaluck and Gruber Optional 2016 paper in class 19 illustrates this behavior. This inertia is also found in the employer market; employers, at least larger employers, like stability in their plan choice. This is not strictly a behavioral phenomenon; a new plan may well have a different network or formulary (classes 16 and 19), so that some persons may see an increase in price to use their personal physician or to remain on a drug they are taking. Behavioral economics has numerous other applications in health care; the two papers listed here are just a sampler.

Finally, I put on the class website a short excerpt from TheHill.com from March 2007 that illustrates selection behavior well. The gist of the story is as follows. In 2006 Humana, a private insurer, offered an enhanced Medicare Part D drug plan (Part D is mostly an individual market) that covered brand name drugs in the donut hole, a region of spending on drugs that in the basic public plan had no coverage. (More on Part D and the donut hole in Class 19. It is called the donut hole because one had to spend a substantial amount on drugs to reach it and once one spent substantially more out of pocket, Part D coverage kicked in again.) No other insurer offered such a plan, although several insurers offered plans that covered generic drugs in the donut hole. This Humana plan was selected against by those who used a lot of brand name drugs and spent enough on drugs to reach the donut hole. Since those spending enough to reach the donut hole were by definition large spenders, Humana suffered substantial losses, so much so that Humana’s stock price fell about 25% from January to May 2006 as it became apparent that it would lose an appreciable amount of money from this one Part D plan. (The stock price then rose for the rest of the year because Humana told investors it did not intend to offer the plan in 2007.) Inexplicably (to me), given Humana’s experience, Sierra Health Plan, another insurer (subsequently acquired by United Health Care) decided it would offer a similar plan in 2007. (It had no such plan in 2006.) Sierra’s experience in 2007 repeated that of Humana’s in 2006. The excerpt on the web describes a complaint that Sierra filed with CMS in March 2007, essentially alleging that
Humana was dumping high cost enrollees on them.

If you didn’t read the Cutler-Zeckhauser chapter in the Handbook of Health Economics for Class 1, read it now.

A classic paper on asymmetric information and the insurance market, and one of the papers for which Stiglitz won the Nobel Prize in economics. Try to understand it on your own, but don’t bog down if you are having trouble. Maybe the slides can help.

Theory and empirical evidence on a death spiral with imperfect risk adjustment. Note that in this paper the insurance plans (or “contracts” in Rothschild-Stiglitz jargon) that consumers buy are fixed, whereas they are not fixed in the Rothschild-Stiglitz model.


OPTIONAL:

Liran Einav and Amy Finkelstein, “Selection in Insurance Markets: Theory and Empirics in

Primarily of theoretical interest for how to measure welfare loss from adverse selection, but the authors do apply the framework to selection in an employer group plan and find adverse selection with small welfare consequences. In order to keep the required reading down, I cover the main idea of these two Einav, et al. papers in the slides, but the paper is accessible with intermediate microeconomics. The Einav-Finkelstein result, however, requires that consumers’ demand for health insurance be perfectly (rank) correlated with their spending risk; in other words, the person with the highest willingness to pay for insurance has the highest expected spending, the person with the second highest willingness to pay has the second highest expected spending, and so forth. A longer and somewhat more technical version of this paper is Liran Einav, Amy Finkelstein, and Mark R. Cullen, “Estimating Welfare in Insurance Markets Using Variation in Prices,” Quarterly Journal of Economics, August 2010, 125(3):877-922. 

M. Kate Bundorf, Jonathan Levin, and Neale Mahoney, “Pricing and Welfare in Health Plan Choice,” American Economic Review, December 2012, 102(7):3214-48. They use a data set from small employers to estimate a 2-11% welfare loss from non-optimal premium subsidies that employers in the small group market set for their employees. About a quarter of this loss is from a suboptimal level of premiums that employers set; the remainder is from a uniform premium within the firm despite heterogeneous preferences. The Glazer and McGuire paper on Medicare Advantage in class 8 makes the same analytical point in the context of welfare losses from a “single premium” policy. http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/aer.102.7.3214

http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/aer.103.7.2643

Makes the point that inertia and imperfect information in health plan choice reduces adverse selection; conversely, improving information and forcing choice can exacerbate selection in a context with ineffective risk adjustment. The adequacy of risk adjustment is a subject we take up in Class 8. On imperfect information see also McWilliams, Afendulis, et al. in the Optional reading for Class 8.


potentially results in a death spiral, but this is not necessarily the case if it is offered as part of insurance for all medical services. I will return to this paper in Class 19.


Liran Einav, Amy Finkelstein, and Paul Schrimpf, “The Welfare Cost of Asymmetric Information: Evidence from the U.K. Annuity Market,” NBER Working Paper 13228, July 2007 Adverse selection also is found in markets for annuities. This paper estimates the welfare cost of asymmetric information in the annuity market at about 2% of premiums (but about 25% of the relevant cost, which is the money at stake from varying the guarantee period), and notes that mandates to deal with the selection could either improve or decrease welfare.


Mark Shepard, “Hospital Network Competition and Adverse Selection: Evidence from the Massachusetts Health Insurance Exchange,” working paper. Shows that health insurance plans that include “star hospitals” (think Massachusetts General or the Brigham and Women’s) are selected against. The intuition is that sicker persons want to use providers at these hospitals in ways that risk adjustment (class 8) does not fully compensate for.

Benjamin Handel, Igal Hendel, and Michael D. Whinston, “Equilibria in Health Exchanges: Adverse Selection versus Reclassification Risk,” Econometrica, July 2015, 83(4):1261-1313. Shows a tradeoff between community rating (leading to greater adverse selection) and allowing price discrimination based on health status (leading to reclassification risk). In their data the welfare loss from the latter outweighs the loss from the former. Should not be attempted without a strong economics background.

Nathaniel Hendren, “Private Information and Insurance Rejections,” NBER working paper 18282 Clarifies the intuition in the Rothschild-Stiglitz model that trade may not take place at any price if private
information sufficiently dominates.

Gerry Oster and A. Mark Fendrick, “Is All ‘Skin in the Game’ Fair Game? The Problem with Non-Preferred Generics,” American Journal of Managed Care, published on line September 17, 2014. Shows some insurers are imposing higher copays on generic drugs for certain classes of diseases, another response to selection behavior. http://www.ajmc.com/publications/issue/2014/2014-vol20-n9/Is-All-Skin-in-the-Game-Fair-Game-The-Problem-With-Non-Preferred-Generics You can get to this journal through the Harvard library system or by registering with the journal, which is free.


If you want more on behavioral economics, you can consult any or all of the following:


Loewenstein, et al., this paper shows that systematic departures from rational models increase with age.  
http://www.mitpressjournals.org.ezp-prod1.hul.harvard.edu/doi/pdf/10.1162/REST_a_00174


Finally, an excellent overview of how behavioral economics expands the economist’s and the policymaker’s toolkit and how it should not be seen as an either/or proposition vis-à-vis neoclassical economics but rather as augmenting neoclassical economics is Raj Chetty’s Ely Lecture, “Behavioral Economics and Public Policy,” American Economic Review, May 2015, 105(5):1-33.

CLASS 8 - MEDICARE PAYMENT OF HEALTH PLANS, RISK ADJUSTMENT, AND A WRAPUP ON MEDICARE PARTS A, B, AND C (September 28)

A reminder: Testimony 1 is due before the September 30 class!

Class 7 went over why selection can lead to poor performance or even market failure in unregulated individual and small group insurance markets, as well as in large group markets that offer a choice of insurers within the group. One large but regulated individual insurance market is Medicare Part C or Medicare Advantage. (There is also a group Medicare Advantage product for retirees of larger firms, but it is a relatively small and declining part of the market, although it does come up in the slides.) A key policy issue in individual Medicare Advantage therefore is how well Medicare’s regulations mitigate selection. In addition to that issue, the slides also take up the issue of geographic variation that we encountered in TM and end with a summary of issues around Medicare payment policy from this class and classes 4-6. We will come back to Medicare Advantage and its effects on quality of care and outcomes in Class 16; this class is concerned with describing Medicare Advantage and how Medicare structures the market for competing plans.

The Structure of the Medicare Advantage Market and Risk Adjustment

A note at the outset: This class has a large number of slides, but several of them just go over material in the reading below. If you do the reading and understand it, these slides will be a review and you should be able to move through them quickly. The last several slides try to summarize the material on Medicare in both this class and classes 4-6 and also try to put that material in the context of the course overall. These are important slides.

Start by reading or reviewing the MedPAC Payment Basics on health plan payment.  
Starting in 2006 Medicare reimbursement of health plans moved from a take-it-or-leave-it, per-member-per-month (PMPM) price toward something that more closely resembles a defined contribution or voucher approach, which had the effect of freeing up health plan prices (i.e., not setting a take-it-or-leave-it price). Nonetheless, important elements of the earlier administered pricing system remain. One is in the method for setting the “benchmark,” which is Medicare’s name for what approximates a defined contribution or voucher. A second is in the method of risk adjustment (risk adjustment is part of the “managed” in the term “managed competition”).

Importantly, Traditional Medicare (TM) is not part of the defined contribution approach that Part C utilizes. The Republican alternative to the administered pricing issues we studied in Parts A and B is to go to a full-blown defined contribution plan (“premium support”), one version of which would include TM. In effect, this would make TM the “public option” in an exchange like world. For many Republicans, however, I suspect advocacy of “premium support” is more of an attempt to limit the growth in federal spending rather than an effort to move further away from administered pricing in TM. There are numerous questions to be addressed in any premium support or defined contribution proposal, including what the amount of the voucher would be and at what rate it would increase over time. If you are interested in premium support, you can find a discussion of those particular issues and others relevant to premium support in the CBO and in the Fuchs and Potetz papers in the Optional reading.

One of the key issues in the debate over including Traditional Medicare in a defined contribution arrangement is the degree of possible selection and whether, if it were included as an option, Traditional Medicare would go into a death spiral from adverse selection or whether risk adjustment and other anti-selection tools are now good enough to preclude that. The degree to which risk adjustment can mitigate selection incentives, of course, is also a key issue in the exchanges for the under 65 as we come to in class 9. The reading and slides cover risk adjustment and selection in the context of Medicare, but risk adjustment is also important in a number of non-US medical care systems, especially the Dutch system.

After you have mastered the MedPAC material on how Medicare pays plans, read an overview of Part C, Joseph P. Newhouse and Thomas G. McGuire, “How Successful Is Medicare Advantage?” The Milbank Quarterly, June 2014, 92(2):351-94. The material on selection that is relevant for this class is on pages 360-375. I will not cover the rest of the paper until class 16, but it will probably be helpful to you to read the entire paper through now. http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/1468-0009.12061/pdf

The next readings consider issues around reimbursement of health plans in the context of the Netherlands. The van de Ven and Schut paper below is about implementing managed competition in the Netherlands starting in 2006. The paper lays out the issues around managed competition. Reflecting its EU provenance, it uses slightly different jargon like “risk equalization” instead of “risk adjustment,” but you should have no difficulty understanding the paper. I recommend that you read the full paper because I
think it is an excellent exposition of the issues and because it may help American students by seeing similar issues outside the American context. You will, however, likely want to skim some of the details about the Dutch system, which I would characterize for Americans as something like Medicare Advantage for everyone. But for those of you who absolutely, positively can’t afford the time for the full paper, there is an abridged version: Wynand P.M.M. van de Ven and Frederik T. Schut, “Universal Mandatory Health Insurance in the Netherlands: A Model for the United States?” *Health Affairs*, May/June 2008; 27(3): 771-81. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/27/3/771.short](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/27/3/771.short). The full version is Wynand P.M.M. van de Ven and Frederik T. Schut, “Risk Equalization in an Individual Health Insurance Market: The Only Escape from the Tradeoff between Affordability, Efficiency and Selection, the Netherlands as a Case Study,” [http://www.policyarchive.org/handle/10207/21921](http://www.policyarchive.org/handle/10207/21921) (click on the View Publication link).

As a counterpoint to van de Ven and Schut, read


Two key issues in the debate over Part C are:

1) How to structure the market for Part C so that it functions efficiently, which this class covers, and

2) How Medicare Advantage affects patient care relative to TM, which we cover in class 16.

An important feature of market structure is how well risk adjustment functions. As the Newhouse and McGuire paper, the slides, and the McGuire, et al. 2011 paper in the Optional reading show, risk adjustment in the early days of Part C, which just used demographic variables, was weak, and as a result there was favorable selection (after risk adjustment) into Part C. This had the effect of increasing government outlays. The Newhouse and McGuire paper, the Optional Newhouse, et al. 2015 paper, and the slides discuss newer research showing that the introduction of health-status-based risk adjustment into Medicare in the mid 2000’s, along with a lock-in for those who chose a Medicare Advantage plan, greatly reduced favorable selection.

The introduction of health-status-based risk adjustment in Medicare Advantage raised two related issues around coding. One was similar to that raised by the introduction of the MS-DRG’s in the Inpatient Prospective Payment System (Class 4): Did tying payment to diagnosis increase the intensity with which diagnoses were coded? Kronick and Welch in the Optional reading show that it did. One interpretation is that MA plans pushed physicians and used home visits by nurses to be more complete in their coding in order to increase
reimbursement; an alternative, not mutually exclusive interpretation is that more active
disease management by plans (Class 16) uncovered more disease and that doing so is desirable
for managing chronic diseases. The Song, et al. paper in the Optional reading deals with a
second issue; the intensity of coding varies by region. This paper is required in the class 14
reading on geographic variation and the degree to which it is explained by variation in health
status, so you may want to read it now. It is, however, not essential for this class.

OPTIONAL:

Adverse Selection in Health Plan Payment Systems,” Cambridge, NBER working paper
21531. The slides assess risk-adjustment systems using R², but this paper gives a full
economic treatment of how to assess risk adjustment; R² is too simple.
http://www.nber.org/papers/w21531

Michael Geruso and Thomas G. McGuire, “Tradeoffs in the Design of Health Plan Payment
out three dimensions of payment systems. Fit is similar to the R² measure we have been
using, and power is described in the slides. Balance is the similarity of power across
different patients with different diagnoses. They point out that importantly depends on
whether the system is retrospective (this year’s diagnoses) or prospective (last year’s
diagnoses). Like Layton, et al. above, they show that a prospective system with some
reinsurance is better on these three dimensions than a solely prospective system (similar in
fit and power, better in balance). http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629616000199/1-s2.0-S0167629616000199-
main.pdf?_tid=abf198a0-2107-11e6-a2e4-00000aab0f6b&acdnat=1464022931_d3febb038f60b2034530748eaae8cdbf

Medicare Payment Advisory Commission, “Improving Risk Adjustment in the Medicare
Program,” in Medicare and the Health Care Delivery System: Report to the Congress, June
2014, ch. 2. This chapter takes you into the weeds of risk adjustment, but if you are writing
your testimony on that topic you should read it.
http://www.medpac.gov/documents/reports/jun14_ch02.pdf?sfvrsn=0

Wynand P.M.M. van de Ven, Richard C. van Kleef, and Rene C.J.A. van Vliet, “Risk
Selection Threatens Quality of Care for Certain Patients: Lessons from Europe’s Health
http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/34/10/1713.full.pdf
I have made this Optional, since it largely covers ground that other readings cover, but it
does point up the importance of regulations other than risk adjustment to hold down
selection.

Vilsa Curto, Liran Einav, Jonathan Levin, and Jay Bhattacharya, “Can Health Insurance
Competition Work: Evidence from the Medicare Advantage Program,” Cambridge: NBER,
MedPAC table in the slides, they find that MA generates cost savings, but they put this in an
economic welfare context. They estimate that Medicare Advantage generates a substantial surplus (around $600 per enrollee year) after accounting for restricted provider choice, but insurers capture much of the gain. Their estimates, however, comes from a structural model that makes a strong assumption of equilibrium bids by plans at each point in time. They also ignore retiree health insurance and the price of individual Medigap, which varies across counties. Finally, their simulations of cuts in the benchmark and the rebate percentage are close to the changes ACA actually made, but, contrary to their predictions, enrollment did not fall. This implies their model no longer holds.

The next several papers are covered in the slides and the Newhouse-McGuire Milbank paper, but if you want more detail, here are the papers.


Joseph P. Newhouse, J. Michael McWilliams, Mary Price, Jie Huang, Bruce Fireman, and John Hsu, “Do Medicare Advantage Plans Select Enrollees in Higher Margin Clinical Categories?” Journal of Health Economics, December 2013, 32:1278-88. Shows large differences in margins by HCC, with a pattern that is suggestive of successful medical management of chronic diseases that are managed by primary care physicians. Despite the large differences in margins, there is no evidence of selection (disproportionate representation of high margin HCC’s in Medicare Advantage)


Joseph P. Newhouse, Jie Huang, Mary Price, J. Michael McWilliams, and John Hsu, “Steps To Reduce Favorable Risk Selection In Medicare Advantage Largely Succeeded, Boding Well For Health Insurance Exchanges,” Health Affairs, December 2012, 31(12), 2618-28. The slides have some results from this paper. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/12/2618.full.pdf+html](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/12/2618.full.pdf+html)

J. Michael McWilliams, John Hsu, and Joseph P. Newhouse “New Risk-Adjustment System Was Associated With Reduced Favorable Selection In Medicare Advantage,” Health Affairs, December 2012, 31(12), 2630-40. One of the slides is from this study. The results are similar to the immediately preceding paper, although the methods are entirely different.

[http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/12/2630.full.pdf+html](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/12/2630.full.pdf+html)

and finds that after the implementation of the CMS-HCC risk adjuster, favorable selection net of risk adjustment increased. Unlike McWilliams, et al., they focus on reimbursement for those who switched from Traditional Medicare (TM) to Medicare Advantage (MA) relative to spending in the prior year when the beneficiary was in TM. They show that the difference between these two values increased with the introduction of the CMS-HCC system (see Table 4, col. 6, row two) and they conclude that the introduction of the CMS-HCCs worsened selection. Using a much larger sample and adding additional years, the Newhouse, et al. 2015 paper above gets the opposite result as does the McWilliams, et al. paper above. One lesson I would take from the Brown, et al. paper for the aspiring analyst: If you have a result that is a priori improbable, which I personally consider their finding of increased selection after the introduction of CMS-HCC’s to be (though they seemingly did not), you need to be very sure about the result.


This paper uses Health and Retirement Survey data to look at those enrolling in Medicare Advantage (MA). There are three findings of note, two of which the authors discuss: a) More choices can deter enrollment in MA (there is an analogous finding about enrollment in 401(k) plans); and b) More generous benefits (because of higher reimbursement in a county) lead to greater enrollment, but this enrollment is disproportionately among beneficiaries with higher cognitive functioning (there is also an analogous result for 401(k) plans); c) There is finally the dog that did not bark: self-reported general health and self-reported specific conditions showed little difference between the Traditional Medicare (TM) group and the MA group, suggesting selection on observable health measures is modest, a finding that comes to the fore in the McWilliams, et al. reading above. This paper’s findings on a dominated health plan are similar to those of Handel on the Optional list for Class 7.

Jacob Glazer and Thomas G. McGuire, “Making Medicare Advantage a Middle-Class Program,” Journal of Health Economics, March 2013, 32(2):463-73. Raises the question of who belongs in managed care and concludes that Medicare should use premium policy to influence that choice, meaning different types of people should be charged different premiums. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S016762961200183X/1-s2.0-S016762961200183X-main.pdf?_tid=c80024fc-d395-11e2-8793-00000aab0f6b&acdnat=1371065285_c6602a189ae8199dc8d0d812957fe3f9

Richard Kronick and W. Pete Welch, “Measuring Coding Intensity in the Medicare Advantage Program,” Medicare and Medicaid Research Review, 2014, 4(2):E1-E19. They calculate the increase in risk scores for continuous enrollees (as well as for decedents, new enrollees, and switchers) in MA between 2004 and 2011 and compare them with mortality and MCBS data; their analysis of MCBS data, although from a different period, conflicts somewhat with the McWilliams, et al. analysis of MCBS data above. Kronick and Welch conclude that increased coding increased MA payment 15-20% and that the coding “adjustments” to date have been inadequate; in short, MA reimbursement should be further reduced. CMS has, however, reduced risk scores 3.41% each year from 2010-2013, or a total of 14%. PPACA specified minimum reductions starting in 2014, although CMS has the discretion to reduce reimbursement further. Much of Kronick and Welch’s inference is from a sample enrolled in two successive years in either MA or TM and the change in risk score for each sample. Their inference from their continuous enrollee sample is odd, however, since any differential incentive to code in MA should apply in both years and should difference out unless there was not a full adjustment to the incentive in the initial year and a more complete adjustment in the second year. They do not find a similar increase in mortality in MA, but that could be because sicker persons died. http://www.cms.gov/mmrr/Downloads/MMRR2014_004_02_a06.pdf

Yunjie Song, Jonathan Skinner, Julie Bynum, Jason Sutherland, John E. Wennberg, and Elliott S. Fisher, “Regional Variations in Diagnostic Practices,” New England Journal of Medicine, July 1, 2010, 363(1):45-53. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/nejmsa0910881 This paper shows that Medicare beneficiaries who moved to higher spending regions and who had similar baseline health status risk adjustment scores had risk scores that grew more than beneficiaries who moved to lower or similar spending regions and so resulted in greater reimbursement. In other words, these results imply that health status as measured by diagnoses coded on claims forms is endogenous. Although Song, et al. do not directly suggest this, an implication is that the HCCs should not be used in risk adjustment as they are now (i.e., in the language of Stam, et al., Optional reading. they have elements of an N-type adjuster). Ultimately whether one acts on this implication depends on how much of the observed variation in CMS-HCC scores reflects real health status variation versus differences in coding; the more it reflects coding, the weaker the case for using CMS-HCCs. Unfortunately Song, et al.’s work cannot shed light on this, and it remains an unresolved issue.

The following reading summarizes the Cameron government’s efforts to move toward more
bundling in the UK.


The next three readings are on premium support.


Gretchen Jacobson and Tricia Neuman, “Turning Medicare into a Premium Support System: Frequently Asked Questions,” July 19, 2016. http://kff.org/medicare/issue-brief/turning-medicare-into-a-premium-support-system-frequently-asked-questions/?utm_campaign=KFF-2016-July-Medicare-FAQs-Premium-Support&utm_source=hs_email&utm_medium=email&utm_content=31794444&_hsenc=p2ANqtz-9qT5A19FgEYO1Asoh0n3bxZy1j5sgSg8R0zJZwYelU_ly4QrF1gJ8MEQlWc2A4aOkXelWYqbOWE9XwI0KVoyB5YI8SadxsLPfxUCstas74hrhY4&_hsml=3179444


The next several articles are from an earlier time when Medicare used a take-it-or-leave-it price for health plans, though that does not really affect the risk adjustment issue.

Gregory Pope, John Kautter, Randall P. Ellis, et al., “Risk Adjustment of Medicare Capitation Payments Using the CMS-HCC Model,” Health Care Financing Review, 25:4, Summer, 2004, pp. 119-141. This paper lays out the derivation of the CMS-HCCs. If you are interested in writing testimony about risk adjustment, you should read this paper. http://escholarship.umassmed.edu/cgi/viewcontent.cgi?article=1723&context=qhs_pp


Wynand P.M.M. van de Ven and Randall P. Ellis, “Risk Adjustment in Competitive Health Plan Markets,” in Handbook of Health Economics, eds. Anthony J. Culyer and


**A Wrap Up of Medicare, Parts A, B, and C**

OPTIONAL:

Some of both the support and the political opposition to the defined contribution proposals for Medicare revolve around the idea that it may well be a device for shifting more of the cost of financing the elderly’s medical care from the non-elderly to the elderly. The following reading makes the important point that the division of burden between these groups should be seen in the larger context of financing pensions and long-term care, as well as the cost of medical services.


**CLASS 9 – THE AFFORDABLE CARE ACT AND REFORM OF COMMERCIAL**
HEALTH INSURANCE MARKETS, PART 1 (September 30)

This class has a very large number of slides, in part because of the ACA’s complexity, but also because there is not yet a lot of literature on the effects of the ACA nor even its regulations; hence, I have chosen to cover that in the slides and in the notes that follow below.

Literature is, however, starting to appear. President Obama’s views on the ACA along with three commentaries/editorials on his paper follow:

Barack Obama, “United States Health Care Reform: Progress to Date and Next Steps,” JAMA, August 2, 2016, 316(5):525-32. The first page is more his reflections on his Presidency, but the remainder are his thoughts on the ACA. http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/article.aspx?articleid=2533698


The ACA has ten titles; two of its key titles are:

i) A mandate that individuals have a suitable insurance policy, as defined in the law and in regulation, or pay a financial penalty, along with income-related subsidies for those without employer provided insurance and incomes below 400% of the Federal Poverty Limit – and, to encourage larger employers to provide subsidized insurance, financial penalties for such employers if they do not insure a sufficiently high proportion of their employees; and

ii) Reforms in the market for individual and non-self-insured (see the slides for the definition of this term) employer plans. The reforms include prohibiting pre-existing condition clauses (meaning that insurers must cover all medical conditions from the effective date of coverage), guaranteed issue (insurers must cover all applicants who pay their premiums and cannot refuse any applicant), guaranteed renewal (anyone with an existing policy can renew the policy provided the insurer continues to offer it, although the insurer can increase the premium on the policy for everyone and can make certain other changes as long as they apply uniformly), and constraints on the amount of the premium insurers can retain (Minimum Loss Ratios, which we take up in class 10).
Except for Minimum Loss Ratios, these reforms are directed at the problems caused by selection. They have dramatically changed American individual and small group insurance markets. If you want a description of the ACA’s reforms in these two areas in terms of what is in statute see McDonough in the Optional reading:

OPTIONAL:

John E. McDonough, Inside National Health Reform, Berkeley, University of California Press, pp. 109-139. McDonough’s chapter is mainly descriptive, and is written from the point of view of a Democratic Senate staffer who was a key participant in the legislative process that led to the ACA. McDonough’s book was written in the year after the passage of the ACA and hence does not consider the regulations the Administration has written to implement the law nor does it consider the subsequent Supreme Court decisions on the constitutionality of the law.

Ezekiel J. Emanuel, “How Well Is the Affordable Care Act Doing? Reasons for Optimism,” JAMA, April 5, 2016, 315(13):1331-2. A recent commentary by an author who was in the administration when the ACA was being drafted and enacted.

Although the required reading for this class is relatively modest, there are a great many slides. Many of them simply describe American health insurance and various provisions of the ACA. Others describe issues the executive branch faced in rulemaking to implement the ACA; the ACA is an excellent case study of issues in implementing a law. Finally, some of the slides describe the emerging data on how well the law is working.

The slides begin with some detail on the various insurance submarkets. As class 7 brought out, selection is mostly an issue in the individual and small group markets. In mid-size and larger employers, roughly speaking those with more than 50-100 employees, the law of large numbers makes the mean risk less variable than at smaller firms. Furthermore, larger firms tend to self-insure, whereas smaller firms tend to shift the risk to an insurer (because of their smaller size they are more vulnerable to a random large event although firms that self-insure generally purchase reinsurance on losses above a certain amount). In sum, it is the individual and small group markets that are more vulnerable to selection.

The Uninsured

Because of the ACA the earlier academic literature on the uninsured is obsolete and the implementation of the mandate and subsidies in 2014 is too new to have generated much academic literature, so I have not required any reading. (The Oregon Experiment from Class 4, however, is obviously relevant to Medicaid expansion.) The United States certainly still has uninsured, but they are now mainly non-citizens or persons who have chosen not to take up insurance despite the mandate, especially persons with incomes under 100% of the Federal Poverty Limit (FPL) in states that have not expanded Medicaid. These latter persons, however, are exempt from penalties.
OPTIONAL:


Using an Einav-Finkelstein setup (class 7), they show that the Massachusetts mandate succeeded in reducing selection by bringing healthier individuals into the individual market. They estimate a 4.1% gain in welfare.

J. Michael McWilliams, Ellen Meara, Alan M. Zaslavsky, and John Z. Ayanian, “Use of Health Services by Previously Uninsured Medicare Beneficiaries,” New England Journal of Medicine, July 12, 2007, 357(2):143-53. A followup to their study on the class 4 Optional list. This study shows that those with hypertension, stroke, diabetes, and heart disease who were uninsured before age 65 had a larger increase in physician and hospital use after age 65 than those who were insured, suggesting there may be downstream cost offsets (and potentially improved outcomes) from covering persons before age 65.  

The Individual and Small Group Market

This is the part of the insurance market that prior to the ACA functioned least well, primarily because of selection (but also because of the role of brokers, about which there is more about in class 10), and it arguably remains the part of the market that functions least well, though without question it is now functioning much better than before the ACA. As the slides describe, the ACA made numerous reforms to this market, most notably the public exchanges or marketplaces and associated subsidies. The subsidies are designed to draw good risks into the market and thereby reduce selection. They are initially limited to persons in the individual and small group markets who are not covered by employer-provided insurance; states at their option can expand them to the large group market starting in 2017 (though I wouldn’t be shocked if this option were delayed). To a degree that was not anticipated by the framers of the ACA, however, private exchanges have also been established, and some employers are using that device to change their insurance arrangements to a defined contribution plan, especially for their retirees. Defined contribution means the employer contributes a lump sum to the employee who can top it up to purchase insurance on the individual exchange from one of many possible insurers – or, in the case of retirees, enroll in TM or an MA plan. This class also takes up several other policy issues the ACA addressed with respect to commercial insurance markets.
To keep the amount of required reading down and because the pre-ACA literature on the individual and small group market, like the literature on the uninsured, is out of date, no reading is assigned for this topic, but the optional Baicker and Dow article below, written before the ACA, provides an economic analysis of the pre-ACA market.

OPTIONAL:


The ACA was modeled on 2006 Massachusetts legislation, sometimes called “Romneycare.” Some of the course readings such as Kolstad and Kowalski have been based on the Massachusetts experience. Because it has been superseded by the ACA, the original Massachusetts reform is now receding into history. If you want to know more about Massachusetts, you can look at the following Optional readings; the Steinbrook article describes the Massachusetts 2012 cost control legislation.

OPTIONAL:


Nonetheless, few expect the rate of cost growth to remain at its current low level indefinitely.
http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/28/4/w588.short Why both Massachusetts and the Obama Administration started with an expand-insurance-first strategy and implicitly why cost control is so hard. In July 2012 Massachusetts passed legislation aimed at reducing the rate of cost increase, but in my view the enforcement tools are weak, reflecting the political difficulty of cost control.

http://jama.jamanetwork.com/article.aspx?articleid=1352960. Massachusetts, which is one of the highest cost states (in level of health cost per person) enacted what I would term light touch cost containment legislation in 2012. This article is a short summary of that legislation. I expect some other states may emulate this legislation going forward. If you want more, see “Summary of Chapter 224 of The Acts of 2012,” http://bluecrossmafoundation.org/publication/summary-chapter-224-acts-2012 and also “Chapter 224 of The Acts of 2012: Implications for MassHealth.” (MassHealth is the name of Medicaid in Massachusetts.) A key feature of the legislation was to set up a Health Policy Commission to advise the Legislature on cost control. You can view their website at http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/

**Affordability**

An important driver of cost in the ACA is the cost of subsidies to make insurance premiums “affordable” and hence attract the entire risk distribution into the market. This is likely where much of the debate will lie in the future. The next reading focuses on the current status of the ACA and how affordability can be improved.

http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000328-After-King-v.-Burwell-Next-Steps-for-the-Affordable-Care-Act.pdf I recommend that you go through the slides before you read this paper, since the authors assume familiarity with the basics of the ACA. Given the pressure on federal spending, or perhaps I should say resistance to tax increases, the debate over subsidy levels and who can afford to pay what for health insurance is likely to continue.

The slides cover the “family glitch” that Blumberg and Holahan refer to, but it means that the determination of whether employment-based insurance is affordable for dependents – and thus whether penalties apply for failure to obtain insurance for them - is based on the employee’s premium for an individual policy - not the premium for a family policy if the employee has a family. Thus, even though in a common sense meaning of “affordable,” insurance for a worker’s dependents may be affordable for the worker but unaffordable for dependents, the mandate and penalties for failure to comply apply to dependents.
OPTIONAL:

The next reading gives some guidance on how to think about affordability and exemptions from a mandate; its author was the Assistant Secretary for Planning and Evaluation in DHHS from 2010-2012.

Sherry A. Glied, “Mandates and the Affordability of Health Care,” Inquiry, Summer 2009, 46(2):203-14. [http://www.inquiryjournalonline.org.ezp-prod1.hul.harvard.edu/doi/pdf/10.5034/inquiryjrnl.46.02.203](http://www.inquiryjournalonline.org.ezp-prod1.hul.harvard.edu/doi/pdf/10.5034/inquiryjrnl.46.02.203) Glied takes up the issue of what is affordable and how large subsidies need to be by looking at policy toward subsidies in other policy domains. In particular, the US subsidizes food (e.g., food stamps, WIC) and housing (e.g., vouchers). Food and housing are also like health care in that there are safety net providers, for food soup kitchens and for housing homeless shelters. How does health care differ from food and housing? What implications do those differences have for determining subsidy levels?

A larger issue that is a companion of affordability is how much inequality in medical care – and more generally in the society – the US is willing to tolerate. Solidarity is a frequently used term in the EU; it is much less in evidence in the US literature. Think about that in the context of this reading and in the context of the maps in the slides about the expansion of insurance coverage under the ACA.

Thomas H. Lee and Ezekiel Emanuel, “Tier 4 Drugs and the Fraying of the Social Compact,” New England Journal of Medicine, July 24, 2008, 359(4), pp. 333-5. [http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/359/4/333.pdf](http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/359/4/333.pdf) We will come to tiered formularies for drugs in Class 19 (though Lee and Emanuel explain the meaning), but the authors’ general thrust leads to a somewhat dark view of the possibilities for reducing differences in health care use by income group in the US. There were also some slides on this point in Class 1.

*The Tax Treatment of Employer-Paid Premiums*

The tax treatment of employer-paid health insurance premiums is a long-standing policy issue, one that surfaced in a major way in the debate over the ACA with its “Cadillac tax” of 40% on health insurance premiums that is to take effect in 2018. The current exclusion of employer-paid premiums from taxable income, which was the major spur to the development of the employment-based insurance system in the US, is the largest “tax expenditure” in the US tax code. (Tax expenditure means the foregone revenue from the exemption.) In addition to the foregone revenue, the current exemption is regressive. The slides cover some material on this subject, but I have not required any reading on this subject, partly because I haven’t seen much that is new. There are two papers in the supplementary list. The Bowles-Simpson Deficit Reduction Commission recommended capping the exclusion at the 75th percentile of premiums in 2014 and phasing it out by 2038. What effect would phasing it out have? It also recommended reducing the 40 percent “Cadillac” tax rate to 12 percent. If you want to see their proposal, you can find it at [http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth1](http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth1)
CLASS 10 - THE AFFORDABLE CARE ACT AND REFORM OF COMMERCIAL HEALTH INSURANCE MARKETS, PART 2: MINIMUM LOSS RATIO REGULATION AND ADMINISTRATIVE COST; COMPETITION IN HEALTH CARE MARKETS (October 3)

Minimum Loss Ratio Regulation, Administrative Costs, and Fraud

The ACA put in place Minimum Loss Ratios (MLR’s) of 80 percent for individual and small group insurance and 85 percent for large group insurance. This means insurers must pay out at least that percentage in benefits or give policyholders refunds to the degree they fall short of those percentages. These minimums, however, apply only when insurers take financial risk; they do not apply to the self-insured market, that is when the employer takes the financial risk. You should think about why the MLR provision was in the ACA and whether you would have supported it.

The following paper by Robinson is not only relevant to the MLR issue but also raises a number of points about the relationship between measures of accounting cost and economic cost (MLR’s are based on accounting cost). This relationship is important for you to understand both because the issue surfaces in other contexts and because of its relevance to the argument that there is a great deal of administrative waste in the American health care financing system. One policy proposal that flows from the argument of administrative waste is to limit insurers’ administrative cost, one motivation for the MLR provisions. Similar accounting issues also arise around the profitability of pharmaceutical companies, especially the allocation of joint costs to product lines (i.e., different drugs in the case of pharma); we touch on this point in the context of pharma in class 19. The slides also take up the issue of economic cost versus accounting cost.

James C. Robinson, “Use and Abuse of the Medical Loss Ratio to Measure Health Plan Performance,” Health Affairs, 16(4), July/August 1997, pp. 176-187. [http://content.healthaffairs.org/cgi/reprint/16/4/176](http://content.healthaffairs.org/cgi/reprint/16/4/176) The MLR is often taken as a measure of administrative costs (the higher the loss ratio, the less the administrative costs as a percentage of premium). Robinson gives several reasons why the loss ratios of insurance companies and health plans don’t provide useful information for policy (though stock market analysts take them seriously as a measure of the “quality” of a company’s earnings), and hence why policy proposals to regulate that rate do not seem desirable. Why do we not see such regulations in other industries given that every firm in every industry has administrative costs and (at least for-profit) insurers presumably have the same incentive to reach an efficient level of administrative cost as firms in other industries?

The ACA also contains a provision for the Secretary to review rates or premiums, although she has no enforcement powers; those remain at the state level with state insurance commissioners. The first reading gives you some pre-ACA background on premium setting. The paragraphs on medical underwriting are no longer relevant, but the issues of solvency
and the material on premium review, which is part of the ACA, remain relevant.


OPTIONAL:


American Academy of Actuaries, “Minimum Loss Ratios,” web publication available at http://www.actuary.org/pdf/health/loss_feb10.pdf. The issues mentioned in this brief have now been settled by regulation, although they may at some point be reconsidered.


Administrative costs are part of the debate over the desirability of a single-payer system since single-payer proponents emphasize savings in administrative cost. The next readings deal with issues around administrative cost in the US system. The debate around the level of administrative cost properly goes beyond administrative costs at insurers and also takes up administrative costs of hospitals, physicians, and other providers. After reading these papers, ask yourself: What is the question at issue? Is it the right question? If not, what is the right question and do these papers help you get the answer to that question?

Steffie Woolhandler, Terry Campbell, and David U. Himmelstein, “Costs of Health Care
http://content.nejm.org.ezp1.harvard.edu/cgi/reprint/349/8/768.pdf. A paper that is frequently cited by single payer advocates, prominent among whom are Woolhandler and Himmelstein. They show higher administrative costs in the US system than in the Canadian and argue that the difference could cover the medical costs of the (at that time) uninsured.

Henry J. Aaron, “The Costs of Health Care Administration in the United States and Canada,” New England Journal of Medicine, 349(8), August 21, 2003, pp. 801-803. http://content.nejm.org.ezp1.harvard.edu/cgi/reprint/349/8/801.pdf This is an editorial that accompanied the Woolhandler, et al. paper. Aaron argues that there are methodological issues with Woolhandler, et al.’s conclusion of higher administrative costs in the US. What are these methodological issues? How do you come out? How would you treat taxes that for-profit insurer’s pay for this purpose? (The slides note that the treatment of taxes was an issue with the ACO’s MLR regulations.)

William C. Hsiao, “State-Based Single-Payer Health Care — A Solution for the United States?” New England Journal of Medicine, March 31, 2011, 364(13):1188-90. http://sphweb.sph.harvard.edu/health-care-financing/files/hsiao_2011_state-based_single_payer.pdf You should start with this short general reading on Vermont’s exploration of a single-payer plan, but then proceed to read http://www.leg.state.vt.us/jfo/healthcare/FINAL%20REPORT%20Hsiao%20Final%20Report%20%20February%202011_3.pdf pp. 46-48. It is in the latter document that Hsiao gives the basis for his estimate of administrative saving from less fraud under a single payer. How much confidence do you have in his estimate of 5% savings from less fraud? In addition to his estimate of savings from less fraud, Hsiao estimates additional savings in administrative cost at insurers, hospitals, and physicians if the state of Vermont were to adopt a single payer system. Pages 34-46 of the final report show the derivation of savings in those domains. The administrative savings estimate relies on several studies, including a forerunner of the Morra, et al. in the Optional reading, but to keep the amount of required reading down, pp. 34-46 are Optional.

As many of you may know, in 2011 the Vermont legislature enacted legislation for a single payer plan that was to have gone into effect in 2017. The legislation, however, did not specify how the plan would be financed. In December 2014, however, the Democratic Governor of Vermont, who had run for office on a single-payer platform, announced that the state would no longer pursue such a plan. The plan that was envisioned would have added $2.5 billion to the state’s budget; that number may sound small in the context of national spending, but Vermont is a small state and the state’s entire revenue from taxes was only $2.7 billion (these figures are from Sarah Kliff, http://www.vox.com/2014/12/22/7427117/single-payer-vermont-shumlin). Another way to say this is that financing the plan would have required an 11.5 percentage point increase in the payroll tax and up to a 9 percentage point increase in the income tax, a tax increase that was considered politically undoable. This saga can also be construed as an example of the American political system - or more precisely the Vermont political system - resisting redistribution.
OPTIONAL:


In this context you should also note the Cutler and Ly paper in the Optional reading for Class 1.

Antitrust (Competition Policy in EU nomenclature)

Although the 2009-2010 debate on the ACA emphasized insurer concentration, and the first reading below is supportive of that view (but all markets are local), concentration on the provider side may be a larger problem, especially given the MLR regulation which means 80 or 85% of any premium increase must be paid out in medical benefits. The second reading by Kocher and Emanuel takes up provider concentration.

Because of the technical nature of antitrust, there is little required reading, but this area of health policy is increasingly important. For example, we will see in class 14 that most of the variation in spending across geographic areas by the commercially insured is attributable to differences in provider markups. Although it has not been shown, it seems likely that these varying markups are related to varying degrees of provider market power.

United States of America and the State of Michigan vs. Blue Cross Blue Shield of Michigan, which is posted on the course website. Read the first four pages of the complaint as an example of market power in the insurance industry.

OPTIONAL:

For those of you who want more - but not a lot more - on this important topic, especially if you do not have a background in the economics of industrial organization, you can browse among the following:

Paul B. Ginsburg and L. Gregory Pawlson, “Seeking Lower Prices Where Providers Are Concentrated: An Examination of Market and Policy Strategies,” Health Affairs, June 2014, 33(6):1067-75. Describes a variety of methods that could be used to address increased provider market power from consolidation. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/33/6/1067.full.pdf]


Glenn Melnick and Katya Fonkych, “Hospital Prices Increase in California, Especially Among Hospitals in the Largest Multi-hospital Systems,” Inquiry, 2016, 53:1-7. There are two large hospital systems in California; the larger accounts for 10% of the hospitals in the state and the smaller for 8%. This study examined Blue Cross’ reimbursement at all California hospitals from 2004-2013. Whereas in 2004 reimbursement per admission to the hospitals in the two large systems was comparable to all other hospitals, by 2013 it was 25% higher after controlling for case mix, the wage index, and a variety of other factors. [http://inq.sagepub.com.ezp-prod1.hul.harvard.edu/content/53/0046958016651555.full.pdf]


Paul B. Ginsburg, “Wide Variation in Hospital and Physician Payment Rates Evidence of

The Attorney General of Massachusetts has issued two reports on provider concentration in Massachusetts and its relationship to price.


On the other hand, for those of you who want a lot more on this topic and who have some background in the economics of industrial organization, there is a burgeoning literature. The following two chapters in the 2012 Handbook of Health Economics are excellent reviews. But the Gaynor and Town chapter in particular is extremely long.


http://qje.oxfordjournals.org/content/115/2/577.abstract  Defines an at-the-time novel measure of competition among hospitals and shows that more competition is welfare improving, contrary to an earlier literature on the medical arms race, which postulated that hospital competition led to excess cost without corresponding benefits to quality.


Leemore Dafny, “Estimation and Identification of Merger Effects: An Application to Hospital Mergers,” Journal of Law and Economics, August 2009, 52(3):523-50.  Shows that competitor hospitals in areas where two hospitals merge can raise prices because of greater market concentration. For unknown reasons, this journal is not in the electronic Harvard library system, so there is no URL.

The following three papers have conflicting findings on the effect of increased insurer concentration on medical prices. The first two find lower spending from increased insurer concentration using primarily a cross-section design; the third finds an increase in spending using what is effectively a difference-in-difference model.

Glenn A. Melnick, Yu-Chu Shen, and Vivian Yaling Wu, “The Increased Concentration of Health Plan Markets Can Benefit Consumers Through Lower Hospital Prices,” Health Affairs, September 2011, 30(9):1728-33.  Finds 64 percent of hospitals (revenue weighted) operate in health plan markets that are not concentrated (HHI ≤ 1800) and only 7 percent operate in markets that are (HHI > 3200).  Also finds hospital prices in the most insurer concentrated markets are 12 percent lower than in the most insurer competitive markets. Emphasizes reducing hospital concentration.

http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/30/9/1728.full.pdf+html


https://www-aeaweb-org.ezp-prod1.hul.harvard.edu/articles.php?doi=10.1257/aer.102.2.1161

The literature in this domain is not confined to the US:

http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1002/(SICI)1099-1050(199805)7:3%3C187::AID-HEC349%3E3.0.CO;2-F/pdf  Summarizes a small number of studies of the effects of attempting to introduce a modicum of price competition into the British National Health Service. My take is that effects of modest interventions are modest.


A related issue to antitrust, suggested by Kocher and Emanuel in the required reading, is whether there should be a mandate for price transparency to consumers. Although frequently advocated and not strongly partisan, at least relative to many health policy issues, the evidence on the whole is not very supportive of its efficacy. If you are interested in this issue, here are two short papers to get you started:


TESTIMONY 1 (“CLASSES” 11, 12 and 13; October 5, 12, and 17)

CLASSES 14 - 18 - QUALITY OF CARE

I start with an overall view of the next five classes. Historically, the public debate in the US over health policy focused much more on cost and access than on quality. “Access” is a term with several meanings, including financial, geographic, racial/ethnic, and cultural, but in the American context it probably most often refers to financial access, meaning in principle the uninsured and underinsured, although uninsured is the most common use. In other countries, such as the UK, access often refers to shorter waiting times for elective procedures, a meaning that is almost wholly absent in the American context.

In contrast to cost and access, the American health policy debate did not highlight quality as a problem until relatively recently. In recent years, however, the view among experts - but probably less among the general public - is that there are important problems with the quality of care in the US (and in other countries as well). At the same time, expert opinion is now somewhat more nuanced about cost (see class 1). Behind the change of expert
opinion on quality lies a vast literature that both documents problems with quality of care and proposes remedies.

Class 14 covers geographic variation in the use and cost of services. The fact of variation suggests quality issues. Class 15 covers a potpourri of subjects related to quality: a) the Institute of Medicine’s (now the National Academy of Medicine) definition of quality (see slides); b) the entities that affect quality (no reading assigned on this topic; see slides); c) the RAND definition of appropriateness of care and its application; d) the findings of the literature on the effects of public reporting of provider quality; e) the business case for quality or lack of it; f) the role of information technology (IT) and the electronic medical record; its rate of adoption has a lot to do with economics; and g) reimbursement based on quality measures or so called pay for performance (P4P). Class 16 goes over the change in reimbursement to “value-based care” and its effect on quality. Value-based care seems to have several meanings, but I focus on capitation or partial capitation with some payment based on quality measures. Class 17 covers comparative effectiveness research or improved knowledge of “what works for whom,” and class 18 deals with malpractice and its effects – for good or ill – on quality.

CLASS 14 – GEOGRAPHIC VARIATION (October 19)

In keeping with the spirit of teaching you something about methods and distinguishing better from poorer research, I begin the set of classes on quality with the debate over geographic variation in the use of services. Although this class is primarily focused on methods, the variation in use and quality likely implies that all areas of the US do not have optimal quality. I put “likely” in the prior sentence because some believe most of the variation can be explained by health status differences. How much can be explained by health status is a topic in the literature below, but the bulk of the literature shows considerable variation even accounting for health status. (The Sheiner Optional reading is something of an exception.)

As you will see, however, there is controversy about both methods and substance in this domain; I will ask you in class where you come out in the debates between the Dartmouth researchers who started the variation literature and their critics. Note that to keep this introductory discussion in this syllabus coherent, there are a number of readings included in it that are NOT required. So you are clear on what I expect you to read, I have left the optional reading in ordinary (not bold) font.

The vast literature about geographic variation within the United States began with studies of variation in use and cost (quality variation was only implicit), much of it coming from John (Jack) Wennberg, Elliott Fisher, and others at Dartmouth over the past four decades. Much of the Dartmouth work can be found in the Dartmouth Atlas in the Optional reading; the slide from Class 1 on variation in Medicare spending, which is repeated in the slides for this class, is from the Atlas. In explaining variation the Dartmouth group has emphasized the role of the physician and the physician’s discretion in gray areas of medicine, although why physician decision making should cluster geographically was (and I would say remains) somewhat murky.
As noted above, geographic variation relates to quality because if areas that are otherwise homogeneous, or, more realistically, vary only modestly in factors that affect use such as the age distribution, many of the areas must not have the optimal rate of use. Many of the writings of the Dartmouth group go further, however, and interpret the data as saying that the high spending areas buy very little if anything of value for their incremental spending (see, for example, the Fisher, et al. Part 2 paper in the Optional reading). This leads the Dartmouth group to the conclusion that the US could save a lot of money if all of the US looked like the low spending areas. Atul Gawande, in a well-known 2009 New Yorker article that was picked up by the New York Times and featured on page 1 in the Sunday paper, furthered this line of thinking. (Neither the New Yorker article nor the Times article is required, but if you want to read the Gawande article it is at http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande. If you have access to the Times, you can get the Times article at http://www.nytimes.com/2009/06/09/us/politics/09health.html?scp=37&sq=medicare&st=nyt.) I have excerpted the beginning of the Times article about Gawande on two slides.


The Dartmouth work on geographic variation, which started in the early 1970’s, precipitated a very delayed counter reaction that I will want to discuss in class, as much for its methodological interest as for its substantive interest. I have relegated some of the challenges to the Dartmouth view of the world to the Optional reading list, not because I think they are unimportant but because the reading for this class is already long! If you delve into the Optional reading, I suggest especially Romley, et al. (the slides for this class have one chart from this paper), Doyle on Florida, and Franzini, et al. on McAllen and El Paso. The first two both challenge the Dartmouth view that the additional spending doesn’t buy much of value. Franzini, et al. showed that commercial data for McAllen and El Paso, the two Texas cities that Gawande had described, look very different than the Medicare data Gawande used. The Institute of Medicine (IOM) report and the Newhouse and Garber papers below showed why this was.

On the political front, the variation in Medicare spending so amply documented by Dartmouth arguably led to the floors in Medicare hospital wage adjusters and in Medicare Advantage reimbursement (recall classes 5 and 8). This, however, may simply have come from members of Congress in low spending districts becoming aware of more supplementary benefits in Medicare Advantage plans in high spending districts rather than from the Dartmouth work (class 5). In any event, as part of the debate over the ACA, the geographic variation in Medicare spending led the Congress to support two Institute of Medicine (IOM) studies of the issue, one of which I chaired; the following are two short papers that summarize that IOM committee’s report; the full report is in the Optional reading. As already noted,
IOM reports are copyrighted, but you can download a pdf for your personal use for free by going to https://nam.edu/, searching for the report you want, and registering. Some of the slides are taken from the committee’s report. What do the IOM committee’s findings say about the Dartmouth view of the world?

Joseph P. Newhouse and Alan M. Garber, “Geographic Variation in Medicare Services,” New England Journal of Medicine, April 18, 2013, 368(16):1465-8. This paper summarizes the committee’s findings on geographic variation in Medicare.


Dartmouth always focused on geographic variation in spending in Medicare Parts A and B because Medicare data allowed estimation of spending at a fairly granular level of geographic detail. The IOM work attempted to go beyond Medicare data to get an all-in or total measure of spending in a geographic area; the following paper summarizes the IOM committee’s conclusions.


Turning to some of the methods issues that have arisen in the literature and that are taken up in the reading below, the Zuckerman, et al. paper below as well as the MedPAC report in the Optional reading argue that the map you saw in Class 1 looks considerably different after making adjustments for various covariates; Dartmouth has fired back at MedPAC. Bach challenges Dartmouth’s methods for dealing with endogeneity and Dartmouth has responded. Cooper has gotten into a debate with Baicker and Chandra, who at one time were both at Dartmouth; that debate also bears on the issue of workforce which we come to in Class 21.

The Dartmouth map you saw in Class 1 (and that is repeated in the slides for this class) shows variation in input-price adjusted Parts A and B Medicare spending across the Dartmouth defined 306 market areas. (Input-price adjustment, sometimes called factor-price adjustment, means adjustment for the wage index and the GPCI, see classes 4-6. Sometimes in Dartmouth publications the data are input-price adjusted; sometimes not. The map you saw on the slide is adjusted.) After adjusting for factor prices and taking out Graduate Medical Education and Disproportionate Share payments (class 5), the remaining variation in Parts A and B is essentially a quantity index because Medicare sets prices that are uniform nationally except for these factors. Note that since the Dartmouth data are just Parts A and B, they exclude spending on Medicare Advantage (Part C, class 8) and on drugs (Part D, class 19).

The Fisher, et al. article above (as well as the companion Fisher, et al. article in the Optional reading) carried the Dartmouth group past many of their earlier studies that simply documented geographic variation in use. Fisher, et al. try to show that the high use areas do not buy much for their additional spending, i.e., their findings are consistent with “flat-of-the-curve” medicine (class 1). In particular, Fisher, et al. relate variation in
Medicare spending on end-of-life care across regions to variation in five-year mortality rates, functional outcomes, and satisfaction for Medicare patients with hip fracture, AMI, or colorectal cancer. They find no relationship. Much of this material is in the companion article that is Optional, although there are also two slides from Elliott Fisher on this point. Bach (below), however, challenges them on whether their method yields interpretable findings, as does Cooper (also below).

The next five readings starting with Cooper can all be found at http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/webexclusives/index.dtl?year=2008. Go to the December 4 date when you get to the web site. The sixth reading (Sutherland, et al.) continues the exchange between Dartmouth and Cooper. Focus on the methodological questions at issue; I will ask you about them in class. In order to keep the amount of reading for this class down, I have not assigned the original Baicker-Chandra paper that set off the exchange with Cooper, but if you want to see it, it is Katherine Baicker and Amitabh Chandra, “Medicare Spending, The Physician Workforce, And Beneficiaries’ Quality Of Care,” Health Affairs, 2004, Web Exclusive: W4-184-197. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/early/2004/04/07/hlthaff.w4.184.full.pdf+html.


Jason M. Sutherland, Elliott S. Fisher, and Jonathan S. Skinner, “Getting Past Denial – The High Cost of Health Care in the United States,” New England Journal of Medicine, September 24, 2009, 361(13):1227-30. Sutherland, et al. (“Dartmouth”) take up Cooper’s objection that some of the variation across regions is due to variation in factor prices (Dartmouth: true, but only some of it), health status (Dartmouth asserts very little is due to
health status, but this is disputed; see Zuckerman, et al. below as well as the MedPAC reading, both of which take a different view), and poverty (Dartmouth: very little). Dartmouth believes the latter two factors mostly balance out across Hospital Referral Regions (though I would add that they do not mostly balance out across the smaller Dartmouth defined Hospital Service Areas, which are nested within Hospital Referral Regions and are about 10 times as numerous). The two Fisher, et al. Annals of Internal Medicine papers, one of which is required, are representative in this respect. The Sutherland, et al. paper is at http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/361/13/1227.pdf

As a side note, two New York Times reporters also decided to take on Dartmouth in articles that were run on the front page of the newspaper. If you have access to the Times, you can download these articles for free at http://www.nytimes.com/2010/06/03/business/03dartmouth.html. This reading, however, is optional.

Others besides Cooper and the New York Times have climbed into the ring with Dartmouth:


Dartmouth, however, argues that adjusting for health status in the manner that Zuckerman and MedPAC do (and also Zhang, et al. in the slides) is illegitimate because the health status adjustment is based on diagnoses on claims forms and the intensity of coding diagnoses varies by region. In particular, they show the likelihood of recording diagnoses on claims forms varies by region. Given the Dartmouth result, can one adjust the observed amount of variation for the differential coding propensity from the data they present? That is, can one get a figure that reflects the amount of variation net of any differences in coding intensity across region? The following reading was Optional for class 8, but if you didn’t read it, you should do so now since it is a key article in the argument about whether the data should be adjusted for health status when health status is defined as diagnoses on claims forms. Yunjie Song, Jonathan Skinner, Julie Bynum, Jason Sutherland, John E. Wennberg, and Elliott S. Fisher, “Regional Variations in Diagnostic Practices,” New England Journal of Medicine,” July 1, 2010, 363(1):45-53. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/nejmsa0910881

OPTIONAL:

The Dartmouth Atlas of Health Care. This justly famous publication presents all sorts of variation in care in great and colorful detail. You can see it for free at [http://www.dartmouthatlas.org/](http://www.dartmouthatlas.org/)


John A. Romley, Anupam B. Jena, and Dana P. Goldman, “Hospital Spending and

Joseph J. Doyle, Jr., “Returns to Local-Area Healthcare Spending: Using Health Shocks to Patients far from Home,” American Economic Journal: Applied Economics, July 2011, 3(3):221-243. Shows, contrary to the Fisher papers above, that areas of high spending may have some positive returns. Despite Doyle’s example, however, there is a lot of evidence behind the conventional Dartmouth conclusion that the high Medicare spending areas get little for their extra spending; much of it is in the Dartmouth Atlas. http://www.nber.org/papers/w13301


Dartmouth seems to agree with the IOM and with Chernew, et al. that variation in commercial insurance looks different. In the following paper, which is co-authored by Jonathan Skinner, they find the (in)famous difference between McAllen and El Paso, Texas that Atul Gawande highlighted in his New Yorker article does not hold up in commercial data. Luisa Franzini, Osama I. Mikhail, and Jonathan S. Skinner “McAllen and El Paso Revisited: Medicare Variations Not Always Reflected in the Under-Sixty-Five Population,” Health Affairs, December 2010, 29(12): 2302-9. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/12/2302.short Given the role of post-acute care in the Medicare differences (see the IOM report) and that post-acute care is not that important in the under 65, this lack of a relationship is perhaps not surprising, but I think at the time the result surprised many people because there had been so little done with data from commercial insurance and because the usual Dartmouth interpretation had been that the variation came from doctor discretion, which most assumed carried over to the treatment of the under 65.

Louise Sheiner, “Why the Geographic Variation in Health Care Spending Can’t Tell Us Much About the Efficiency or Quality of Our Health Care System,” Brookings Papers on Economic Activity, Fall 2014. Takes on the Dartmouth view that geographic differences in Medicare spending can be mostly accounted for by individual physician practice style and suggests that state-level socioeconomic differences are important rather than the conclusion of the Sutherland, et al. paper in the required reading that individual level health variation is unimportant when trying to explain variation across large areas. http://www.brookings.edu/~media/projects/bpea/fall-2014/fall2014bpea_sheiner.pdf

Amy Finkelstein, Matthew Gentzkow, and Heidi Williams, “Sources of Geographic Variation in Health Care: Evidence from Patient Migration,” mimeo,
http://economics.mit.edu/files/9782. Uses Medicare data on those who move to show that 40-50% of the geographic variation in Medicare is attributable to demand factors rather than supply factors, whereas the Dartmouth view of the world has focused on supply factors rather than demand factors.

Amitabh Chandra and Douglas Staiger, “Productivity Spillovers in Health Care: Evidence from the Treatment of Heart Attacks,” Journal of Political Economy, February 2007, 115(2):103-40. Argues that regions may specialize in one type of treatment and therefore may not be able to obtain the same results as another region if spending were to change. Thus, contrary to what some of the Dartmouth group have written, if high spending regions were to have their Medicare reimbursement cut, outcomes could suffer.

CLASS 15 – QUALITY, ITS MEASUREMENT AND IMPROVEMENT: APPROPRIATENESS, GUIDELINES, PUBLIC REPORTING AND PAYING/PENALIZING USING MEASURES OF QUALITY (October 24)

This class has a lot of reading and slides, but some of the material is descriptive and you should be able to get through that material relatively quickly.

OPTIONAL:

Overviews

Institute of Medicine, Crossing the Quality Chasm; Washington: National Academy Press, 2001, Executive Summary, pp. 1-22. This call-to-action report, though now well over a decade old, is still often cited and is a good starting point for this topic. It is such a good starting point that I used to have it on the required list, but have taken it off to lighten the required load. Although much of the monograph does not deal with the economics of quality directly, note the text about payment policies around recommendations 10 and 11. The push for financial incentives for quality performance subsequently went forward under the banner of pay for performance (P4P); more on that below. http://www.nap.edu/catalog.php?record_id=10027

Institute of Medicine, To Err Is Human; Washington, DC: National Academy Press, 1999, Executive Summary. This IOM report put the issue of patient safety and error in medicine on the public agenda. It made the point, which is made even more strongly in the Quality Chasm report, that improving quality is a systems problem. The report makes a dubious (in my view) extrapolation to the entire US of studies of deaths from error in New York, Colorado, and Utah, but this extrapolation now seems to have made it into urban legend (see the Supplementary reading list for Class 17). Nonetheless, whatever the number of deaths medical error actually causes is, there can be little doubt that it is a large number. This IOM report was the subject of a Presidential news conference when it was released, and it sufficiently impressed President Clinton that he returned to the subject in his general press conference the following day. http://iom.nationalacademies.org/Reports/1999/To-Err-is-
Especially if you are a physician or a medical student, I suggest you read Atul Gawande’s 2011 Harvard Medical School commencement address, which emphasizes the need for physicians to change the traditional views they have had of themselves in order to make delivery system reform successful in terms of both improving quality and lowering cost. You can find this at http://www.newyorker.com/online/blogs/newsdesk/2011/05/atul-gawande-harvard-medical-school-commencement-address.html. If you are a Gawande fan (I am), another Gawande New Yorker article whose theme is related to the Cowboys and Pit Bulls article is http://www.newyorker.com/reporting/2012/08/13/120813fa_fact_gawande

Quality of Care Measurement

As per the slides, the traditional measures of quality are classified into structure, process, and outcome. The first reading gives a now dated assessment of the state of quality in the US using process measures, and the next reading takes up the relationship or the lack of it between process and outcome measures.

Elizabeth A. McGlynn, Steven M. Asch, John Adams, et al., “The Quality of Health Care Delivered to Adults in the United States,” New England Journal of Medicine, 348(26), June 26, 2003, pp. 2635-2645. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa022615 This classic paper gave a rather dismal overall assessment of the quality of care in the US at the time. Only 55 percent of patients whose charts were sampled received guideline level care, although if the medical record were incomplete, the results would understate the quality actually being delivered (but failure to document is itself a quality problem). You may also want to read the editorial on this subject by Earl Steinberg in the same issue, but that is Optional. Two follow-on papers from this study are in the Optional reading; one shows little variation across demographic groups, the other shows little variation across geographic regions. In short, the poor performance seemed to extend across the board. The slides document improvement in several of the measures since the time of these data, but there still appears to be scope for substantial improvement.

Although process measures are widely used to assess quality, outcome measures are almost universally conceded to be what is desired if only they were more feasible. The following paper is about the weak relationship between process and outcome measures.

Ashish Jha, “Measuring Hospital Quality,” JAMA, July 5, 2006, 296(1):95-97. A short, clear exposition of the relationship - or the lack of it - between process and outcome measures. To keep the amount of required reading down, I have not assigned the two articles that Jha is discussing in this editorial, but of course you are welcome to pursue those. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/296/1/95.short

OPTIONAL:

Each year the federal government issues a National Health Quality and Disparities Report, with data over time on many measures of quality. The 2014 version can be found at


Peter S. Hussey, et al., “How Does the Quality of Care Compare in Five Countries?” Health Affairs, May/June 2004, 23(3), pp. 89-99. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/23/3/89.full Quality of care is variable across countries and there is relatively little correlation among measures. That is, if a country looks good on one measure, it does not necessarily look good on another.

And if you want to read an anecdotal account around quality that brings to mind Ralph Nader’s famous title, Unsafe at any Speed, see Ashish Jha’s blog post at http://cognoscenti.wbur.org/2013/04/05/medical-errors-ashish-jha.

(In)Appropriateness and Guidelines

Mark R. Chassin, Jacqueline Kosecoff, R.E. Park, Constance M. Winslow, Katherine L. Kahn, Nancy J. Merrick, Joan Keesey, Arleen Fink, David H. Solomon, and Robert H. Brook, “Does Inappropriate Use Explain Geographic Variations in the Use of Health Care Services? A Study of Three Procedures,” JAMA, 258(18): November 13, 1987, 2533-2537. This paper follows from their 1986 paper, the results from which are in the slides for Class 14. This classic study formulated a definition of appropriateness that was a main contributor to the guidelines movement of the 1990s, which is now termed evidence-based medicine. That is, guidelines were formulated that could support efforts to increase the proportion of appropriate procedures. How does the RAND group’s definition of appropriateness compare with an economist’s definition? Notice that the results of this paper conflict with the general view of the Dartmouth group (class 14) that the low-rate regions have the optimal rate.
OPTIONAL

Mary Beth Landrum, Ellen R. Meara, Amitabh Chandra, Edward Guadagnoli, and Nancy L. Keating, “Is Spending More Always Wasteful? The Appropriateness of Care and Outcomes among Colorectal Cancer Patients,” Health Affairs, January 2008, 27(1):159-68. Shows that high Medicare spending regions for colorectal cancer patients do more of both appropriate and inappropriate care, similar to Chassin, et al.’s findings. Outcomes across regions are similar, suggesting the negative effects of the inappropriate care diluted the beneficial effects of the appropriate care, similar to my interpretation of the RAND Experiment results in class 3. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/27/1/159.full.pdf+html


Many American specialty societies have established guidelines for avoiding low value services, which they have named Choosing Wisely. This paper looks at the national prevalence and regional variation in 11 of those services. The range of prevalence is from 1% for upper urinary tract imaging in men with benign prostatic hyperplasia to 46.5% for preoperative cardiac testing for low-risk, non-cardiac procedures. The estimated waste from these 11 procedures is around $1.2 billion using 2006-2011 data. $1.2 billion is obviously a tiny fraction of the Institute of Medicine’s estimated 30% waste in American health care spending and of the $2+ trillion in total spending. How much that difference is attributable to specialty societies’ choosing services that did not account for a lot of their members’ revenue and how much it is attributable to the IOM’s 30% being too large a number is an open question.

Harlan M. Krumholz and Thomas H. Lee, “Redefining Quality – Implications of Recent Clinical Trials,” New England Journal of Medicine, June 12, 2008, 358(24): 2537-9. Discusses two well-known trials, the results of which imply that the simple targets of many guidelines such as HbA1c < 7 for Type 2 diabetics – and the associated public reporting, pay-for-performance, and network tiering efforts that have been built around these guidelines – are not sufficient, and that the existing guidelines specifying a target such as HbA1c < 7 also need to account for how the target was reached. Right now they do not do so. http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/358/24/2537.pdf


You may also want to refer back to the Garber and Skinner paper assigned for Class 1.

If you would like to read a journalistic account of why additional services at the margin may have negative value, read Atul Gawande, “Overkill,” *The New Yorker*, May 11, 2015. [http://archives.newyorker.com.ezp-prod1.hul.harvard.edu/#folio=C1](http://archives.newyorker.com.ezp-prod1.hul.harvard.edu/#folio=C1)

**Coordination Failures**

Thomas Bodenheimer, “Coordinating Care — A Perilous Journey through the Health Care System,” *New England Journal of Medicine*, March 6, 2008, 358(10):1064-71. [http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMhp0706165](http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMhp0706165). The American delivery system, when compared with other industrialized countries, has a high proportion of specialists treating the same patient, which raises the problem of coordination among the physicians. This is especially true among the elderly, who more frequently have multiple comorbidities and are therefore being treated by different specialists. The coordination issue will also surface in Class 21 when we take up the health care workforce. This article describes the coordination issue and some possible remedies.


**OPTIONAL:**


Care coordination is a lot of work and not well rewarded by the FFS system. For a short,

For a prominent health care journalist’s account of her personal problems in this domain, see Sarah Kliff, “Unpaid, Stressed, and Confused: Patients Are the Health Care System’s Free Labor,” Vox blog, June 1, 2016, [http://www.vox.com/2016/6/1/11712776/healthcare-footprint?_hsenc=p2ANqtz-9uNIYLecEdJbI2QoC5TgA2zRD9EYL4q17AzakTSWZG1aldU7PZ8xQJ3gmtP5JFmMHyd3xB0aTJXNvq_574UJMZB5Yj6oIw6RWtSQ9X0I8TvPJcimQ&_hsmi=30188607](http://www.vox.com/2016/6/1/11712776/healthcare-footprint?_hsenc=p2ANqtz-9uNIYLecEdJbI2QoC5TgA2zRD9EYL4q17AzakTSWZG1aldU7PZ8xQJ3gmtP5JFmMHyd3xB0aTJXNvq_574UJMZB5Yj6oIw6RWtSQ9X0I8TvPJcimQ&_hsmi=30188607)

There are a number of not mutually exclusive policy instruments that a policy maker can use to improve quality. The remainder of this class is given over to three of them, public reporting, paying on quality measures, and greater use of health IT.

**Public Reporting**

Giving consumers better information about the quality of care delivered by various providers (think Yelp or Trip Advisor for health care providers) is one often proposed instrument to improve quality. Lee shows the upside of quality reporting, but Dranove, et al. show that public reporting may induce selection, which is analytically similar to selection from greater transparency in insurance plans (class 7). Hofer, et al. show that we may never have good quality measures at the level of the individual primary care physician, though this is a contested view.

Thomas H. Lee, “Eulogy for a Quality Measure,” *New England Journal of Medicine*, September 20, 2007, 357(12): 1175-7. A short piece demonstrating (in my view) the upside of measurement and public reporting. Administration of beta blockading drugs, a treatment that should have been routine following heart attacks but was far from routine in the early 1990s, was one of the first measures of process quality developed by the National Committee for Quality Assurance (NCQA). The original measure was whether the patient got the drug within 7 days of discharge, but use got so close to 100% after several years of measurement that the NCQA changed the measure to whether the patient was on a beta-blocker 6 months after the heart attack; see the notes to the slides on improvement. [http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/357/12/1175.pdf](http://content.nejm.org.ezp-prod1.hul.harvard.edu/cgi/reprint/357/12/1175.pdf)

David Dranove, Daniel P. Kessler, Mark McClellan, and Mark Satterthwaite, “Is More Information Better? The Effects of ‘Report Cards’ on Health Care Providers,” *Journal of Political Economy*, June 2003, 111(3), pp. 555-588. This paper, which provides evidence of discrimination against severely ill patients after NY and PA established reporting systems on mortality rates of individual cardiac surgeons, shows (what to me is) convincing evidence that the New York and Pennsylvania public reporting schemes induced selection against higher risk patients and possibly raised mortality among AMI (heart attack) patients. The selection described in this paper is a discouraging result for reporting
outcome-based measures, let alone paying on them, because risk adjustment for cardiac surgery was, and probably still is, the most advanced system of risk adjustment for health outcomes that we have, and the results here suggest to me that the cardiac surgeons did not believe it was good enough. Nonetheless, the welfare gains from the provider actions in New York described in Marshall, et al. in the Optional reading may still have outweighed the welfare losses from the selection that Dranove, et al. describe, so the net effect on welfare is ambiguous. Several more recent studies of public reporting in this domain are in the Optional reading; they generally accord with the Dranove, et al. findings. 

http://www.journals.uchicago.edu.ezp-prod1.hul.harvard.edu/doi/pdf/10.1086/374180

Timothy P. Hofer, Rodney A. Hayward, Sheldon Greenfield, Edward H. Wagner, Sherrie H. Kaplan, and Willard G. Manning, “The Unreliability of Individual Physician ‘Report Cards’ for Assessing the Costs and Quality of Care of a Chronic Disease,” JAMA, 281(22), June 9, 1999, pp. 2098-2105. This paper shows the difficulty of assessing the quality of care at the individual physician level even for a common disease (diabetes). Although there is a division of opinion on whether individual providers can be meaningfully profiled, this paper is rather discouraging about the prospects. See Dimick, et al. and Nyweide, et al. in the Optional reading for more on the issue of sample size at the individual provider level. There is some material from Dimick, et al. in the slides. http://jama.ama-assn.org.ezp1.harvard.edu/cgi/content/abstract/281/22/2098

OPTIONAL:

Stephen W. Waldo, James M. McCabe, Cashel O’Brien, Kevin F. Kennedy, Karen E. Joynt, Robert W. Yeh, “Association Between Public Reporting of Outcomes With Procedural Management and Mortality for Patients With Acute Myocardial Infarction,” Journal of the American College of Cardiology, 2015, 65(11):1119-26. A later study with similar findings to Dranove, et al., although interestingly the authors seem unaware of the Dranove, et al. study. Primary percutaneous coronary intervention (PCI) is now the standard treatment for acute myocardial infarction (AMI). This study compares rates of PCI in two public reporting states (New York and Massachusetts) with six control states (Connecticut, Rhode Island, Maine, New Hampshire, Vermont, Maryland). The authors not only find less PCI among sicker patients but also higher in-hospital mortality. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0735107715001412/1-s2.0-S0735107715001412-main.pdf?_tid=336add8c-8a0e-11e5-891b-00000aab0f01&acdnat=1447423110_cb185496599af7eb5f811b9b49e9d

Karen E. Joynt, Daniel M. Blumenthal, E. John Orav, Frederic S. Resnic, and Ashish K. Jha, “Association of Public Reporting for Percutaneous Coronary Intervention With Utilization and Outcomes Among Medicare Beneficiaries With Acute Myocardial Infarction,” JAMA, October 10, 2012, 308(14):1460-8. Another study with similar findings to Dranove, et al. This study compares the rate of Percutaneous Coronary Intervention (PCI) and mortality among heart attack patients in three public reporting states, New York, Pennsylvania, and Massachusetts, with seven control states. (Waldo, et al. above excluded data from Pennsylvania because of potential inconsistent data reporting.) As in the Dranove, et al. and Waldo, et al. studies there is less PCI in the
public reporting states and the reduction occurs among the sickest patients, although in this study the authors find no effect either way on 30-day mortality rates.


CMS Hospital Compare process measures have marginally lower risk-adjusted mortality rates for AMI, CHF, and pneumonia, another demonstration of the weak association between process and outcome measures.


Matthew P. Muller and Allan S. Detsky, “Public Reporting of Hospital Hand Hygiene Compliance – Helpful or Harmful?” *JAMA*, September 8, 2010, 304(10): 1116-7. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/304/10/1116.extract The authors believe the reported improvement was not real but an artifact of measurement.


John L. Adams, Ateev Mehrotra, J. William Thomas, and Elizabeth A. McGlynn, “Physician Cost Profiling — Reliability and Risk of Misclassification,” *New England Journal of Medicine*, March 18, 2010, 362(11):1014-21. A paper similar to the Hofer, et al. and Dimick, et al. papers showing varying reliability in the measurement of a physician’s costliness (using allowed charges) across physicians (and also across specialties). The authors used two years of data from four Massachusetts insurers on the 1.1 million persons who had been continuously enrolled for the two years. Their summary number is that 22% of physicians would be misclassified if, arbitrarily, the lowest 25% of physicians on cost for the two years were classified into a lower cost or


**Paying/Penalizing for Quality/Performance**

Whereas public reporting or the provision of information about providers is a demand-side intervention to improve quality, “pay for performance” or “P4P” is a supply-side intervention. Many, especially non-economists, believe demand-side interventions to improve quality are ineffectual because patients cannot judge quality, but see Redelmeier, et al. in the Optional reading for Class 6 for evidence that there is a demand response (though in that particular case almost certainly not a socially optimal one). The UK has put much more P4P money on the table than the US and has seen what perhaps was a once-and-for-all improvement; see the Roland and Campbell paper and the slides. If you want more on the UK, see Kristensen, et al., Doran and Roland, and Campbell, et al. in the Optional Reading. The Optional Norton 1992 paper in Class 20 treats this topic in the nursing home context.

One concern about existing P4P measures is that they reward being above or below a given cutpoint, for example systolic blood pressure below 140 mmHg, whereas patient welfare may be improved to a much greater degree by changes in therapy that leave the patient still above the cutpoint and so go unrewarded in the cutpoint method; see Eddy, et al. in the Optional reading if you want to pursue this. Unfortunately, almost all P4P schemes including Medicare’s use the cutpoint method.


Jordan M. VanLare, Jonathan D. Blum, and Patrick H. Conway, “Linking Performance with


OPTIONAL:


The next paper describes where Medicare is going with respect to value based payment after the Medicare and CHIP Reauthorization Act of 2015 (MACRA) – but it isn’t going there until 2019, which is why this reading is Optional. The short answer is to more P4P; although details remain to be worked out, by law four performance domains are included: quality of care; resource use; meaningful use of electronic health records; and participation in clinical practice improvement activities. This short paper describes some of the challenges, especially in the measurement of the first two of the four domains.


The following three papers discuss the Medicare penalties for readmissions, which the slides also discuss.

Michael L. Barnett, John Hsu, and J. Michael McWilliams, “Patient Characteristics and Differences in Hospital Readmission Rates,” JAMA Internal Medicine, November, 2015, 175(11)1803-12. Patient related characteristics that are omitted from the risk adjustment model explain much of the difference in the readmission rate across hospitals. From the abstract: “Participants admitted to hospitals in the highest quintile had higher HCC scores, more chronic conditions, less education, fewer assets, worse self-reported health status, more depressive symptoms, worse cognition, worse physical functioning, and more difficulties with ADLs and IADLs than participants admitted to hospitals in the lowest quintile.” http://archinte.jamanetwork.com.ezp-prod1.hul.harvard.edu/solr/searchresults.aspx?q=barnett&fd_JournalID=71&f_JournalDisplayName=JAMA%20Internal%20Medicine&SearchSourceType=3

The authors argue that readmission measures used for financial reimbursement should account for socio-economic status (see also the slides), should be weighted for days since discharge, and should account for mortality (competing risks).


The slides also cover the next two papers on the Premier demonstration:


Peter K. Lindenauer, Denise Remus, Sheila Roman, Michael Rothberg, Evan M. Benjamin, Allen Ma, and Dale W. Bratzler, “Public Reporting and Pay for Performance in Hospital Quality Improvement,” New England Journal of Medicine, 356(5), February 1, 2007, pp. 486-496. Gains in quality at a set of hospitals with pay for performance and public reporting relative to a set with only public reporting. The P4P scheme was a 1 or 2 percent bonus for hospitals in the top two deciles of hospitals that applied; note that the group of applicants were not randomly selected. Underperforming hospitals, however, were subject to penalties in the third year. http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa064964

David M Eddy, Joshua Adler, and Macdonald Morris, “The ‘Global Outcomes Score’: A Quality Measure, Based on Health Outcomes, That Compares Current Care to a Target Level of Care,” Health Affairs, November 2012, 31(11):2441-50. Describes an improvement in how to administer P4P that uses a continuous and well validated measure of outcome rather than being above or below a cut point on a given measure, as in the Medicare Advantage Star system (class 8) and also in commercial insurance P4P programs.

physicians who met targets on cervical cancer screening, mammography, and hemoglobin A1c testing. Finds little effect on quality; the rewards went to those who were already doing well. This paper was very influential in dampening some of the early enthusiasm for P4P. What does this paper tell you about the most appropriate design of a P4P program? If you would rather read an economics journal article that uses more complete data from the same P4P program (but reaches the conclusion that there is a positive but quite modest effect), read Kathleen J. Mullen, Richard G. Frank, and Meredith B. Rosenthal, “Can You Get What You Pay For? Pay-for-Performance and the Quality of Healthcare Providers,” RAND Journal of Economics, Spring 2010, 41(1):64-91. http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/j.1756-2171.2009.00090.x/abstract


If you want more on the UK, several readings follow.


Stephen Campbell, David Reeves, Evangelos Kontopantelis, Bonnie Sibbald, and Martin Roland, “Effects of Pay for Performance on the Quality of Primary Care in England,” New England Journal of Medicine, July 23, 2009, 361(4):368-78 http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa0807651 This article shows modest gains in two of three quality indicators (with the third indicator trending in the right direction) used to compensate British GPs, albeit there was a prior favorable trend so it is not clear the P4P
was causal. The improvement, however, came at considerable cost to Her Majesty’s Treasury, and the improvement appeared to be a one-off event.


J. William Thomas and Kathleen Ward, “Economic Profiling of Physician Specialists: Use of Outlier Treatment and Episode Attribution Rules,” Inquiry, Fall 2006, 43(3):271-282. http://www.inquiryjournalonline.org/doi/pdf/10.5034/inquiryjrn1.43.3.271 There has been and remains pressure from purchasers to drive accountability to the level of the individual physician. This article uses a simulation to derive best rules for treating outliers and attributing services to an individual physician. The best methods differ by specialty, and the authors say they were unsuccessful in identifying cost-inefficient physicians.


Paying health care providers on quality measures is analytically similar to paying on
performance measurement in elementary and secondary education, a domain where there is considerably more literature than in health care services. I list both a theoretical and empirical paper from this literature in the supplementary reading if any of you want to pursue this further.

Health Information Technology (Health IT or HIT)

One of the hopes for increasing the quality of health care is greater use of IT, and “meaningful use” of IT is one of the quality measures in MACRA (class 6). To keep the required reading down, I have not required any reading on this topic, although there is some material in the slides. For those of you interested in this subject, I have included some readings below and of course you can follow the cites if you are interested in more. I personally think one of the more likely places to look for gains from more widespread HIT is greater use of clinical decision support software, but the meaningful use regulations do not (as yet) require it. The reason I think that clinical decision support will help is summarized in the title of a 2010 paper in PLoS Medicine entitled “Seventy-five Trials and Eleven Systematic Reviews a Day: How Will We Ever Keep Up” (Hilda Bastian, Paul Glasziou, and Iain Chalmers, September 2010, 7(9):e1000326). (This paper is not on the Optional list; I just list the title here as a “factoid.”) Interestingly, however, the author’s conclusion is that the number of clinical trials and systematic reviews need to be reduced, which is not the conclusion I would draw. See also Hussey, et al., below.


The following three articles from the August 2013 issue of Health Affairs give the state of play as of a few years ago.


Leila Agha, “The Effects of Health Information Technology on the Cost and Quality of Medicare Care,” *Journal of Health Economics*, March 2014, 34:19-30. Finds no relationship between hospital adoption of IT and cost savings (even 5 years after introduction), although there is an effect on billed charges (coding). She also finds no effect on one year mortality, adverse drug events, or readmissions. [http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613001720/1-s2.0-S0167629613001720-main.pdf?_tid=3ec315d8-c407-11e3-904d-00000aacb361&acdnat=1397502294_ae5520d559547a37c2ad2d19a5d4cb3b](http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613001720/1-s2.0-S0167629613001720-main.pdf?_tid=3ec315d8-c407-11e3-904d-00000aacb361&acdnat=1397502294_ae5520d559547a37c2ad2d19a5d4cb3b)

Melinda Beeuwkes Buntin, Matthew F. Burke, Michael C. Hoaglin, and David Blumenthal, “The Benefits of Health Information Technology: A Review of the Recent Literature Shows Predominantly Positive Results,” *Health Affairs*, March 2011, 30(3):464-71. Note the contrast with the conclusions of the papers above. In my view this difference could reflect at least two weaknesses of the earlier literature that they review, namely that results are often either confined to one institution or that the data used are cross-sectional. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/30/3/464.full.pdf+html](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/30/3/464.full.pdf+html)


**Guideline Development and Antitrust**


**A Speculative and Somewhat Pessimistic Overview of Some Causes of Poor Quality:**


**CLASS 16 –PAYMENT AND DELIVERY SYSTEM REFORM: MANAGED CARE AND ACCOUNTABLE CARE ORGANIZATIONS (October 26)**

Historically the organization of the American delivery system was predominantly around independent physicians, either practicing alone (solo practice), or in small groups, with admitting privileges at one or sometimes more hospitals.  The physicians operated
largely autonomously, essentially ordering for their commercially and Medicare insured patients any covered service they thought was likely to benefit their patients. As we saw in the last class, however, the resulting quality left a lot to be desired, in part because physicians often did not coordinate with each other. In addition, seeking preventive care was largely left to an individual patient’s initiative. Hospitals recognized that physicians brought patients, which is to say revenue, and therefore generally catered to what physicians wanted in decisions on capital spending, especially to those physicians in more lucrative specialties, such as the surgical specialties, radiology, and cardiology (classes 6 and 21). The hospital administrator’s mindset was typically “heads in beds.” Historically the financing of care, that is to say insurance, and the delivery of care were two distinct industries with little integration. Insurers were largely passive, essentially reimbursing any service a physician ordered provided the insurance contract or policy covered the service and subject to any cost sharing in the insurance policy (“indemnity insurance”).

Although some of you may think the foregoing description of the delivery system is just history and irrelevant to the present day, there are still parts of the US, especially in smaller towns and rural areas, where this traditional organization is dominant. Furthermore, Parts A and B of Medicare (TM) were designed for this type of financing and delivery system. When Medicare was enacted in 1965, commercially insured patients essentially had free choice of physician, meaning a patient paid about the same amount out-of-pocket for a given service irrespective of which physician or hospital he or she chose. TM largely continued in that vein for decades; a hospitalized patient, for example, pays a fixed deductible that is independent of the hospital the patient uses, and TM has for the most part reimbursed any covered service a physician orders. This description of the historical US delivery system also applies to delivery systems of some other countries such as Canada, where public insurance, like Parts A and B of Medicare, functions largely as a passive reimbursers of services and there are numerous small scale physician practices. Only in the past few years has TM taken steps toward moving away from its historical passivity; as we saw in class 15, it now pays marginally more for better quality (“Value Based Purchasing”) and marginally less for worse (readmission penalties), and, as we take up in the class, it is starting to seek ways to shift financial risk away from it and toward providers by encouraging Accountable Care Organizations (ACO's) and initiating bundled payment demonstrations.

In contrast to insurance that passively reimburses whatever services a physician orders or delivers, managed care, which is now the dominant model in American commercial insurance, in Medicaid, and in Medicare Advantage, tries to integrate, at least partially, insurance/financing with the delivery of care. In other words, managed care insurers now actively attempt to affect the quantity and quality of services relative to a passive indemnity insurer. In a favorable interpretation such integration or care management would reduce moral hazard and improve quality, but whether it does so is an empirical question. Supporters think the effect is positive; many single-payer advocates, who often have a Traditional-Medicare-for-all scheme in mind, think it is negative. Many physicians are also negative, feeling that managed care challenges their professional autonomy, though my sense is that the opposition has somewhat faded as managed care has become more established and more sophisticated in how it operates – and also as more physicians are employees and/or in medical groups that are taking financial risk.
Most patients tend to like the passive insurer, at least until they are faced with the cost that it generates. (Of course, the bulk of TM’s cost falls on the taxpayer.) Physicians and hospitals have more mixed views about TM; although most like the autonomy it offers relative to a managed care insurer, they are less enamored of its lower rates compared to those of commercial insurance.

Although managed care has evolved in some settings into a semi-cooperative relationship between insurers and physicians or delivery systems, especially in commercial Accountable Care Organizations, bargaining between providers and managed care plans over prices in the conventional fee-for-service context is zero sum and thus frequently contentious. The distortions in fee-for-service reimbursement (Classes 4-6) also affect the delivery of services in Medicare Part C and in Accountable Care Organizations, since even if a delivery system is taking financial risk, individual physicians at the point of care are still likely to be reimbursed in some fashion on a fee-for-service basis (see the Ginsburg reading in class 6). Also remember that a physician group’s reservation price for taking some risk in a Medicare Advantage plan is likely to be at least what it can earn in TM. MACRA, however, starts to push physicians away from TM’s pure-FFS-no-financial-risk world (see the slides from class 6), albeit slowly and gingerly.

This class takes up the effect of the active or non-passive insurer on quality and cost and Medicare’s recent efforts to encourage Accountable Care Organizations (ACO’s). It builds on class 8, which covered the reimbursement of managed care plans in Medicare Part C or Medicare Advantage. Class 8, however, focused on selection and risk adjustment, whereas this class focuses on how shifting financial risk toward providers affects cost, use, and the quality of care. The class also takes up implementation issues around shifting risk toward providers.

Empirically, efforts to ascertain how managed care, or an active insurer, affects quality and cost face many methodological difficulties, starting with the dominance of active insurers other than in Traditional Medicare, which makes it impossible to find a credible contemporaneous comparison group among the under 65. For that reason almost all the reading for this class compares Medicare Advantage and TM. Furthermore, the effects of managed care presumably depend upon the specific techniques the insurer uses to manage care or affect utilization. Those techniques have changed over time, in particular the early command-and-control techniques have diminished in their intensity, and now tend to be less intrusive at the point of service. For a review of the older literature on these issues, see the Glied Handbook chapter in the Optional reading.

What about outside the US? Other developed countries have developed methods to deal with moral hazard, though those arrangements are not generally termed managed care. For example, certain drugs may not be on the formulary, or the MD may ration because certain facilities are not available or are fully booked for the relevant time frame.

Much of the American quality improvement literature (e.g., the IOM Quality Chasm book, Optional reading for class 15) argues that there must be an organized system of care to
improve quality. Is an organized system possible in the US context without “managed care” and/or without a group of medical providers taking at least some financial risk? Note the rest of the world varies in the degree of “organization” of its system, from national health services on one hand (e.g., the UK) to decentralized, small scale office practices on the other (e.g., Canada, Australia).

When managed care enrollment started to grow rapidly in the US in the 1990s there was a backlash. On the policy front it took the form of legislators introducing “Patient Protection Acts,” the intent of which was to gut managed care and preserve the traditional financing and delivery systems, meaning passive reimbursement of whatever a physician ordered. The McDonough book on the ACA (Optional reading, Class 9) has a flavor of that; see his discussion on pages 29 and 30, which notes that some of the patient protections that failed legislatively in the 1990’s are part of Title I of the ACA. Recall also that although most people, including me, either use the shorthand of the ACA or call it Obamacare, the legislation passed by both the House and Senate in 2009 and 2010 was entitled the Patient Protection and Affordable Care Act (italics added). Title I of the ACA contains its patient protection language, which included the provisions on guaranteed issue and guaranteed renewal that ended medical underwriting. These were major changes and very important. My judgment at this point, however, is that the remainder of the patient protection provisions in Title I around approvals of coverage, coverage denials for uncovered services, and appeals have had little real effect either way, but I have not seen systematic data. The number of appeals has grown, but the absolute number of appeals is still not large (those data are not public).

As noted above, managed care and active insurers are now dominant in both commercial insurance and Medicaid. Many American commercially insured are in Preferred Provider Organizations (PPO’s), where the insurer has a lighter touch than in Health Maintenance Organizations (HMO’s); for example, PPO patients can generally self-refer to specialists and HMO patients cannot. The broad provider choice that PPO’s and many HMO’s offer, however, is starting to change with the advent of narrow network plans in the exchanges. Relative to managed care in commercial insurance, Medicaid managed care tends to be “high touch” (more on Medicaid in Class 20). A potentially important and relatively recent change in the US delivery system is the increasing number of employed rather than self-employed physicians (classes 6 and 21), meaning presumably less physician autonomy than historically was the case. The site-of-service differentials that we talked about in class 5 are an important reason for the shift toward employment, but so are the scale demands of IT.

The key innovation in shifting from the passive insurer toward managed care, as the slides say, was ending freedom-of-choice of provider provisions, although a variant of freedom-of-choice lives on in the debate over any-willing-provider legislation and to some degree in the advocacy of Medicare-for-all. The formation of a network can be viewed as an insurer’s acting as a purchasing agent for the consumer. But consumers are heterogeneous in their preferences for providers, and some consumers will have high valuations for out-of-network providers. The tensions created around this are implicit in the letter to Ronald Williams that I posted on the course website. What the letter does not say - and I am guessing that the signatories did not know - was that the hospital in question was seeking a 40%
increase in rates. Shortly after the letter was sent, the 40% figure was negotiated downward, and the hospital became an in-network provider, so the issue the signatories raised became moot. Nonetheless, the tension about out-of-network providers - or for that matter providers in a non-preferred tier - is inherent in the role of the insurer as purchasing agent for a heterogeneous group of consumers since the network is a local public good. In the current debate this tension has surfaced in controversy over narrow network plans and network adequacy regulation, the subject of the first two readings, which emphasize that pro-provider is not necessarily pro-consumer.


OPTIONAL:

Narrow Networks


Network Formation and Tiering

The slides refer to tiering physicians based on cost and quality. If you want to see how Aetna does this, go to http://www.aetna.com/plansandproducts/health/medical/Aexcel_Methodology_v3_2010.pdf

What follows are three papers in economics journals about the economics of network formation. See also the Gaynor, et al. Journal of Economic Literature paper and/or Handbook chapter in the class 10 Optional reading.

Katherine Ho, “Insurer-Provider Networks in the Medical Care Market,” American Economic Review, March 2009, 99(1): 393-430. Presents a model of insurer-hospital bargaining over price in the context of whether the hospital will be preferred. Hospitals in systems can command higher prices (more market power) and hospitals that are more attractive to patients get higher prices. Note this latter finding is somewhat discordant with Mark Shepard’s results (class 7) unless risk adjustment functions well, because Shepard finds attractive hospitals may be differentially attractive to sick patients.


Katherine Ho and Ariel Pakes, “Hospital Choices, Hospital Prices and Financial Incentives to Physicians,” American Economic Review, December 2014, 104(12):3841–84. Looks at network formation in California for births. Ho and Pakes find insurers with more capitated physicians are more responsive to hospital price. Capitated plans send patients further to utilize similar quality, lower-priced hospitals; and the cost-quality tradeoff does not vary with capitation rates.


Managed Care and Spending


http://www.sciencedirect.com.ezp1.harvard.edu/science?_ob=PublicationURL&_tockey=%23TOC%232324609%23232000%232399989999.7998%2323584858%23FLP%23%26_cdi=24609&pubType=HS&auth=y&acct=C000014438&version=1&_urlVersion=0&userid=209690&md5=a27d303a142408c7e6fe6be6bdd9bca.


http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/281/5/432.short Increases in HMO market share (Medicare and non-Medicare) are associated with lower growth of Medicare fee-for-service spending (“spillover”).

Katherine Baicker, Michael E. Chernew, and Jacob Robbins, “The Spillover Effects of Medicare Managed Care: Medicare Advantage and Hospital Utilization,” Journal of Health Economics, December 2013, 32:1289-1300. Like Baker, increases in Medicare Advantage share are associated with shorter hospital stays in TM (“spillover”).

http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613001124/1-s2.0-S0167629613001124-main.pdf?_tid=dbb2998a-49ea-11e5-a43d-00000aacb35f&acdnat=1440371056_c55f7926f2c7c15e86bda30bc8e06478

Managed Care and Quality, Disease Management


Those pages summarize recent results on use and quality of care in Medicare Advantage, which I define as Part C excluding the Private Fee-for-Service option, compared with “unmanaged” Traditional Medicare (Parts A and B). (The Private Fee-for-Service option is touched on in the slides, but you can essentially ignore it both because it was not managed care at all and because it is now a trivial part of the program, though that was not the case in the 2003-2010 period.) On the whole, Part C comes out looking relatively good, although the number of comparisons of quality that one can make are limited.

One claim of managed care organizations is that their disease management programs can reduce health care costs. This claim is supported in the first paper below but not the second. The third paper contains a critique of the design of the trial reported by McCall and Cromwell; I am interested in what you make of the difference in results between the first two studies. In assigning these three articles I am interested in both substance and in methods.


OPTIONAL:

Mark Duggan, Jonathan Gruber, and Boris Vabson, “The Efficiency Consequences of Health Care Privatization: Evidence from Medicare Advantage Exits,” Cambridge, NBER Working Paper 21650, October 2015. Studies effects on MA beneficiaries in New York who switched to TM because all MA plans in their county exited the market (so the change was exogenous). Finds hospital use went up by about 60 percent, consistent with MA plans restricting elective admissions. The increased rate did not die out over time, suggesting it
was not from pent up demand. Moreover, the chance of having a readmission and a preventable hospitalization rose after the MA plans left the market. In general, these results are consistent with the Newhouse and McGuire results.

In case you want to go deeper, the following are three of the papers that are summarized in the Newhouse and McGuire paper showing gains from managed care:


John Z. Ayanian, Bruce E. Landon, Alan M. Zaslavsky, Robert Saunders, L. Gregory Pawlson, and Joseph P. Newhouse, “Quality of Care in Medicare Advantage and Traditional Medicare,” Health Affairs, July 2013, 32(7):1228-35. Like the Landon, et al. study, Medicare Advantage on the whole looks as good or better than Traditional Medicare, although the ability to compare is perhaps surprisingly limited to a few dimensions. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/32/7/1228.full.pdf+html]

David Stevenson, John Z. Ayanian, Alan M. Zaslavsky, Joseph P. Newhouse, and Bruce E. Landon, “Service Use at the End of Life in Medicare Advantage versus Traditional Medicare,” Medical Care, 2013, 931-7. Shows greater use of hospice, lesser use of the hospital, and markedly less use of the Emergency Department among decedents in MA compared with matched decedents in TM. [http://ovidsp.tx.ovid.com.ezp-prod1.hul.harvard.edu/sp-3.12.0b/ovidweb.cgi?QS2=434f4e1a73d37e8c1d085c12c2e0a0e4dd9f69663859b31fe073de d8f2f200f3bfr6b8e8ceca6f6ce104939f60e4bd74ef9b902b1413e12f388086b b53ede133a753933b18cb2e0db8042e2027f6d7bd9944e2dcb5bb988c8e5fe6328d3169a b5aa4b9f6f074186946bcbce2ec1be0e103cdd7dd582cfecac8100a053cc2adef13cbcb31cb2 5da614aa3ee3545077a4e5f883180ad21e0656f26efa7ba3f82c992bc5337bec20593c4d87ff b76ede453e606834e393f48c618da753d96334a7b48923bb2fa2eb73b3bb09fca4a40d6b43 4b39086b3c2878f482e1d35953cf4e5f82f289b9abf164989e5a9d20e03a64163c395d36d16e b9393985720b39f5344759a4f82b889c6366ad4703b73737d99126f8f608f7d5d94e136ab1 246d9e7ff384b67456dab46501806821dfce0d59c9f43c3e158f7649593c9f9b0883afa3867 71243d591ffdefc02fa235a4f310eb0c82d180f8898563e5eb14d3d294c243808ea432c3886f 069b9c8354ecb41579c879ff7f704296126111f5f6f3a65a03cceb2dcd3814e1edcd7be133d872fd dc02a6ae73b7c7677ae6f577a1ba177194d69e9ccf6f4637692e49b784d75c50f8d590f8cfb 7bc31c297bd1f1c2186b90ce766b50e000da9de5b0138e5f2d2734bbf6d86875012e7eb043b 4092f79551167f83f3c14ad6c22ac47f0904729270f5e89711cdd129f6be1266e23b38c35e9214 f9ab31d9a0f4fcb17f72ca

And there is one additional paper from our group that came out after the Newhouse and McGuire summary:

Jayasree Basu and Lee Mobley, “Do HMOs Reduce Preventable Hospital Admissions for Medicare Beneficiaries?” Medical Care Research and Review, October 2007, 64:544-67. http://mcr.sagepub.com.ezp-prod1.hul.harvard.edu/content/64/5/544.full.pdf+html The answer to the question in the title is yes for the sickest. The slides for the class have two figures from this paper.


Dana B. Mukamel, David L. Weimer, Jack Zwanziger, and Alvin I. Mushlin, “Quality of Cardiac Surgeons and Managed Care Contracting Processes,” Health Services Research, October 2002, 37(5):1129-43. Shows some tendency for managed care plans in New York State to contract with higher quality cardiac surgeons. This is one of the few papers in the literature on how or even whether managed care plans weigh quality in their network contracting decisions. Most of this small literature finds favorable or no effects for managed care contracting decisions with respect to quality, but the next study finds a negative effect. http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/1475-6773.10212/pdf

Lars C. Erickson, David F. Torchiana, Eric C. Schneider, Jane W. Newburger, and Edward L. Hannan, “The Relationship between Managed Care Insurance and Use of Lower Mortality Hospitals for CABG Surgery,” JAMA, April 29, 2000, 283(15):1976-83. Finds that those insured with managed care plans use hospitals with higher mortality for CABG surgery than those with unmanaged plans, the opposite of Mukamel, et al. above, though this study concerns hospitals rather than surgeons. Both Mukamel, et al. and this study, as well as other studies in the literature, use data that are now rather old. http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/article.aspx?articleid=192605

mandatory managed care compared with traditional fee-for-service Medicaid. This result is on one of the slides for the class.


The following two papers are on the patient centered medical home, which I regard as a first step toward active management of care:


*Devolving Financing Risk Toward Providers: Bundled, and Global Payment and Accountable Care Organizations (ACO’s)*

The Center for Medicare and Medicaid Innovation has established numerous bundled payment initiatives, for example in post-acute care and in oncology care. It has also established Accountable Care Organizations (ACO’s), taken up below, and Medicare
Advantage, which is full capitation, has grown. All of these initiatives move some of the financial risk away from the financing entity, Medicare in this case, and toward organizations of providers or health care delivery systems. The next reading describes an early influential demonstration in Massachusetts in commercial insurance along those lines. I have put this material here rather than in class 8, which dealt with capitation in the Medicare program, because of its link to the reorganization of the delivery system and because it is in the commercial insurance context.

Zirui Song, Sherri Rose, Dana Gelb Safran, Bruce E. Landon, Matthew P. Day, and Michael E. Chernew, “Changes in Health Care Spending and Quality 4 Years into Global Payment,” New England Journal of Medicine, October 30, 2014, 371(18):1704-14. Reports on a large scale effort to shift providers from fee-for-service reimbursement to taking risk. Importantly, the effort was voluntary (why is that important?). Cost reduction was cumulative, and was achieved in part by shifting referrals away from high-cost outpatient facilities (why is that important?) Who was the beneficiary of these cost reductions? 10% of revenues were at stake for achievement of quality standards, and quality did improve.


OPTIONAL:


My take at this point is that much if not most of the American health policy world (but not necessarily the American public) has accepted that a decentralized delivery system with fee-for-service reimbursement from a passive insurer is inefficient – or at least that any give up in quality and outcomes from moving toward greater centralization of the delivery system and shifting financial risk toward provider groups and away from fee-for-service reimbursement is worth the saving in cost (decentralized small practices can handle very little if any financial risk). As a result, there is now a policy push toward reorganizing into larger groups and devolving some financial risk toward providers.

How rapidly those who actually have to carry out this reorganization, meaning physicians and hospitals, act and how successful they will be are open questions. Almost surely, however, the reorganization that seems to be underway will take many years with some failures along the way. In the short run most of the savings are likely to accrue to providers – not purchasers or consumers. Indeed, if they don’t accrue to providers, there is not likely to be much reorganization of the delivery system since providers have to lead the reorganization effort and the effort is going to require them to make some upfront investment.

The traditional managed care arrangements in the US, with a few notable exceptions
such as Kaiser Permanente, had arms-length contracts between insurers who took financial risk and providers who did not take financial risk and were paid fee-for-service by the insurer. Despite the current push toward reorganizing and devolving financial risk toward provider groups, fee-for-service continues to play an important role. To begin with, as noted above, individual physicians, even if they are in groups taking some financial risk, are still paid largely or entirely on a fee-for-service basis. Furthermore, for now and probably for several more years delivery systems or groups that take some financial risk have to be somewhat schizophrenic because a good part of their business is still reimbursed fee-for-service, including TM beneficiaries that are not attributed to them and commercial insurers who are paying fee-for-service. In the fee-for-service part of the business, the financial incentive is to deliver more services than in the part of the business where they take risk. The transition is difficult, since investments that would be sensible in a fee-for-service world may not be in a world in which the provider is at risk and conversely. In short, the transition is difficult, since investments and modes of practice that would be sensible in a fee-for-service world may not be in a world in which the provider is at financial risk and conversely.

As the proportion of fee-for-service reimbursement declines, however, provider incentives change, in particular the incentives to invest in tools to integrate and coordinate care among various providers by adding care managers, disease management, and other services that are underprovided in the dominant fee-for-service system (see the Bodenheimer reading in Class 15). Likewise, the volume of some services that are highly profitable in the fee-for-service system may be reduced to generate savings to be shared.

Medicare ACO’s are delivery systems or physician organizations that are reimbursed at Traditional Medicare rates for all services for an attributed population but share in decreases from a spending target. The spending target is an estimate of what spending would have been if the group had not taken risk and were simply reimbursed by Traditional Medicare at its usual rates for the set of patients attributed to it. The attributed patients are those receiving the plurality of their primary care from physicians participating in the ACO. One key issue is “one-sided” (upside only, the ACO does not share in losses) vs “two-sided” risk (the delivery system owes the government money if spending goes over the target).

ACO’s are something of a halfway house between an episode-based bundled payment that includes MDs, for example, a lump sum paid to the hospital for all the care involved in a given surgical procedure, and full-blown capitation, a fixed per member per month payment with full sharing by the entity taking the capitation in upside and downside financial risk; this latter is the Kaiser model. ACO’s arose in part because some policy analysts, especially Elliott Fisher at Dartmouth and Mark McClellan at Brookings, who were seeking ways to improve quality of care and to lower cost, came to the realization that not only were cost reduction and quality improvement probably not going to come about without the delivery system’s evolving toward more organized forms of practice and less individual physician autonomy, but that trying to move from the present system to organizations that would accept full financial risk (or more accurately having a large proportion of patients in such organizations) was a bridge too far in the short run. Hence, they began a movement for Accountable Care Organizations (ACO’s), which the ACA embraced. Successful ACO’s can opt to become Medicare Advantage plans, which take full risk (Class 8), although Medicare
reimbursement is currently not neutral between ACO’s and Medicare Advantage plans, nor between either of those two programs and Traditional Medicare. As a result, it may or may not be in the financial interest of a successful ACO to transition to MA. Importantly, for political reasons Medicare does not require patients to enroll in or otherwise select an ACO, which complicates care management for the delivery system.

Of course, it does not make much sense for an organized delivery system to invest in the infrastructure required to manage care when taking financial risk and then limit its patient population only to Medicare patients in an ACO. Thus, many of the delivery systems opting into the Medicare ACO program also have or plan to have commercially insured patients and in some cases Medicaid patients for whom they share risk with private insurers. Commercial ACO’s, however, differ from Medicare ACO’s because they can use networks and differential cost sharing (lower for within-ACO providers) to reduce “leakage” of patients to non-ACO providers; in that sense, they are like standard commercial insurance plans with the key exception that the risk is shared between a delivery system and the insurer rather than being solely with the insurer (or with the employer in a self-insured plan). Unlike Medicare ACO’s, commercial ACO’s require an active choice by the consumer (or sometimes the employer).

Governance of provider organizations that take financial risk is in my view a large issue. In my mind it is still an open question whether the governance of ACOs will ultimately be dominated by: a) hospitals with largely employed physicians; b) by physician groups that will contract with hospitals and other providers such as home health agencies for services; or c) will be genuinely joint ventures among hospitals and physicians or some joint entity that sits above both (the last is essentially the Kaiser Permanente model). The slide on hospital market power (near the end of the slides) makes it look as if the hospital or the “fully integrated” model is winning, although the Leavitt Partners reading below makes it look like a more equal split and the McWilliams, et al. reading below supports primary care physician-organized ACO’s. Regardless, a lot of hope – maybe too much hope – for cost reduction is being placed in these efforts. The general assumption among the advocates of more assumption of risk by providers is that whatever entity is taking financial risk can successfully manage it. There were some spectacular failures to do so in California in the 1990’s, which the Burns and Pauly article describes.

The slides cover some key design issues that CMS faced in the Medicare ACO demonstration (the original program was called the Pioneer program; it has been discontinued and most Medicare ACO’s are now called Medicare Shared Savings Plans, but there are also Next Gen Medicare ACO’s). Is the assignment or attribution of patients to ACO’s retrospective (based on PCP use in the current year) or prospective (based on PCP use in the prior year)? This seemingly minute detail turns out to have important consequences. CMS decided that attribution would be retrospective for Shared Savings Program ACO’s, though the organization receives quarterly updates on who is likely to be assigned. The Next Generation ACO program, however, is using prospective attribution. A second design issue is whether the assignment of patients to providers is made based on a PCP who accounts for majority of a patient’s use or just the plurality of use. The proportion assigned, of course, is considerably higher if a plurality rule is used, which is how Medicare chose to do it.

J. Michael McWilliams, Laura A. Hatfield, Michael E. Chernew, Bruce E. Landon, and Aaron L. Schwartz, “Early Performance of Accountable Care Organizations in Medicare,” New England Journal of Medicine, June 16, 2016, 374(24):2357-66. Analyzes results from the first two years of operation of 220 Medicare Shared Savings ACO’s. Finds modest savings along with improvement on a few measures of quality, but most quality measures did not differ from those of a control group. Finds the improvement in spending concentrated in ACO’s that are independent primary care practices rather than among vertically integrated multispecialty groups or hospital-based ACO’s. Note that Part D spending (drugs) is not included, and ACO’s do not control the drug plan, whereas Medicare Advantage plans do (class 19) http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/pdf/10.1056/NEJMsa1600142

Lawton R. Burns and Mark V. Pauly, “Accountable Care Organizations May Have Difficulty Avoiding the Failures of Integrated Delivery Networks of the 1990’s,” Health Affairs, November 2012, 31(11):2407-16. http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/11/2407.full.pdf A skeptical view of the current enthusiasm for ACO’s and a reminder that delivery system reform is not easy. Although this paper was written several years ago, the subsequent McWilliams, et al. papers (one above, one below) appear to justify their skepticism. The appendix to the online version is an excellent bibliography on several different techniques of medical management and other topics bearing on the organization of the delivery system, including care coordination, disease management, patient centered medical homes, health IT, clinical decision support, computerized order entry, electronic health records, PCP’s, physician practice organizations, providers’ experience with strategic and organizational change, retail clinics, specialty hospitals (class 5), ambulatory surgery centers (class 5), transitional care programs, and the triple aim. It’s a lengthy list!

OPTIONAL:


Pioneer ACO demonstration. I have made this Optional because the required McWilliams, et al. paper covers the same ground using roughly similar methods and reaches reasonably similar overall conclusions on Year 1 spending, although this paper’s Year 1 results are more favorable to ACO’s than McWilliams, et al. (There are methods differences that presumably account for this.) This paper also has Year 2 results, which are not as favorable to ACO’s as this paper’s Year 1 results, whereas McWilliams, et al. only have Year 1 results. This paper also has similar results on patient experience in ACO’s as the following Optional McWilliams, et al. paper. In this paper there is a 5% difference in treatment and control group spending in the baseline period that is not duplicated in McWilliams, et al. (the difference is <1% in McWilliams, et al.). This seems a bit odd, since in principle much the same method of choosing a control group was being used and is why I have put McWilliams, et al. on the required list. http://jama.jamanetwork.com.ezp-prod1.hul.harvard.edu/article.aspx?articleid=2290608


The slides allude to the tension between the potential for greater efficiency and better outcomes from increased vertical and horizontal integration in health care on the one hand, and the potential for pricing abuses in the commercial market from the accumulation of market power. If you want to read more on this, the following is for you.

Robert Berenson, Paul B. Ginsburg, and Nicole Kemper, “Unchecked Provider Clout in California Foreshadows Challenges to Health Reform,” Health Affairs, April 2010, 29(4):699-705. They raise concern about ACO’s market power raising prices to private payers, and, based on what they see as the recent ineffectiveness of antitrust policy, they propose regulatory approaches such as price caps or all-payer rate setting. I view the recent experience antitrust experience as more mixed than Berenson, et al., e.g., the Evanston Hospital case http://www.ftc.gov/opa/2007/08/evanston.shtm and also the
Michigan Blue Cross case (class 10), which resulted in settlements for the government and for private plaintiffs.


http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/32/8/1426.full.pdf+html
Points out need for neutrality between Medicare Advantage and Accountable Care Organizations in antitrust, solvency, governance, and reimbursement. Although some envision that successful ACO’s taking partial risk would evolve into Medicare Advantage plans that take full risk, the current non-neutral regulatory environment may inhibit this.

Substantively, the Prepaid Group Practice Demonstration that this paper describes was a forerunner of the ACO demonstrations (it is referred to in the Tu et al. paper); although the Prepaid Group Practice Demonstration’s initial results were mixed across the 10 sites (see also the Iglehart paper immediately below), as one can see in the paper, the overall results were nonetheless sufficient for the Congress to authorize the Medicare ACO demonstrations in the ACA. Although the authors carried out a standard correction for within-group clustering, their standard errors are probably importantly understated because of few clusters; see the Li and Redden paper cited in the Optional reading for class 3.

This is related to the prior paper. Skeptics of ACO’s as a cost containment device find support here. They point to the fact that half of the 10 practices in the demonstration did not demonstrate savings and that the participating organizations were those best able to carry out the management that ACO proponents envision. On the other hand, the proponents might say these organizations were already high up the curve and could not do much better. (The target for cost comparisons is Traditional Medicare beneficiaries in the same service area.)

http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/306/7/758.short
Some
cautionary notes.

Elliott Fisher and Stephen Shortell, “ACO’s: Making Sure We Learn from Experience,” http://www.commonwealthfund.org/Blog/2012/Apr/ACOs-Making-Sure-We-Learn-from-Experience.aspx?omnicid=20. A short blog posting from two early backers of ACO’s (Fisher coined the term) that I think accurately describes the challenges and how little is known, despite the current enthusiasm (which the authors have done much to create).


CLASS 17 – COMPARATIVE EFFECTIVENESS RESEARCH (October 31)

In the late 1980s and early 1990s “outcomes research,” meaning how alternative treatment methods affected outcomes, was widely touted as a silver bullet to improve quality and/or lower cost. Outcomes research has now been renamed “comparative effectiveness research,” which in principle is to lead to greater knowledge of what is effective treatment and thereby enhance “evidence based medicine” and “value for money” in health care. ARRA, the stimulus bill of 2009, substantially increased the funding for comparative effectiveness research, and the ACA established the Patient-Centered Outcomes Research Institute (PCORI, see slides) to continue this work.

The McClellan, et al. paper nicely illustrates what I think is the main methodological hurdle that comparative effectiveness or outcomes research faces, namely selection or the non-random allocation of treatments in observational data, together with a way to address it in some cases – but most assuredly not in all cases. The pervasiveness of selection in observational data has limited progress in comparative effectiveness research. I think progress likely will continue to be slow, although slow does not mean no progress; see for example Sanghavi, et al. in the Optional reading. The instrumental variable methods McClellan, et al. use illustrate how one can make causal inferences with observational data if certain conditions are satisfied. This part of the class thus relates back to Class 3 on methods used to study demand for medical care. Many of the slides for this class go over the McClellan, et al. article, focusing on its methodology, as well as problems in the alternative to the use of observational data, the randomized controlled trial.

Mark McClellan, Barbara J. McNeil, and Joseph P. Newhouse, “Does More Intensive Treatment of Acute Myocardial Infarction Reduce Mortality?” JAMA, 272(11), September 21, 1994, 859-866. This was the first attempt to take the econometric technique of instrumental variables and apply it in a health services research context. http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/272/11/859


OPTIONAL:

Prachi Sanghavi, Anupam B. Jena, Joseph P. Newhouse, and Alan M. Zaslavsky, “Outcomes of Basic versus Advanced Life Support for Out-of-Hospital Medical Emergencies,” Annals of Internal Medicine, November 3, 2015, 163(9):681-90. Like McClellan, et al., this paper illustrates the application of instrumental variables (IV) in comparative effectiveness analysis, in this case the outcomes with basic and advanced life support ambulances. Interestingly in this application IV is probably not necessary because there appears to be little selection even in the observational data; an advanced life support ambulance would typically be dispatched for the medical problems studied if it is available, and availability should be independent of any unobserved severity of the individual case. In addition to a propensity score analysis, the paper shows results from using the instrumental variable of the proportion of cases treated by advanced life support ambulances in the county to infer that basic life support ambulances get better results than advanced life support ambulances. (The propensity score analyses are qualitatively similar to the IV analyses for all diagnoses except AMI.) The main idea is to use the proportion of advance life support ambulances serving other types of medical problems than the problem the individual person has (this is strongly related to the proportion of advanced life support ambulances in the county’s stock of ambulances), so that any unobserved severity of the individual’s case is not associated with the likelihood of using advanced life support for his or her case. If you read this paper, it is important for you to understand why the quantitative results are not the same with the propensity score methods as with the IV methods.

Laura Faden Garabedian, Paula Chu, Sengwee Toh, Alan M. Zaslavsky, and Stephen B. Soumerai, “Potential Bias of Instrumental Variable Analyses for Observational Comparative Effectiveness Research,” Annals of Internal Medicine, July 15, 2014, 161(2):131-8. These authors make the point that IV has been overused, or more precisely used in situations where the assumptions are unlikely to hold. Moreover, although they are critical of the use of distance as an IV because of potential confounding, I am not much concerned about that criticism in the context of McClellan, et al. since heart attack patients are generally rushed to a nearby hospital and treated there, and the distribution of severity of heart attacks, the principal determinant of a fatal outcome, is probably not strongly associated with socio-economic variables. But the paper should serve as a reminder that every methodological approach has potential weaknesses and needs to be evaluated on the degree to which those weaknesses apply to any specific study.

Mary E. Tinetti and Stephanie A. Studenski, “Comparative Effectiveness Research and Patients with Multiple Chronic Conditions,” New England Journal of Medicine, June 30, 2011, 364(26):2478-81. Read this paper if you want to focus on the difficulties of handling comorbidities in CER.

The next several papers take up the relationship of the clinical trial literature and comparative effectiveness research.

Justin Timbie, Eric C. Schneider, Kristin van Busum, and D. Steven Fox, “Five Reasons that Many Comparative Effectiveness Studies Fail to Change Patient Care and Clinical Practice,” Health Affairs, October 2012, 31(10):2168-75. Deals with why clinical trials frequently do not change practice; their first reason is economic incentives.


Katharine Cooper Wulff, Franklin G. Miller, and Steven D. Pearson, “The Ongoing Saga of Vertebroplasty: Can Coverage Be Rescinded When Negative Trial Results Threaten A Popular Procedure?” Health Affairs, December 2011, 30(12):2269-76. A rather dark view of the possibilities for benefit from CER.


http://annals.org.ezp-prod1.hul.harvard.edu/article.aspx?articleid=1887030&resultClick=3


http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/31/10/2168.full.pdf+html

http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w17371

http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/30/12/2269.full.pdf+html


http://jama.ama-assn.org.ezp-prod1.hul.harvard.edu/content/298/10/1209.short
average treatment effect may not be useful to the clinician.


CLASS 18 –THE LAW OF TORTS AND PROFESSIONAL LIABILITY/MALPRACTICE (even the terminology here is loaded!) (November 2).

The American plaintiff's bar believes they are an agent for quality improvement. Much of the public seems to agree, although virtually all physicians feel otherwise. Whichever view one takes, I believe it is important to understand the role that the law of torts plays in US health care. The law of torts is part of American civil law, which derives from English common law, so similar law applies in the UK and British Commonwealth countries such as Canada.

Most of the reading and the slides are around professional liability or malpractice, whichever term you prefer, but tort law in health care also encompasses the issue of product liability of drug and device makers, including the liability of manufacturers for adverse reactions to vaccines. There have been Supreme Court cases on whether FDA approval to market a drug or device should exempt the manufacturer from tort liability (other than for poor manufacturing process). In two different cases the Supreme Court determined that it should exempt device manufacturers but not brand drug manufacturers (Riegel vs. Medtronic, 2008, Wyeth vs. Levine, 2009); the decisions differed because of different wording of the underlying statutes. In a subsequent decision, however, the Court did exempt generic drug manufacturers (Pliva vs. Mensing, 2011). There have been (to date) unsuccessful efforts in the Congress to make device and generic drug manufacturers also liable. Almost all of the following reading is on professional liability/malpractice, but I have also included one short reading on liability for drugs and devices.


OPTIONAL:

If you want some empirical evidence on state dependent utility beyond what is in the slides, read one or both of the following:


Moshe Levy and Adi Rizansky Nir, “The Utility of Health and Wealth,” Journal of Health Economics, March 2012, 31(2):379-92. This paper shows that data from cancer and diabetes patients support a utility function of the form $U = \text{health} \times \log(\text{wealth})$, which is consistent with the Finkelstein, et al. finding that better health increases the marginal utility of wealth. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629612000100/1-s2.0-S0167629612000100-main.pdf?_tid=a6613d2c-2222-11e4-a684-0000aaccb361&acdnat=1407849474_66fac669b1718c75d43333004e6bf301

The next two readings are books that go into malpractice in much greater depth than the required reading. I used to require one of the two books, but the length of the reading list together with the availability of the Kessler survey has led me to make them Optional. Even though they are now many years old, tort law has not much changed, and for any of you writing testimony on malpractice/professional liability, it would be a good idea to at least dip into one of these books, as well as into some of the articles that follow.


Patricia Danzon, Medical Malpractice; Harvard University Press, 1985, Chapters 1-4, 7, 8, 12, 13. Those who want a more formal economic approach will prefer this book to Weiler’s
(Weiler is a lawyer, Danzon is an economist), but be warned, the writing style is considerably harder going. A more distilled version is Danzon’s chapter in the Handbook of Health Economics, vol. 1. The slides make some use of Danzon’s exposition.

Paul C. Weiler, Howard H. Hiatt, Joseph P. Newhouse, Troyen A. Brennan, Lucian L. Leape, and William G. Johnson, A Measure of Malpractice: A Study of Medical Injury, Malpractice Litigation, and Patient Compensation; Cambridge: Harvard University Press, 1993. This book summarizes the methods and results from the Harvard Medical Practice Study to which Kessler refers and from which many of the following papers are derived.


A. Russell Localio, et al., “Relation Between Malpractice Claims and Adverse Events Due to Negligence,” New England Journal of Medicine, 325:4, July 25, 1991, 245-251. http://www.nejm.org/doi/full/10.1056/NEJM199107253250405 The tort system is noisy, though the later evidence from Studdert, et al. in the required reading (and reproduced in the slides) is that it is less noisy than this paper suggests, probably because Localio, et al., is based on a much smaller sample than Studdert, et al. Not surprisingly, the risk of any claim and of multiple claims was strongly related to specialty.


The next four papers are some of the stronger papers in the literature on defensive medicine.

http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/111/2/353.full.pdf+html  
Finds that changes in liability law appear to affect the cost of treating AMI without measurable effects on outcomes. More generally, the cost of defensive medicine is notoriously hard to pin down. This paper offers some evidence of it, but in a limited area.

Still stronger evidence of defensive medicine than in the preceding paper.

Katherine Baicker, Elliott S. Fisher, and Amitabh Chandra, “Malpractice Liability Costs and the Practice of Medicine in the Medicare Program,” Health Affairs, May/June 2007, 26(3):841-52. Another paper on defensive medicine, using a fixed-effects model with states as the unit of observation to explain growth in Medicare spending as a function of growth in malpractice premiums. They estimate an elasticity of total Medicare spending with respect to malpractice premiums of 0.1. On the basis of their estimate, they conclude that the 60% growth in malpractice premiums between 2000 and 2003 might have caused total health care spending to rise 6%. This three year period, however, was a period of very rapid growth in malpractice premiums; from 1993-2001 real premiums only rose about 1% per year. They also find imaging and evaluation and management services are the most responsive to variation in malpractice premiums. Although they don’t note it, the results on imaging and to a lesser degree on evaluation and management are helpful because they strengthen a defensive medicine interpretation. Because areas with higher rates of procedures will have more patient injuries and likely more claims, causality could go from procedures to malpractice premiums, but this will not be the case for imaging and mostly not for evaluation and management (with the important exception of claims for failure to diagnose). http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/26/3/841.abstract

Ronen Avraham and Max Schanzenbach, “The Impact of Tort Reform on Intensity of Treatment: Evidence from Heart Patients,” Journal of Health Economics, January 2015, 39:273-88. Finds that caps on non-economic damages decrease the frequency of angioplasty or CABG, which the authors interpret as a reduction in defensive medicine, and shift the mix of the two toward CABG, which is the riskier procedure and hence more likely to lead a malpractice claim. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629614000988/1-s2.0-S0167629614000988-main.pdf?_tid=6870eeb6-bba3-11e4-973e-

127
Janet Currie and W. Bentley MacLeod, “First Do No Harm? Tort Reform and Birth Outcomes,” Quarterly Journal of Economics, May 2008, 123(2):795-830. Shows deterrence appears to work for obstetrics. Reform of the joint and several liability rule to say that a defendant must be responsible for some minimum share of the harm to be liable (this is modeled as an increased share of the liability the obstetrician faces) leads obstetricians to perform fewer Cesarean sections and fewer inductions, which results in fewer complications, whereas damage caps cause the opposite. http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/123/2/795.short


The Profession versus the Market
I have put this article, which raises issues around quality of care, on the reading list for you to think about, although it is a departure from the other reading in the past several classes on quality of care and is unrelated to tort law. Lee and Brennan argue that medical care should not be like any other consumer good and specifically that consumers should not be allowed to spend their own money on the tests that they discuss in the paper. Setting aside issues of enforceability, the case that the consumer should not be allowed to make a mistake is clearly strengthened by the argument that in the specific cases they take up there is really no advantage to the consumer (and several disadvantages) to buying the good in question. The authors, however, go on to argue that the profession of medicine is different than other suppliers of goods and services and that it “should act in a unified fashion when faced with critical choices,” which I interpret to mean consumer sovereignty can be trumped by professionalism. How would this argument be applied (or should it apply?) if there were some small, but real benefit to these tests? Also, does “acting in a unified fashion” mean medicine should be exempt from antitrust laws? (On my reading of American law, it is now settled law that professions are not exempt, so this last question is very much a hypothetical.) Even if medicine should be exempt, is it at all realistic to think that 700,000+ American physicians would act in a unified fashion on decisions to administer a non-invasive test where the likelihood of a malpractice claim is much lower than the likelihood of a false positive? More generally, how does a profession with its own norms and ethics fit into a market system?

OPTIONAL:

Donald M. Berwick, “The Epitaph of Profession,” British Journal of General Practice, e-publication. This short essay is something of a counterpoint to Lee and Brennan and is strongly recommended for mid-career MDs. Berwick, an international leader in quality improvement efforts, was Acting Administrator of CMS in the first Obama administration and was knighted by the Queen for his efforts to improve care in the National Health Service (one of four Americans to have been knighted at the time he was knighted). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2629825/pdf/bjgp59-128.pdf/?tool=pmcentrez

Another paper taking up the tension between professional ethics and the market. Read this if you are interested in the issues raised by the Lee and Brennan paper.

CLASS 19–THE ECONOMICS OF PHARMACEUTICALS AND MEDICARE PART D (November 7)

This class covers both the economics of pharmaceuticals and the Medicare drug benefit, Part D. Private insurance companies may administer the Medicare drug benefit in
house or they may contract out negotiating with pharmaceutical companies over price to pharmacy benefit managers (PBM’s). The three largest PBM’s are Express Scripts, CVS-Caremark, and Optum. The same method of negotiating prices with drug manufacturers is used by insurers for their commercial business, but state run Medicaid systems have a complex system for purchasing drugs for Medicaid-only patients (i.e., not those eligible for both Medicare and Medicaid) and by law they obtain lower prices than insurers or PBM’s pay in Medicare. (The Veterans Administration gets even lower prices than Medicaid but has a much more restrictive formulary.) The slides touch on Medicaid, but to keep the complexity and the amount of institutional detail down, I say relatively little about the Medicaid drug benefit and focus on the economics of drugs and Medicare Part D.


John Hsu, Vicki Fung, Jie Huang, Mary Price, Richard Brand, Rita Hui, Bruce Fireman, William H. Dow, John Bertko, and Joseph P. Newhouse, “Fixing Flaws in Medicare Drug Coverage That Prompt Insurers To Avoid Low-Income Patients,” Health Affairs, December 2010, 29(12):2335-43. [http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/12/2335.short](http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/29/12/2335.short) How administered pricing can go awry in what is often touted as a model for how to introduce more price competition into Medicare. The particular problem discussed in this article is risk adjustment for the Low Income Subsidy (LIS) group that should have been easily fixed a year or two after the program began, because much better data to estimate the adjustment were readily available at that point, but CMS did not re-estimate risk adjustment weights until 2011. That did fix the problem described in this paper; see the Kautter, et al. paper in the Optional reading if you want to know about the fix. I don’t know why it took so long; although CMS was (and remains) strapped for resources, this adjustment is easy to estimate, and the initial misestimation caused many beneficiaries to have to change plans (and formularies), so one would have thought fixing it would have had a high priority.

competition among drug manufacturers will be effective, but it also designates six protected therapeutic classes, which effectively eliminates competition in those classes of drugs. What, if anything, should Medicare do about this? CMS proposed rules in January 2014 that would have cut the number of protected classes from 6 to 3, but chose not to go forward with a final rule in part because of pushback from disease advocacy organizations.


OPTIONAL:


organization. Not very technical.


Shows that the basic architecture of Part D – increase the price elasticity facing manufacturers for Medicare beneficiaries without prior drug insurance – worked in the sense that prices fell at least 24 percent. Also their Table 5 supports the notion that there is a potential problem for drugs facing little or no price competition (on this point see the Frank paper in the required reading and the Frank and Newhouse paper below); price declines did not appear in the categories in which there were few substitutes.

Yuting Zhang, Julie M. Donohue, Judith R. Lave, Gerald O’Donnell, and Joseph P. Newhouse, “The Effect of Medicare Part D on Drug and Medical Spending,” New England Journal of Medicine, July 2, 2009, 361(1):52-61. Part D lowered spending for services covered by Parts A and B for Medicare Advantage participants who were previously uninsured for drugs (presumably from better compliance) and raised spending for Parts A and B services for those who were reasonably well insured (perhaps from polypharmacy). http://www.nejm.org.ezp-prod1.hul.harvard.edu/doi/full/10.1056/NEJMsa0807998


Florian Heiss, Adam Leive, Daniel McFadden, and Joachim Winter, “Plan Selection in Part D: Evidence from Administrative Data,” Journal of Health Economics, December 2013, 32:1325-44. A paper consistent with Gruber and Abaluck (above); only about a quarter of consumers appear to choose the plan that minimizes their ex ante cost according to the CMS PlanFinder. Like Abaluck and Gruber, Heiss, et al. find that on average consumers appear to spend about $300 too much. http://ac.els-cdn.com.ezp-prod1.hul.harvard.edu/S0167629613000921/1-s2.0-S0167629613000921-main.pdf?_tid=d091ce6e-a179-11e4-92f0-00000aabc35e&acdnat=1421850709_99e1376c6270f9a57a48838d56d958b8

an intervention that was a letter sent to a random group of Medicare Part D beneficiaries with personalized cost information on the cost of alternative plans. The intervention group had an 11 percentage point increased rate of plan switching, which saved the beneficiaries on average $100. Even if the CMS website offers good information on Part D plans (in my view), encouraging persons to use it makes a difference. 

http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/127/1/199.full.pdf+html

Jonathan D. Ketcham, Claudio Lucarelli, and Christopher A. Powers, “Paying Attention or Paying Too Much in Medicare Part D,” American Economic Review, January 2015, 105(1):204-33. Contrary to the choice overload hypothesis from behavioral economics, which says that too many options freeze the consumer, these authors find the Part D market functions as standard theory predicts. For example, in 2010 half the enrollees were not in the plans they chose in 2006, and larger choice sets increased plan switching unless the additional choices were relatively expensive. Neither switching overall nor price responsiveness declined over time. Moreover, on net there was no substantial effect on price from switching friction. http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/aer.20120651


David H. Howard, Peter B. Bach, Ernst R. Berndt, and Rena M. Conti, “Pricing in the Market for Anticancer Drugs,” *Journal of Economic Perspectives*, Winter 2015, 29(1):139-62. http://pubs.aeaweb.org.ezp-prod1.hul.harvard.edu/doi/pdfplus/10.1257/jep.29.1.139 Shows a high correlation (0.9) between drug pricing and incremental survival benefits suggesting a rational model of pricing by manufacturers with market power. Controlling for survival benefits, however, there has been about a 10 percent annual increase in the launch price of cancer drugs per life year gained even if drugs were not clinical substitutes, meaning they were indicated for different types of cancers. The authors infer from this finding that launch prices may not be profit maximizing but rather set somewhat above immediately launch prices of recently introduced cancer drugs (mostly for other sites of cancer). The authors call this a reference price model of demand, with consumers taking the price of observed past price as a reference point. (This notion comes from behavioral economics.) This behavior, however, is also consistent with pricing so as to not attract a lot of negative publicity and/or regulatory attention.


The slides also cover patient-assistance or coupon programs, but if you would like to read something about them, I list three papers next.


The slides also touch on biosimilars; if you want to read more here are two short papers:


Johnson and Johnson and the British National Health Service agreed that J&J would only be reimbursed for a biotech agent to treat multiple myeloma if the treatment was successful. As best I know, however, this method of reimbursement has not much spread to other agents or other purchasers. If it did, it would represent a large change in incentives for manufacturers and potentially improve efficiency. The article explains why.


Using the aging of the population as an exogenous change in market size for various drugs and exploiting the differential use of various classes of drugs by different age classes, they find a large response of innovation to market size. But see the next reference.

Pierre Dubois, Olivier de Mouzon, Fiona Scott Morton, and Paul Seabright, “Market Size and Pharmaceutical Innovation,” RAND Journal of Economics, Winter 2015, 46(4):844-71. Like Acemoglu and Linn, they also find a response of innovation to market size but a considerably smaller one than Acemoglu and Linn. Moreover, they estimate that there is a threshold of an expected $2.5 billion in revenue to bring a drug to market.

Amy Finkelstein, “Static and Dynamic Effects of Health Policy,” Quarterly Journal of Economics, May 2004, 119(2): 527-64. http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/119/2/527.full.pdf Ingenious use of clinical trial data to show effects of increased demand for better results on research (see her Table 1). Uses three case studies to show potentially large dynamic effects in one case, negative but small effects in the two others.


John Kautter, Melvin Ingber, Gregory C. Pope, and Sara Freeman, “Improvements in Medicare Part D Risk Adjustment Beneficiary Access and Payment Accuracy,” Medical Care, December 2012, 50(12):1102-8. http://ovidsp.tx.ovid.com.ezp-prod1.hul.harvard.edu/sp-3.13.1a/ovidweb.cgi?&S=ACFLFPDEDHDDFFKBNCLOKFEOBGBPAA00&Link+Set =S.sh.22.23.27.31%7c13%7csl_10 Describes the improvements made in the Part D risk adjustment scheme that corrected the flaw noted in the Hsu, et al. required reading by estimating five different risk adjustment formulas. Four of them were for non-institutionalized: the elderly non-LIS; the elderly LIS; the non-elderly non-LIS; and the non-elderly LIS. The fifth was for the institutionalized.


Others aspects of pharmacy benefit management in addition to formularies are step therapy, sometimes referred to as fail first, and prior authorization. If you are interested in these topics, here are a few papers; they are mostly studies of Medicaid populations, because of the availability of data.

for antidepressants reduced antidepressant use but raised overall cost. Note that antidepressants are a protected class in Part D.


http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/26/3/800.short  Step therapy reduced use of ARBs (used for hypertension and heart failure) moderately. The authors worry about the need to switch drugs if formularies change or if MD is confronted with multiple formularies.


CLASS 20 – MEDICAID AND LONG-TERM CARE (November 9; Testimony 2 due before class)

I have grouped Medicaid and long-term care together for this class because Medicaid dominates US long-term care financing. Medicaid, however, also plays a very different role as the insurer of low-income persons for acute care services. In addition, it fills in most of the cost sharing requirements for low income elderly enrolled in Traditional Medicare, that is, it acts as their Medigap plan.

Medicaid: General Background
When I say Medicaid I usually include the Children’s Health Insurance Program (CHIP, sometimes called S-CHIP) as well. The CHIP program, enacted in 1997, covers low income children in lower income households whose incomes are too high to be eligible for the original Medicaid program, but in many states those children are simply enrolled in Medicaid (that is a state option). Like Medicaid, CHIP is financed jointly by the federal government and state governments, but it administered by the state.

There is less literature about Medicaid than Medicare for several reasons. First, whereas Medicare is a federal program, meaning for practical purposes it has uniform eligibility and benefits throughout the nation, Medicaid is a state administered program, financed through federal matching funds, and the (federal) law offers states many options, including in principle not having a Medicaid program at all. Although in fact all states have an original Medicaid and a CHIP program, not all states have chosen to expand Medicaid to those not eligible before the ACA; see the slides. Even in the original Medicaid program, states differ in who is eligible, what services are covered, and how much providers are reimbursed. In short, unlike Medicare, Medicaid differs from state to state, making it difficult to describe the program in a concise way. Furthermore, these differences have increased over time because, starting in the Clinton administration, the use of waivers for states to modify their Medicaid programs has greatly expanded. In fact, all states have now applied for exemptions from certain federal requirements, which have mostly been granted. Since the states differ in what they have applied for and done, this has further increased the variation in the program across states.

Second, within each state Medicaid was historically three functionally somewhat different programs, one for low-income mothers and children (and in some states both parents), one for (certain of) the disabled, and one for the low-income elderly. To those three groups the ACA added all other low income citizens in those states that have elected to expand Medicaid. This latter group of persons, those previously not eligible for Medicaid, are primarily childless adults, the population sampled for the Oregon Health Insurance Experiment. Most of the Medicaid dollars for the elderly go to the coverage of chronic long-term care, although as noted above Medicaid also wraps around Medicare to cover cost sharing for acute services for the low income elderly; Medicaid thus serves as supplementary insurance for the low income elderly. Importantly, before Medicare Part D was enacted in 2006 Medicaid provided a drug benefit for low income elderly.

Third, outside analysts have traditionally had a more difficult time obtaining Medicaid claims data than Medicare claims data, in part because each state controlled its own data whereas CMS controlled Medicare data. Further complicating the analysis of Medicaid data (relative to Medicare), individuals move in and out of eligibility monthly, for example if they get a job with employment based insurance, there are obviously no subsequent Medicaid claims data or other Medicaid administrative data on their behavior. By contrast, Medicare beneficiaries typically remain covered by Medicare for the rest of their lives so they can be continuously followed, as in the McClellan, et al. study of AMI treatment in class 17 (and the Cutler replication in the Optional reading). There is a caveat about Medicare, however. Historically if a TM beneficiary joined MA, CMS had little information about the services received in MA; in other words, there was no analog to the TM claims data for MA enrollees.
Thus, for purposes of analysis if a Medicare beneficiary left TM for MA it was a bit like a Medicaid enrollee losing eligibility in terms of the information available to analysts. CMS has now started to collect encounter data for MA enrollees, however.

Fourth, and related to the first point above, variation across the states in covered services and eligibility limits the possible analyses; for example, if one state covers chiropractic services and another doesn’t, not only are there no claims data on chiropractic services in the state that doesn’t cover them but it is hard to know whether differences in substitute services that might be affected by that variation in coverage (e.g., orthopedic surgeons) are attributable to the coverage difference or some other difference such as differences in physician reimbursement. Although Mr. Justice Brandeis famously said that states were the laboratories of democracy, an \( n \) of 50 (actually slightly more because the District of Columbia, Puerto Rico, and American territories also have Medicaid programs) makes it hard to infer causality in many instances. Furthermore, as the role of managed care plans has grown in the Medicaid program, less detail on services has been available, analogous to the TM-MA issue alluded to in the prior paragraph.

Because there is less literature on Medicaid than Medicare and because the issues pertaining to provider reimbursement in Medicaid are analytically similar to the Medicare issues covered in earlier classes, I have given Medicaid less play than Medicare in the course, even though a large portion of both federal and state budgets go to Medicaid (see the slides). For those of you particularly interested in the Medicaid program, an excellent source of information are the reports of the Medicaid and CHIP Payment and Access Commission, or MACPAC (www.macpac.gov), which was established by the ACA. Two other excellent sources of information about Medicaid are the Kaiser Family Foundation website (http://www.kff.org/archive/health.html); click on an index of documents for Medicaid/uninsured and the Commonwealth Fund web site (www.cmwf.org). The CMS website (www.cms.hhs.gov) also has Medicaid data.

**Medicaid: General**


**OPTIONAL:**

The following four readings are all descriptions of Medicaid if the slides and the Iglehart-Sommers paper are not enough.


Vernon K Smith, Ph.D., Kathleen Gifford and Eileen Ellis, “Medicaid in an Era of Health

The Kaiser Commission on Medicaid and the Uninsured, “Medicaid Moving Forward,” 

The Kaiser Commission on Medicaid and the Uninsured, “Medicaid, A Primer, 2013,”
http://kaiserfamilyfoundation.files.wordpress.com/2010/06/7334-05.pdf. An earlier and considerably longer paper than the immediately preceding paper, but if you are going to do your testimony on Medicaid, this and the Smith, et al. October 2014 survey above could well be useful to you.

http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/34/7/1080.full.pdf+html Another descriptive paper that describes how Medicaid has evolved into a heavy reliance on managed care.  For those of you that want even more detail on Medicaid, see Alan Weil’s interview with Cindy Mann in the same issue of Health Affairs.  Mann was the Deputy Administrator of CMS with responsibility for Medicaid from 2009-2015.  Weil is the editor of Health Affairs and before assuming that job was the president of the National Academy of State Health Policy (and before that the Executive Director of the agency that administered the Colorado Medicaid program), so he knows a lot about Medicaid. 
http://content.healthaffairs.org.ezp-prod1.hul.harvard.edu/content/34/7/1092.full.pdf+html

Because of the ACA and Medicaid’s relatively recent shift toward managed care, much of the historical literature on Medicaid and acute care is no longer relevant.  Thus, I have not required any reading about Medicaid and acute care.

Medicaid: Acute Care

OPTIONAL:


The slide showing that higher Medicaid fees raise MD participation comes from Sandra Decker, “In 2011 Nearly One-Third Of Physicians Said They Would Not Accept New Medicaid Patients, But Rising Fees May Help,” Health Affairs, August 2012, 31(8):1673-
Like Medicare, Medicaid includes a Disproportionate Share (DSH) program, the intent of which is to allocate funds to safety net hospitals, and the Medicaid DSH program is considerably larger than the Medicare program. As the slides describe, however, from a federal point of view the states have abused this program. States would say they are just reacting to the incentives the feds have put before them. What follows are two papers that are critical of how the Medicaid Disproportionate Share program has been implemented.


Federal law requires that states must cover some populations such as women and children below a certain income level, e.g., children between 6 and 18 years of age in families under 100% of the Federal Poverty Limit, but have options to cover other persons (with a federal match if they take up the option). The following are papers on both outcome effects of expanded eligibility and crowdout effects, i.e., dropping of private insurance from expanding Medicaid. Although these papers are old, they are relevant to the issue of whether the ACA Medicaid expansions could lead to crowdout.

Janet Currie and Jonathan Gruber, “Saving Babies: The Efficacy and Cost of Recent Expansions of Medicaid Eligibility for Pregnant Women,” Journal of Political Economy, 1996, 104:1263-1296. http://www.princeton.edu/~jcurrie/publications/saving_babies.pdf Medicaid expansions appeared to reduce infant mortality, but at a rather high price per year of life saved, especially as one moves up the income scale. Other authors, however, do not find an outcomes effect; see, for example, the papers by Haas, et al. and Epstein and Newhouse in the supplementary readings.


Expansion of Medicaid did not reduce hospitalization of children because of additional outpatient care (what the authors term the “efficiency” effect, but what could also be termed an offset effect); indeed, the additional outpatient care increased hospitalizations (what the authors term an “access” effect), similar to the findings of the RAND Health Insurance Experiment (class 3). The increased hospitalizations are concentrated among non-discretionary admissions.

There is a substantial literature on the issue of crowdout or the degree to which expansions of Medicaid cause the rate of private insurance coverage to fall. Three papers on that topic follow; you can find more papers on this topic on the supplementary list. Alas, the findings are quite diverse. See also the reading for class 9 and the results for the Oregon Experiment (Class 3), which show relatively little crowdout.


**Medicaid and Medicare: Issues Around Dual Eligibles**

The slides deal with issues of financing and coordination of services for the dual eligible population, but if you want more read:

OPTIONAL:


Medicare Payment Advisory Commission, “Coordinating the Care of Dual Eligible Beneficiaries,” chapter 5 of Report to the Congress: Aligning Incentives in Medicare, June 2010. [Link] Lays out the issues. A more specialized piece on this topic is Medicare Payment Advisory Commission, “Coordinating Care for Dual Eligible Beneficiaries,” ch. 5 of Report to the Congress: Medicare and the Health Delivery System, June 2011. [Link] The MACPAC

Long-Term Care

Financing long-term care for the non-Medicaid eligible is an issue that the ACA addressed through the CLASS Act, but the Secretary announced in October 2011 that the Administration would not implement the CLASS Act, and the 2013 “fiscal cliff” legislation permanently repealed it. With the aging of the baby boomers, however, financing long-term care will only become a more pressing issue. Long-term care insurance, whether public or private, differs from health insurance in several respects; it is more oriented toward insuring an estate (hence, it is arguably more like life insurance than health insurance) than ensuring the future living standards of the insured (since the individual may well spend the rest of his or her life in institutional care). Also compared with health insurance, a substantially greater component of the cost covers hotel services rather than medical services. Americans have been more willing to tolerate inequalities with respect to hotel services than with respect to medical care (though of course there are inequalities in medical care) and more willing to see the hotel services self-financed. Even more than most of the topics that this course covers, the course just scratches the surface of this one. The slides touch on a few more “economic” points, but there are numerous potential topics for Testimony. A web based resource on long term care is http://ltcfocus.org/


OPTIONAL:

Financing long-term care will almost certainly be a major policy issue going forward because of the modest assets of a substantial portion of the current and future elderly population, the low take-up of private long-term care insurance, and the aging of the baby boomers. This in turn will place large demands on state and federal financing. It may be a personal issue for you as well; your grandparents or parents may well require long-term care. The following reading is Optional, but if you want to see some data on this point see Anthony Webb and Natalia Zhivan, “How Much Is Enough? The Distribution of Lifetime Health Care Costs,” CRR WP 2010, February 2010. http://crr.bc.edu/wp-content/uploads/2010/02/wp_2010-1-508.pdf Figures 3A and 3B show their estimates of remaining lifetime out-of-pocket costs for medical care and long-term care for a married couple with no chronic disease at various ages. In 2009 dollars they estimate at age 65 expected lifetime costs of $260,000 and $570,000 at the mean and 95th percentile, respectively. Because their estimates were done before the ACA, they do not account for the closing of the donut hole in Part D. Cutting the other way, they also do not account for costly new drugs that have come to market. In any event, it looks as if the costs are large
relative to many families’ savings.

Although this is now only of historical interest, for a summary of the ACA’s provisions in long-term care see the Kaiser Family Foundation, “Medicaid Long-Term Services and Supports: Key Changes in the Health Reform Law,” June 2010, http://www.kff.org/healthreform/upload/8079.pdf and for a summary of the CLASS Act see http://www.kff.org/healthreform/upload/8069.pdf

The following two articles are a pair of short papers from an entire issue of Health Services Research that is devoted to the Cash & Counseling Demonstration and Evaluation, an effort to move policy toward financing care of the disabled, some of whom are in institutional long-term care, away from a policy of financing services toward a policy of providing the disabled with cash and allowing them to buy services, including services of family members. Accompanying this demonstration was an evaluation that shows (in my view) largely favorable results, more or less in line with what a standard economic model would have predicted. My sense is that this type of program has now become widespread, but I have seen no data. Other papers in the issue of Health Services Research provide more detail.


Another thrust of policy in this domain has been to try to keep people in their homes as long as possible (called “living in place”). A classic demonstration in this domain is described in:

Peter Kemper, “The Evaluation of the National Long Term Care Demonstration: Overview of the Findings,” Health Services Research, 23(1): 161-174, April 1988. http://www.ncbi.nlm.nih.gov.ezp-prod1.hul.harvard.edu/pmc/articles/PMC1065495/pdf hsresearch00089-0167.pdf Showed that increasing community services did not save money but did have benefits for the group that received the services. For more on the study see Weissert and Kane in the supplementary readings, as well as the other papers in the special issue of Health Services Research in which this paper appears.

The following several papers are summarized in the Brown and Finkelstein paper that is required, but if you want to pursue them further, I list them here.


Jeffrey R. Brown, Nora B. Coe, and Amy Finkelstein, “Medicaid Crowdout of Private Long-Term Care Insurance Demand: Evidence from the Health and Retirement Survey,” in Tax Policy and the Economy, vol. 21, ed. James Poterba; Cambridge: MIT Press, 2007. Available from Harvard websites as http://www.nber.org.ezp-prod1.hul.harvard.edu/papers/w12536. Attributes low demand for private long-term care insurance to Medicaid crowdout, but also estimates that if all states had as restrictive an asset test as the most restrictive state, penetration of private insurance would only rise from 9 to 12 percent. Think about why crowdout by Medicaid appears to be such a much larger factor in the demand for private long-term care insurance than for private health insurance.


Brant E. Fries, Don P. Schneider, William J. Foley, Marie Gavazzi, Robert Burke, and Elizabeth Cornelius, “Refining a Case-Mix Measure for Nursing Homes: Resource Utilization Groups (RUG-III),” Medical Care, 32(7), July 1994, pp. 668-685. http://www.jstor.org.ezp-prod1.hul.harvard.edu/stable/10.2307/3766161  A basic descriptive article on RUGs, the basis for payment used by most state programs (and as we saw in class 5 for the Medicare SNF benefit as well).

A now dated survey of the literature from an economics perspective.

The Pepper Commission Report, available at:

Before the ACA this report was the last serious effort at the federal level to deal with long-term care insurance. It is interesting to look at the remainder of the report to see how many issues from the late 1980s are still on the policy agenda.

CLASS 21 - PHYSICIAN WORKFORCE ISSUES AND SOME CLOSING THOUGHTS (November 14)

Physician Workforce

The slides present an economic framework for thinking about physician workforce issues. From this framework I conclude that workforce planning as usually conceived is virtually an impossible problem in practice, a view I think is consistent with the experience in this domain, which I sketch below.

One part of the economic framework emphasizes the possibility of substituting allied health personnel such as physician assistants and nurses for physicians in producing medical services, an idea first developed by Uwe Reinhardt in his PhD dissertation in the late 1960s. (See Reinhardt’s paper on the Optional list.) Although there has been some substitution (e.g., advanced practice nurses, including nurse midwives and nurse anesthetists), in several states, the medical profession has been able to maintain entry barriers in many places by lobbying at the state level for practice restrictions through scope-of-practice laws that preclude or severely limit independent practice by allied health personnel. Surprisingly, much of the subsequent academic literature on workforce policy has ignored substitution possibilities and focused on physician/population ratios, although substitution is now receiving more mentions as a means for addressing the presumed shortage of primary care physicians (PCP’s).

In addition to an economic framework about total numbers of physicians, the slides also present an economic framework for analyzing the geographic and specialty distribution of physicians. Current US (and many other countries as well) policy is based on the view that the market fails in both domains; I do not believe the market fails in the geographic domain, as is made clear in the reading below. As for the specialty domain, we may not like the results the market produces, but those results seem to stem from a combination of administered prices and the market power of various specialties. The slides also cover why the view developed that the market fails for geographic distribution; I think that view has persisted largely for reasons of political economy.

The slides also give one person’s view (mine 😃) of the history of the physician workforce issue in the US. In 1968, based in part on an analysis by the 1967 National Health Manpower Commission that declared there was a shortage of physicians, the US began to subsidize the construction of new medical schools and to offer financial incentives to existing medical schools to increase the number of students enrolled (PL 90-490, the Health
Manpower Act of 1968). (An earlier 1963 Act was the first federal aid for medical schools, but the amount of aid was modest by the standards of the 1968 Act.) Medical schools responded to these incentives, with the result that the number of US medical school graduates doubled over a period of about eight years, with consequences that remain to this day.

Only a few years later, in the early 1970s, the focus of the workforce debate changed from a presumption of a general shortage to a view that total numbers were adequate, even though the actual stock of physicians had little changed. Although we were now thought to have enough physicians in total, the new view was that physicians were maldistributed by specialty (not enough primary care physicians; this argument can also be found in the 1967 Health Manpower Commission Report) and geography (too many in metropolitan areas, too few in rural areas). The two issues of specialty and geographic maldistribution have echoed through the debate ever since. The Council on Graduate Medical Education (COGME), a federally appointed group, for many years recommended in its annual reports that 50 percent of American physicians should be generalists (the actual number has been under 40 percent for many years; see the slides), although starting in its 2005 report COGME backed away from this view. In response to the concerns about geographic distribution, the federal government has implemented relatively small scale interventions (small by comparison with federal payments for physician services in Medicare and Medicaid), such as the National Health Service Corps and modestly higher Medicare payments in “shortage” areas.

The generalist-specialist debate surfaced in the ACA debate (as it did in the failed 1993 Clinton reform) as a concern over whether there would be enough primary care physicians if insurance coverage were substantially expanded. There were echoes of this controversy in the Cooper-Dartmouth controversy (class 14).

Returning to the issue of the adequacy of the total number of physicians, by the late 1970s the debate took another turn. Even though the doubling of the flow of medical school output had not yet much affected the total stock of physicians (the initial larger cohorts were just coming out of residency, although a substantial number of international medical school graduates were starting to appear on the scene, giving rise to yet another controversy in the workforce domain about international medical graduates and the “brain drain”), the Graduate Medical Education National Advisory Committee (GMENAC), using very different analytical methods from the 1967 National Commission, concluded there would be a growing physician surplus that would become very large by the year 2000. (Talk of physicians having to drive taxicabs to earn a living was bandied about in cocktail party conversations in the early 1980s.) The future surplus view propounded by GMENAC dominated policy thinking until sometime in the 1990s, although there were a few dissenting voices in the 1980s that did not much affect policy. (Cooper, et al., below, attribute the ending of federal subsidies for undergraduate medical education to the GMENAC analysis predicting a surplus of MDs, but I think it is fairer to attribute it to the general hostile attitude of the Reagan administration to discretionary domestic spending.) Starting in the mid-1990s, with no sign of a physician surplus on the horizon, some started talking again about a physician shortage, and even a shortage of specialists. That view has now become more widespread, especially with the ACA’s expansion of insurance, and, as you can see in the slides, both allopathic and osteopathic school enrollments have started to rise in recent years and a few new schools have
opened.

The aficionado and historian in this area might want to read the reports of the 1967 Commission and the GMENAC, mostly to see what passed for policy analysis in another era, but I have not found them on the web and so they are not readily accessible today. In the bibliographic reading I give you some cites and some places on the web where you can get a sense of this debate. The slides reiterate some of this extended history in part to give you a flavor of methods in policy analysis studies and how they can influence conclusions and policy.

Although this class is on the physician workforce, there is also a large literature on nurses and nursing labor markets, some of which is pertinent to minimum nurse staffing requirements in some jurisdictions, most notably California. Limitations of time have led me to leave that important topic out of the course. For those interested, I included two readings in the Optional reading.

There is also the controversy around Medicare Graduate Medical Education (GME) payments, which is relevant for policy toward workforce, but because Class 5 covered that issue, I do not revisit it here.

http://content.nejm.org.ezp1.harvard.edu/cgi/reprint/350/17/1780.pdf An excellent historical overview and analysis, although in my view it gives too short shrift to the role of the 1967 National Health Manpower Commission in actually influencing policy. Blumenthal, a former MD-MPP, is now the President of the Commonwealth Fund.

http://search.epnet.com.ezp1.harvard.edu/login.aspx?direct=true&db=aph&an=6115974&loginpage=Login.asp&scope=site For several years before this paper Cooper was a leading proponent of the view that there was no physician surplus. If you want to get a flavor of some of the “steam” of Blumenthal’s title, read some of the “Perspectives” that immediately follow Cooper et al. in the same issue. Cooper, et al.’s methods are in the same spirit as the 1967 Commission and the Schwartz, Sloan, and Mendelsohn paper in the 1988 NEJM that is on the bibliographic list in projecting historical trends in demand forward.

The next two articles highlight a related debate; whether there should be workforce policy or attempts to intervene in the market at all.

http://search.epnet.com.ezp1.harvard.edu/login.aspx?direct=true&db=aph&an=9580856&loginpage=Login.asp&scope=site Grumbach advocates workforce planning and recounts the history of this issue in the 20th century. He does predict that the US is headed back to what he terms a “retail” market for physician labor; more than a decade later I’m not sure how many
would agree with him on that point, especially in light of the increased proportion of employed physicians. Note also that he asserts teaching hospitals are “utterly dependent” on Medicare GME dollars to fund residencies (see class 5).


A response to Grumbach; Reinhardt argues that with no overall policy control of demand in the US (but is that now on the horizon?) that workforce control is undesirable.

OPTIONAL:


The following two papers are on nurse staffing mandates:


Eva M. Aagaard and Mona Abaza, “The Residency Application Process – Burden and Consequences,” New England Journal of Medicine, January 28, 2016, 374(4):303-5. This isn’t about total numbers but rather the inefficiency of the medical education process and specifically the fourth year of medical school. It may be of particular interest to medical students and residents. [Link to article]

Specialty Distribution:

David A. Kindig, James M. Cultice, and Fitzhugh Mullan, “The Elusive Generalist Physician: Can We Reach a 50% Goal?”, JAMA, September 1, 1993, 270, pp. 1069-1073. [Link to article]
written during the earlier Clinton reform debate, that there are too few generalists. Two
decades later this remains the dominant view.

Robert Kocher and Anuraag Chigurupati, “The Coming Battle over Shared Savings –
Primary Care Physicians versus Specialists,” New England Journal of Medicine, July 14,
2016, 375(2):104-6. This paper makes the basic point that the shift toward risk- or value-
based reimbursement will favor primary care physicians at the expense of specialists since
the literature (e.g., the Song paper in class 16) shows that type of reimbursement reduces use of
specialists. Specialist income may well fall, but a) there isn’t a lot of evidence of it yet (see the
slide on physician income changes between 2015 and 2016); it is, however, still early days; and
b) it is more likely in larger markets where there is a possibility of competition among
specialists.

OPTIONAL:

Sean Nicholson, “Medical Career Choices and Rates of Return,” in Incentives and Choice in
Frames the issue in a standard labor economics framework.

Gary S. Becker and Kevin M. Murphy, “The Division of Labor, Co-ordination Costs, and
http://qje.oxfordjournals.org.ezp-prod1.hul.harvard.edu/content/107/4/1137.short I put this
paper here because the primary care physician has the role of coordination, and the difficulty
and cost of that role clearly increases with the stock of knowledge. In fact, the logic of this
paper is that there is an optimal degree of specialization, an argument from economics that
has to my knowledge not surfaced in the health services research or manpower planning
debate at all.

from the Clinton era, on specialty distribution. There is also the debate on this issue that we
covered in class 14.

Actual empirical work on the value of specialization is conflicting:

John Z. Ayanian, Mary Beth Landrum, Edward Guadagnoli, and Peter Gaccione, “Specialty
of Ambulatory Care Physicians and Mortality among Elderly Patients after Myocardial
treatment by cardiologists following a heart attack reduced mortality; i.e., in this case
treatment by a specialist was better care. http://www.nejm.org.ezp-
prod1.hul.harvard.edu/doi/pdf/10.1056/NEJMsa020080

Peter J. Pronovost, Derek C. Angus, Todd Dorman, Karen A. Robinson, Tony T.
Dremsizov, Tammy L. Young, “Physician Staffing Patterns and Clinical Outcomes in


Geographic Distribution:

Meredith Rosenthal, Alan Zaslavsky, and Joseph P. Newhouse, “The Geographic Distribution of Physicians Revisited,” *Health Services Research*, December 2005, 40(6, Part I):1931-52.  [http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/j.1475-6773.2005.00440.x/pdf](http://onlinelibrary.wiley.com.ezp-prod1.hul.harvard.edu/doi/10.1111/j.1475-6773.2005.00440.x/pdf) This paper gives my views on the geographic distribution issue, which are contrary to almost all of the policy (but not the economics) literature, which favors the maldistribution and market failure notions. The bibliographic reading list gives some of those papers. The papers in the policy literature generally rely upon physician/population ratios by county or groupings of counties to demonstrate geographic maldistribution. As shown in this paper, such indicators are seriously flawed as measures of access to physician services. Interestingly, Grumbach’s paper on the reading list above, which clearly is unsympathetic to a market-based approach to workforce policy generally, argues that the market does, and within reasonably broad limits should, determine geographic distribution.

OPTIONAL:


Catherine Dower and Edward O’Neill, “Primary Health Care Workforce in the United States,” Princeton: Robert Wood Johnson Foundation, 2011.  [https://folio.iupui.edu/bitstream/handle/10244/983/070811.policysynthesis.workforce.rpt.pdf](https://folio.iupui.edu/bitstream/handle/10244/983/070811.policysynthesis.workforce.rpt.pdf) A statement of what I take to be the mainstream policy view on this issue. Their main conclusion (the bold is in the original) is:  “Many individuals in the United States—particularly those in rural, frontier or underserved communities—experience challenges to obtaining primary health care. Indeed, the maldistribution of primary care providers is a well-documented challenge for some regions and some populations, including children. . . .” If one reads through their report, however, the few cites they have that support this point are in fact consistent with standard location theory.


**Closing Thoughts:**


**OPTIONAL:**

Joseph Antos, John Bertko, Michael Chernew, David Cutler, Dana Goldman, Mark McClellan, Elizabeth McGlynn, Mark Pauly, Leonard Schaeffer, and Stephen Shortell, “Bending the Curve: Effective Steps to Address Long-Term Healthcare Spending Growth,” *American Journal of Managed Care*, October 2009, 15(10):676-80. Written during the ACA debate, this paper has numerous sensible recommendations from 10 distinguished (and bipartisan) experts on reducing the rate of cost growth, several of which were implemented in the ACA. They do not take up the question of the potential magnitude and timing of cost reductions if their recommendations were implemented. Although they don’t say it, I think they believe there is a synergistic effect on cost across the recommendations. [http://www.ajmc.com/publications/issue/2009/2009-10-vol15-n10/AJMC_09Oct_Antos_Reprt676to80](http://www.ajmc.com/publications/issue/2009/2009-10-vol15-n10/AJMC_09Oct_Antos_Reprt676to80)

“CLASSES” 22, 23, AND 24 - TESTIMONY 2 (November 16, 21, and 28)

“CLASS” 25 - IN CLASS EXAMINATION (November 30)