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**JONATHAN**

So today, we're going to have sort of a different kind of class since it's the last class.

**GRUBER:**

Today, I'm going to talk about essentially how we bring to bear the set of issues we've talked about this semester to a real-world topic, and actually, how it plays out in policy and practice. And I'll draw on some of my own experience, having applied the kind of tools we learned in 14.01 to the field of health care economics for 25 years, and how that has led me to be able to help in the development of health care policy in the US, and talk about sort of where health care policy stands at this point.

So let's get a little bit of background about health care in the US. Basically, when we're talking about health care in the US, we have to recognize that the US spends, by far, the most money on health care of any developed nation in the world. We spend about 17 and 1/2% of our gross domestic product on health care. That amounts to almost \$10,000 per man, woman, and child-- every man, woman, and child in America.

That dwarfs the rest of the world. The typical European nation spends about 2/3 as much as a percent of GDP on health care. England spends less than half as much on health care.

So basically, we spend a lot on health care as a share of our economy. And what do we get for it? Well, the evidence here-- the first fact is clear. The evidence that we get for it is a little bit mixed.

So if you look at the typical thing on the web, you know, US health care is terrible. Our money's wasted. You'll see that on things like infant mortality, we rate, like, 20th in the world. Or life expectancy, we're, like, 20th in the world. So by those metrics, we don't do very well.

But in fact, those metrics are misleading because we also have-- we have the most unequal health care system in the world. So the right way to think about it is to think

about the haves and the have-nots. The haves, which is us and most people in America, people who are well-insured in the system, actually get probably the best health care in the world, Now that might be disputed by many people. But I think about this like an economist would think about it, which is, how would you decide whether you would prefer product A versus product B, whether they buy product A versus product B?

Every year, one million people come to the US to get treated for their health care problems. No one leaves. No one's going to England for surgery. No one's flying from the US to England for surgery. They're coming here.

If you're in the system, we have the best health care in the world. Unfortunately, if you're out of the system, we have some of the worst health care in the world. So a white baby born in America today, there's roughly a slightly more than 0.5% chance the baby will die in their first year. That's comparable to northern Europe. If you look at a black baby born in the US, the odds they die in the first year are about twice that, which is worse than Barbados.

So the problem in the US is not that our outcomes are bad. The problem is they're very unequal-- that we're spending all this money. We're delivering good, but not exceptional, outcomes for people in the system and bad outcomes for people out of the system. So clearly, we're not getting a lot of value-- it's not like we deliver exceptionally good outcomes to people in the system. We're slightly better, despite spending a lot more, and we're worse for many Americans who are left out of the system.

So that's sort of the setup of where we are, which is really, you have two fundamental problems in health care in the US. Our spending is too high, and our access is too unequal. Now so I want to focus today's lecture on those two aspects and think about how can we bring the kind of lessons we've learned in this course to thinking about addressing those problems. So I'm going to focus on the access problem and the cost problem.

Let's start with the access problem. Now in America, before 2010, we had about-- or before 2014, we had about 50 million uninsured Americans. 50 million people who did not have health insurance in the US. We're the only nation in the world-- only

developed nation in the world with a significant uninsured population.

Now the fact that 50 million people are uninsured, is that a problem? On its face, if I just said here's a fact. 50 million people in America don't have health insurance. Based on that fact alone, can you tell me whether there's a problem or not? You shook your head no. Why not?

**AUDIENCE:** Because it might be better for you not to have--

**JONATHAN GRUBER:** Yeah. You know, many more people than that don't have flat-screen TVs and don't own homes. Why do we think that we should care if people don't have something? The answer would be, we would only care if what? Under what condition? When do we-- yeah--

**AUDIENCE:** [INAUDIBLE]

**JONATHAN GRUBER:** If-- well, they'd be better off if they did have it. Now they could be better off because they could be richer, but that's not our problem. Given their budget, they're not buying it. What-- under what condition is the market not-- under what type of conditions would the market not deliver the best outcome?

**AUDIENCE:** If there's a failure, like--

**JONATHAN GRUBER:** If there's a market failure. So the fact that people aren't insured doesn't matter except A, if there's a market failure, or B, for redistribution purposes. Remember, that's the two reasons we want the government involved.

So if health insurance markets were perfectly functioning and people who were uninsured were roughly equally distributed in income as everyone else, there'd be no cause for worry. But in fact, that's not true. We've talked in this class about why markets like health insurance won't function well, which is a problem of adverse selection.

The problem is information failures which will lead health insurance markets not to function well. And the people who are uninsured tend to be much poorer than the people who are insured. It's also redistributive concern.

So the reason we care about the uninsured are both because of market failures and

for redistribution, that they tend to be lower-income. What's interesting is the uninsured don't tend to be the poorest in society. They tend to be the near poor.

So here's the way sort of health insurance coverage works in the US. For the vast majority of Americans-- 60% of American-- 60% of Americans have what's called employer- sponsored insurance. So like your most of your parents, like me, they get health insurance from their employer. The typical upper-income American gets health insurance from their employer. The typical average-income American does. About 60% of Americans.

Then-- and I'm going to do this sort of pre-ACA. So before 2014, before the big change that was put in place by the Affordable Care Act, you had about another, maybe, 6% that bought into what we call individual or non-group health insurance. That is, they went out on their own and bought insurance. But that's a tiny market compared to ESI. And the reason is because of exactly the adverse selection problem we talked about.

Think about yourself as an insurer. And you're worried about yourself as an insurer. And think about what your goal is. Your goal as an insurer is to essentially absorb risk in a way that allows you to make a profit.

So what you want is you want to live off the law of large numbers. You know that with a large enough group, you could be able to predict what their costs will be. And therefore, you can just make a profit on top.

So insurers love-- when MIT comes to an insurer, they're delighted. They're like, look, you got-- between MIT and Lincoln Labs, you've got about 10,000 employees. I, with great certainty, can predict what the costs will be next year for a group of 10,000 employees. And so I, as an insurer, can know I can just charge that, plus X percent, and I'm golden.

But when Jon Gruber walks in the door, they're like, why are you coming to me, individual? Maybe because you know you're sick, maybe because you love skydiving. I don't know. But I'm wary of you, so I'm to charge you a lot of money to get health insurance.

As a result, most-- very few people bought health insurance on their own. And in

particular, the reason they didn't is because insurers would not offer health insurance to people if they were at all sick. They would do things like having what we call pre-existing conditions exclusions.

These were features of insurance contracts which said, look, you walked in the door, Jon, and you want health insurance. But I know, in the past, you've had cancer or asthma or knee surgery. I'm going to tell you, I'm going to insure you, but not for any expenses that might arise from recurrence of those past injuries.

So you had cancer in the past. Anything that comes up in the future because you had cancer, I'm not going to cover. Anything that comes up in the future because you had knee surgery, I'm not going to cover. Anything that comes up in the future because you had asthma, I'm not going to cover it. So I'm going to give you, essentially, partial insurance. So it's going to be a market failure. I'm going to insure you, but only for part of what you need.

Alternatively, they could use pre-existing condition solutions-- they could use what is called medical underwriting, which was basically saying, OK, Jon, come in. I'm going to give you an exam, and if you look sick, I'm going to deny you insurance. Or if you look sick, I'm going to charge you 100 times more than someone else.

So these were not illegal or even immoral. These were just ways insurers came up with to try to deal with the adverse selection problem. As a result, this was a market that did not function very well. Question about that?

**AUDIENCE:** [INAUDIBLE]

**JONATHAN GRUBER:** No, totally legal in every state-- virtually every state, totally legal and not immoral. I mean, this is just they're maximizing their profits. It's what companies do.

And the point is that when they did this, what this meant was if you didn't have employer-sponsored insurance or insurance from the government, which I'll come to next, then you were subject to the fact that if you got sick, you might not be able to get insurance, which is sort of weird. Insurance is supposed to cover if you're sick. But in fact, if you were sick, you might not be able to get it.

So that was the fundamental market failure we had here through adverse selection. Now we also-- that was employer-sponsored insurance, so that was about 2/3 of the

population. You also had on the order of 15% of the population had government-sponsored insurance-- probably more like 20%. 20% of the population had government-sponsored. Insurance.

The two big programs here are called Medicare and Medicaid. Now if you ever take my 1441 class, I will only hold you responsible for one thing if I ever meet you 10 years later, which is remember the difference between these two programs. Medicare is health insurance for the elderly. Medicaid is health insurance for the poor. And those are our two big public insurance programs.

And about 20-- and if you're in those programs, you're also set. They don't have any of these features. If you're in, you're covered for everything. So about 20% of people are there.

And then finally, if you add up the numbers, we had about 15-- the numbers don't quite add up, but you had about 15% of the population was uninsured. 15% uninsured. So you had about 2/3 private, about one fifth public, and about one sixth uninsured.

And those are individuals who typically were not the poorest because the poorest people got Medicaid. The typical uninsured person is, like, what we call the working poor, someone who's got a job, but it's a crappy job that doesn't offer health insurance. But they make enough money that they can't qualify for being in the low-income program. So your family is struggling at, like, \$40,000, \$50,000 a year, high enough income that they're not qualifying for Medicaid but not in a good enough job they're getting health insurance.

That's your typical uninsured family. 2/3 of the uninsured are in families that are headed by a full-time, full-year worker. They're not typically the unemployed down-on-their luck people. They typically are the people who are trying to play by the rules, as they say in politics, but typically can't get a job with health insurance.

So that's your basic landscape. And what we know from that landscape is that a lot of the access problems were because of this group and this group because the people who couldn't get in this market, and as a result, were often uninsured. That was a lot of what drove the access problems.

So that was sort of the first-- one of the two big problems that faced our system. And for many, many years, we knew we had that problem. And for about 100 years, we've tried to reform health care in the US to deal that problem. And probably about every 17 years, on average, there was a big attempt to reform health care, and they always failed.

And they always failed because they failed between two extremes. There were two extreme views that could never quite meet in the middle ground. And they come to what I talked about last time, which is how do we solve the problem of market failures in insurance markets?

Well, one version of solving that, I described, was subsidization. You could-- remember, with my MIT program, if I paid the healthy guys \$500, they'd all buy two, and I'd solve the problem. So one version was subsidization. The problem is subsidization only works if it's big enough to overcome these problems. And no one ever proposed subsidization big enough to overcome these problems.

In my MIT example, I was going to give \$400 to every healthy-- first of all, it means giving money to healthy people, which is sort of politically difficult. Like, hey, the healthier you are, the more money you get. It seems a bit weird.

Also, it's just hard to solve these problems by just subsidizing people. Insurance companies are still too good at trying to get rid of the sick people. And even if you subsidize people who come in, insurance companies will always have an incentive. They'll say, great, healthy people come, we'll subsidize. They'll still want to avoid the sick.

So it doesn't solve the problem in insurance companies. I didn't talk about this last time, but as MIT's insurance company, I should try to shed the sick people. And that problem still existed under this solution.

The other extreme, which is sort of back in style again, is the single-payer model, which is saying, look, let's just have the government provide health insurance to everyone. We have the government provide Social Security to everyone. The government provides health insurers to every elderly in America through Medicare. Everyone over 65 in America, boom, gets government-provided health insurance. Talk about socialism. Every American gets that.

In Canada, everybody gets government-provided health insurance. Why not just do it here? Let's get rid of all the crap with insurance companies we don't like. After all, insurance company administrative costs are about 15% of medical spending. So, boom, we could lower 15% of medical spending. That is, you know, that's like \$500 billion a year. Boom, it's gone.

So basically, why not-- so single payer is something a lot of people have advocated for. Let's just have one giant universal health insurance program. Now the problem with this-- the problem with the single-payer approach is largely-- there's pros and cons to the economics perspective. But the problems here are largely political, which is that to make single payer happen, you have three enormous political barriers, which come back to economics. Everything comes back to economics, but they play their way out in the political system.

The first problem is paying for it-- paying for it, which is that single payer-- to have the government give everyone health insurance means a massive expansion in the government, which means a big increase in taxes. And we know taxes have deadweight loss. We know taxes are politically unpopular.

Now here's what's misleading about that. Here's the fundamental thing. So I worked for the state of Vermont. The state of Vermont wanted to do their own single-payer plan.

If any place can do it, it's Vermont. They're, like, super lefty. They essentially have one insurance carrier, which is Blue Cross anyway. They're a small state. It seemed like if anyone was going to do it, Vermont was going to do it.

So I worked with them to put the numbers together, what it would cost them. And I had good news and bad news. The good news was, I said to Vermont, if you do single payer you will lower the cost of health care in Vermont total by at least 10%, at least. That was conservative. The bad news is to pay for it, you're going to have to more than double the entire amount of taxes collected in state of Vermont. And that second sentence just killed everything.

What's the problem? The problem is that right now health insurance in America is paid for by essentially a hidden tax. What's the hidden tax? It's the fact that when



your employer gives you health insurance, they pay you less wages as a result. Remember our tax incidence discussion. And we said that essentially taxing the employer falls on the employer-employee depending on basically elasticities.

Well, you can think of health insurance the same way. When your employer gives you health insurance, he doesn't just eat the whole cost. He says, look, I'm paying you a total set of compensation, part of which is health insurance. So I'm going to pass the cost of that health insurance on at least partially to your wages. That's essentially a hidden tax.

So at MIT-- right now, I have a health insurance plan through MIT, which costs about \$18,000 a year for my family. I pay about \$6,000 a year out of my paycheck. MIT pays \$12,000. But the truth is, MIT pays me \$12,000 less. They don't just give me that health insurance out the goodness of their heart. They take it out of my wages, or least partially out of my wages.

That's essentially a hidden tax that Americans pay every year to finance health insurance. If we went to single payer, that hidden tax would go away. I would get a \$12,000 raise. That's great. But I'd also face a high new taxation to pay for the government-sponsored plan.

Now given that the total cost would fall-- we should be able to net this out in a way that most people win. The problem then becomes the politics, which is you're tracing a hidden tax with a non-hidden tax. And that's very ugly politically.

So people don't believe their employers will pay them more if you don't make the employers provide health insurers, like, oh, the employers will just pocket it. And I could teach them tax incidence till my face is blue, but they just won't believe it. They'll say employers will just pocket it. But I have to pay this new tax for single payer. So that's the first problem single payer faces is that people don't really understand that trade-off between getting rid of the hidden tax and adding a new non-hidden tax. That's problem one.

Problem two is the problem we talked a little bit about, behavioral economics, and about loss aversion. There's a general feature, what we call status quo bias in human thinking. Status quo bias, which is, essentially, it is harder for me to give up what I'm used to than to grab something new.

We talked about the mug example. Remember, I talked about mugs. So basically, you had to pay me more to get the mug away from me than I was willing to pay to buy it. That once you have something, you value it more than if you didn't have it yet.

Well, right now, 60% of Americans have employer-sponsored insurance. And if we say to them, give that up for Berniecare, they're going to be, like, eh, I don't know. I kind of like my employer-sponsored insurance. You know, yeah, you might tell me Berniecare is going to be better, but that's just you talking. I know what I have right now, which I have employer-sponsored insurance. I don't want to move away from that status quo.

So status quo bias makes it hard, in general, to do radical changes on an economic system. And this is a perfect example. It's going to be hard to get people to give up what they have for something that they don't really know about yet. That's the second problem.

The third problem is, once again about money, but really beyond the scope of this course, which is the problem of the insurance companies and lobbying, which is that the insurance business is big business in America. Health insurance companies make about \$900 billion a year. If you said to them, hey, health insurance companies, would you guys mind just giving up your \$900 billion to begin a single-payer health care, they'd actually say, yeah, it's been a good run. Go for it. No. They're going to lobby and fight that because they want to keep their business. And that's going to be a pretty hard force to overcome.

So single payer has always struggled with dealing with these kinds of political problems. And that's why we've been stuck. We've been stuck between one alternative, which is subsidization, and the other alternative, which is single payer.

And that's where economists have come in-- came in the 2000s, folks like myself, to talk about a new alternative way to do it, which was essentially to try to bring in some of the best features of these two approaches. And the solution we proposed-- so if you want to read more about this, I've actually written a comic book to explain it. It's a graphic novel, technically. It's called *Health Care Reform*. It's, like, \$9 on

Amazon.

And so I like to think of everything in terms of images. Now I'm not going to draw one. I'm not going to try to draw anything. But the way I like to think about this is the solution we came up with, which we first pioneered here in Massachusetts and then brought to the whole country through the Affordable Care Act, is what we call a three-legged-stool approach, three-legged-stool approach.

Leg one is deal with this problem. Deal with the insurance discrimination problem. And so leg one is ban insurer discrimination. No more pre-existing conditions, no more medical underwriting. That is, if I walk in the door, and you have offered anyone-- you have to offer me health insurance at the average price for my age. And you have to offer it to me.

So any 40-year-old who walks in the door wanting insurance, you have to sell it to them, and you to sell it to them at a fixed 40-year-old price. You can't say, you're sick. I'm not going to sell it to you. So the first step is to ban insurer discrimination, to try to solve that problem.

Now the problem this raises is you have simply-- if you do this alone, you've created a new problem, which is if you tell insurers they can't discriminate against the sick, you don't solve the adverse selection problem. You're just making insurers go bankrupt.

Now here's the way I like to think of it. I'm sure none of you ever gambled on sports. But if you had gambled on sports, you might know the way sports gambling works is that there's a guy in the middle, called the bookie. And the bookie's goal is to not-- is to get exactly the same number of bets on either team. So they take no risk, and just make their profits off the top.

So what bookies do is they set point spreads. So the Patriots played the Dolphins this past weekend. I am-- sadly, I'm a Dolphins fan. The Patriots played the Dolphins. The point spread was something like-- does anyone know what the spread was in the Patriots' game? I think it was, like, 8 points.

So that spread was chosen. The Patriots were favored by 8. What that meant was your bet was either the Patriots win by either more, or the Dolphins win, or the

Patriots win by 8, or by less than 8. So one side is Patriots win by 8 or more. One side is Patriots win by less than 8, or Dolphins win.

And the reason you have that bias thing is because people think the Patriots are better. They are better. And as a result, you want to get-- if you set an even bet, Patriots win, Dolphins win, everyone would bet on the Patriots. You'd lose money.

So you want an equal distribution of risks. So what you want is you want to set the point spread so the distribution of risk is equal. Then having done that, you just make your money off the top.

Now imagine I passed a law which said all sports books have to reopen at halftime and make the same bets available they made before the game started. Well, for those of you who watched the exciting game this weekend, you realized at halftime, it became pretty obvious the Patriots weren't going to win by 8, that it was a lot closer game than people thought. So if they reopen that, a bunch of people would suddenly bet against the Patriots. The Patriots ended up losing, and the insurers would have gone bankrupt-- the bookie would've gone bankrupt.

Insurers are just bookies. That's all they are. They just want a predictable distribution of risks. So if you tell them, you have to offer health insurance to everyone for the same price, but only the sick are going to buy, they're going to lose money.

So that's why we need the second leg of the stool, which I talked about last time, which was the individual mandate. The individual mandate, which is to say, OK, insurers, if you offer health insurance to everyone at a fair price, we will, as our part of the deal, make sure everyone buys health insurance. So when the 40-year-old walks into your office wanting insurance, you can know it's not because they're sick. It's just because they have to.

So we say to insurers, you price insurance fairly, and in return, we'll make sure you get the fair distribution of risks. So you say to me-- my MIT insurance, you price insurance at \$1,500 and don't try to keep out the sick, I'll make sure everyone buys. And you'll make your \$100 profit.

So that's-- the mandate was essentially trying to bring-- was trying to allow-- get rid

of discrimination by bringing in the entire pool of people so insurers could fairly price. The problem with that is you can't mandate something people can't afford.

So in Massachusetts, where we were creating this plan in the mid 2000s, the typical family health insurance policy was about \$12,000 a year. The poverty line for a family was \$22,000 a year. We couldn't exactly mandate people that they spend 55% percent of their income on health insurance. That was not really feasible.

So the third leg of the stool we came up with is subsidies to make health insurance affordable, saying, if you're low-income, we will offset the cost of your insurance just like the subsidy approach here. We'll offset the cost of your insurance to make it more affordable. We'll do it on an income-related basis, so it doesn't cost so much.

So we're not going to have to pay for everyone's insurance like single payer. Remember, single payer, essentially taking someone like me, who's happy with my insurance, swapping it out for new government insurance. This is saying, no, if you're happy with your insurance, stick with your insurance. But if you're low-income and can't access the employer market, this gives you a new place to go. And that was the idea that became Romneycare, the plan here in Massachusetts, and eventually then became Obamacare, or the Affordable Care Act.

So this is essentially the idea of that plan. Now, did it work? Unambiguously, yes. Now you won't find anyone more biased than me on this question. But I think what-- I think if I've tried to teach you one thing in this class, it's that we need to rely on real facts wherever possible. And if not, we could turn to theory.

But here we have a set of real facts that we can turn to, which is that essentially what we did in Massachusetts with this law is we covered about 2/3 of the uninsured population. At the federal level, we covered about 45% of the uninsured population. It was a lower number because the federal law did not apply to undocumented immigrants, which are about a quarter of the uninsured. It's not an issue in Massachusetts, but a big issue in other places.

That's about a quarter of the uninsured because the federal law did not apply to undocumented immigrants. So as a result, the share cover was lower. But a large number aren't covered. Yeah.

**AUDIENCE:** If there was an initial mandate, then how was there anyone who was left uninsured?

**JONATHAN GRUBER:** Great question. So there are three reasons why people were left uninsured. The first reason was a quarter of the uninsured were undocumented immigrants, and the law didn't apply to them. So right now the upper bound was 75%, just to start.

The second reason is that the individual mandate contained exemptions to make it both a little more humane and, quite frankly, politically feasible. So if you could not get-- if your income was below the poverty line, you were not subject to the individual mandate. And if you could not get insurance for less than 8% of your income, you were not subject to the individual mandate. So there were exemptions.

And the third thing was the individual mandate was not, like, we're going to throw you in jail. It was a tax penalty. And many people decided they'd rather just pay the penalty than buy health insurance. So for those three reasons, a number of people did not get health insurance under the Affordable Care Act.

Now there's a bunch of interesting questions, like should the mandate penalty be bigger? How should we handle that? There's a lot of-- I could go for hours on this. But that's basically the structure of what we had.

So basically, that worked. It didn't get us to universal coverage. It wasn't as effective as single payer would have been, but it was the largest single insurance expansion in American history. And the evidence is clear. It brought many people into insurance. It improved people's use of health care. It improved health.

So basically, that was kind of the step forward on access. Now the problem with this is it's only a step. There's still many uninsured, and this has been politically really challenging, because these two answers are quite simple. Just give people money or just have single payer.

This is super complicated. I can talk about these in about 15 seconds each. These took five minutes to go through. And people thought it was just too complicated. It didn't make sense. Lots of reasons-- we could talk lots reasons people didn't like it.

So it's never really been as politically successful as people like myself, who helped develop it, would have hoped. And it's left a lot of people uninsured. So we haven't

solved the access problem. We made a big step forward, but we haven't solved it.

And that's the ongoing debate today we see, particularly in the Democratic Party. The Republican Party really doesn't focus much on insurance coverage. But the Democratic Party does. And they're-- that's why there's a lot of energy behind single payer right now is like, look, you tried the kind of halfway ground. That kind of worked, but didn't work all the way. So let's just go all the way to single payer. Yeah.

**AUDIENCE:**

The initial mandate, does that-- I guess, for the more people living in poverty, does that work together with Medicaid or--

**JONATHAN  
GRUBER:**

Yeah. Basically, a lot-- actually, it's quite interesting. It worked quite well with Medicaid. A lot of people who aren't insured, actually, are people who are already eligible for free Medicaid coverage and just don't take it.

Now we don't quite know why. It could be language barriers. They don't understand. A lot of people-- a lot of even legal immigrants just don't understand they're eligible.

It could be people just don't want a government handout. They're embarrassed taking help from the government. It could be people think, I don't need it. I'm never going to be sick. We don't know why.

So part of what the mandate did was say, look, you already have free health insurance. Just pay attention and take it. That's part of the effect it had was bringing people in. So a large part of the coverage increase is actually bringing in people who were already eligible, just weren't taking it up before.

So that's kind of where we are. So where we stand now in coverage is we've taken a giant step forward. We've covered probably about now, probably, between a third and 40% of the uninsured in America. But we're sort of right now kind of stuck at that point.

And the question is, do we just sort of stick there, or do we try something more aggressive? With the political problems, I don't know. But that's going to be the challenge going forward. So that's-- questions about that-- because that's where we are on problem number one, which is access in coverage.

Now let's turn to problem number two, which is cost. Cost is way harder. What I just did was the easy part. It's way harder to get your health care costs, and here's why. Two facts that are seemingly contradicted if you think about it.

Fact one. Since 1950, US spending on health care as a share of our economy has quadrupled. We've gone from-- more than quadrupled. We've gone from 4% of our GDP being health care to over 17%. And it's been worth it.

If you look at the improvements in our health, and you value them in the way economists do, which is we have statistical values of life we apply, or statistical values in improvement in health, the improvement in our health has been worth the money spent on health care.

You guys don't realize it. Health care totally sucked in 1950. Babies born in 1950 were four times as likely to die before they reached their first birthday. If you had a heart attack in 1950, you were four times likelier to die within the first year.

To put it in terms all young healthy people care about, if you hurt your knee skiing in 1950, tore your ACL in 1950, or tore your cartilage, you were in the hospital for a week. You were on crutches for six weeks and had arthritis the rest of your life. Today, you go to an outpatient center. You get arthroscopic surgery. You're back on the slopes a couple weeks later.

Health care is just way better, and our health is way better. America is a much better off nation, spending 17% of GDP on health with how healthy we are than we were in 1950. And once again, do the economists tests. No one ever advertises, hey, would you like 1950s health care at 1950s prices? No one out there is offering that because it's worth it. That's fact one.

Fact two is we waste a huge amount of money on health care. By some estimates, about a third of what we spend on health care is totally wasteful, does nothing to improve our health. Now how can those two facts be consistent? It's worth it, but it's wasteful.

Well, the answer is that the other 2/3 is super awesome, that basically the increase in health care, where it's been productive, has been amazing. But we dragged along all this unproductive spending too. So it's good news and bad news.



So the good news is, well, that's great. We just cut out the one third that's unproductive, we've solved our problem. Literally, if we could just simply cut out the one third that's unproductive, we'd spend the same amount as Europe does on health care. We'd solve our entire long-run fiscal problem.

The bad news is that it's easy to look back and see what the one third was. It's hard to look forward and say what it's going to be, that health care comes with a huge amount of uncertainty about what's going to work and what's going to be worth it. And as a result, it is very hard to say, OK, fine. We'll cover this. We won't cover that, because it's hard to know what's going to work and what's not. And so, essentially, you're in this very difficult spot.

So what are the kind-- that's the sort of fundamental trade-off that we face. So what are the potential solutions to this problem? So essentially, there's a couple of different solutions to the problem, two different paths we can follow.

Path one is the regulatory path, which is basically the path that Europe follows. What Europe does is they just much, much more heavily regulate the delivery of health care. And they do that in two ways.

One is they actually have regulations about what health care you can get. So for instance, England has the euphemistically named NICE, the National Institute for Health and Care Excellence, which actually tells people they can't get some things. It literally rations.

So for example, for many years-- it's no longer true-- in England, if you're over 75, you could not get a transplant. They said, look, we got a limited number of kidneys. You're going to die soon anyway. Let's give the kidney to a young person. Actually, kind of makes sense.

The idea is, look, we have some limit on our kidneys. Why should it be determined by some random fact, like when you got on line? It should be determined by who gets the most value from the kidney. It's going to be someone who's 30, not someone who's 75.

So one regular route is to literally have regulations like that. That's actually pretty rare. Most countries don't actually regulate in that way. Most countries kind of let

you get what your doctor says you should get.

There's three routes. So one route is sort of regulatory. The other route of regulate-- so one route is sort of what we call sort of regulating, you know-- I don't want to call it access-- sort of technological regulation, regulating which technology you can get.

The second kind of regulation in Europe is supply regulation. So they basically don't let there be many doctors. And there are not many doctors and hospitals. So there are as many MRI machines in LA as there are in Canada. Basically, just not many place to go get an MRI in Canada.

So if you' hurt your knee in the US, you go, you get an MRI, like, the next day. In Canada, you get it six weeks later. So the only way to control it is to actually regulate the supply of medical care. Just give people less stuff they can use.

And the third way to control-- the third regulatory mechanism, and the most important, is price regulation. We are the only nation in the world which essentially lets the free market determine the price of health care services. Every other nation regulates the prices that people pay for their health care services. Now the question we have to ask is why? Why does that make sense?

Well, the answer would be that we think-- it would make sense if we think there's a fundamental market failure in the determination of health care prices. And in fact, it turns out there are numbers of market failures in determination of health care prices. So one market failure, for example, is imperfect information. I don't know-- I can't shop effectively-- when I'm in the back of the ambulance dying from a heart attack, I can't be, like, you know that hospital looks expensive. Take me over there. I want to shop there. You can't really shop.

It's a hard market to shop. And if you could, prices aren't posted. You don't really know what it costs to get your heart attack treated in different places. So imperfect information.

There's also imperfect competition, which is if you have your heart attack on Cape Cod, there's, like, one-- or Nantucket, which is an island, with no way off but a ferry, there's one place to go. There's one hospital. They have a perfect monopoly. You

can't get off the island. You're going to die otherwise. So it's imperfect competition.

There's even imperfect competition where you think the competition might be perfect. So take Boston. There are so many hospitals in Boston, you cannot literally fall down without hitting a hospital.

Yet there is an enormous dispersion in the prices hospitals charge. In particular, the very famous hospitals, like Mass General Hospital, charge multiples of what less famous hospitals charge, even though less famous hospitals are really nearby. Why? Well, because they have essentially what we call a reputational monopoly, that even though they don't have an actual physical monopoly, people are like, I want to go to MGH.

They're the best, even if they're not necessarily the best. They just have this view of being the best. And they can charge higher prices as a result, even if their outcomes aren't necessarily better.

In other markets, we think perfect information would allow us to get rid of these kinds of inefficiencies. It doesn't exist in health care. As a result, perfect competition simply does not work in health price setting. And as a result, all other countries regulate health care prices-- and then not other countries-- even the US can regulate health prices.

So the Medicare program has regulated prices. That covers millions of Americans. It's just for the non-government, private health insurance in the US, there's non-regulated prices. Now I am not, despite my tone, saying that regulating prices is the answer. It's not clear.

Regulating prices comes with a huge number of additional problems like we talked about. We talked about regulated monopolies, which is the government may not know the proper price to set. The government may do a terrible job. They may get lobbied. They may be corrupt.

Indeed, in the US, the 1970s, virtually every state did regulate hospital prices. And every state went away from that because they thought the system was broken. So it's not like there's any-- it's not like the European solution's an easy answer.

That's why the other route that people have been pushing lately is a different route,

which is the incentives route, which is basically to say, look, we don't want to regulate supply or prices. What we're going to do is we're going to say, doctors and hospitals, you get together and form these units we call Accountable Care Organizations, ACOs. This is a big innovation of the Affordable Care Act of Obamacare, set up these ACOs. These are hospitals and doctors all get together to be basically, like, soup to nuts, all the health care you need in one group.

And we say to them, we are going to pay you one flat amount of money to care for Jon. And then within that, you decide what he gets. You decide what prices everybody pays and makes. You figure all that out.

But we're going to give you a flat amount. In particular, that flat amount is not going to rise much. And that's going to bring the costs of health care under control, where basically every ACO will get an amount that's a flat amount, and it just won't rise much. And that's how we'll bring health care costs under control.

That has a number of wonderful features. First of all, it's much less evil sounding than things like not letting [INAUDIBLE] rise or regulating what prices. Second of all, there's much fewer regulatory tools. We just say, here's a flat amount we're giving you per person, and we're done.

So that sounds great. The problem is we haven't been able to get it to work. And that's because it turns out doctors and hospitals aren't very good at figuring out how to set prices and set supplies. They're just not-- they don't know how to really figure this out.

And the ACOs so far have not actually performed very well. They've not saved much money. So really, we're stuck between a route which seems a lot easier but we haven't really figured out how to make work, and a route which has worked all around the world but seems politically nightmarish. And that's kind of where we are right now in terms of controlling costs. And that difficulty is what we find ourselves in.

But let me be clear. This is not like, oh, that's very interesting, Jon. I'll go home and forget about it now. This is the entire future. Health care costs are the key to determine the entire fiscal future of the US.

As I mentioned last lecture, the US is currently estimated about \$75 trillion in deficit over the long run. \$70 trillion of that is health care. Health care is the single determinant of the US fiscal balance in the long run. Literally, it's the single most important government problem facing-- health care cost is the single most important government problem facing your generation and the next generation.

I like to say that all that matters when we think about the future is health care cost and global warming because either way we're under water. Basically, those are the two big issues we have to face going forward. So this is a serious issue that your generation is going to have to struggle with-- sorry-- as you go on.

So that's health care in the US in 40 minutes. So this class-- you know, there's a famous skit from *Saturday Night Live*, which is what you remember five years after college. And it's five minutes, and 3 and 1/2 minutes of spring break.

I don't expect you to remember the formula for-- if you're not going on in economics, I don't expect you to remember the formula for deriving cost function. What I expect you to get out of this class is A, an interest in economics. And I hope you'll go on. I sincerely hope that.

And I'm available to anyone who wants to talk about the pros and cons of going on in economics. Obviously, I'm more pro. But I'm happy to talk about it. So always feel free to reach out about that.

But B, even if you don't go on in economics, I want this to make you a more educated consumer of the newspaper. This is-- we are in an era, as I said in my very first lecture, where truth and facts and the scientific method are, themselves, under attack. And MIT is the last bastion of fighting this war. We are the place that explains the scientific method, that uses the scientific method. And we need to use the methods you've learned here to think intelligently-- whatever your conclusions-- but to think intelligently about these economics topics.

And fundamentally, that means being annoying. And to illustrate that, I'd like to end with a joke that some of you may have heard. Sorry, I apologize if you have. So the joke is a doctor, a priest, and an economist go golfing. They get on the golf course-- and they hit the golf course, and they're behind someone going incredibly slowly.

I don't know if there are any golfers among you, but the idea is if you're very slow, you're supposed to allow the people behind you to play through and get ahead of you. This person won't let anyone play through. And he's, like, 50 shots a hole. It's disgusting. And there's, like, 50 people lined up behind this guy.

And these folks are so disgusted, they quit after nine holes. They go back to the clubhouse. They're pounding their beers like, what an asshole. I can't believe he wouldn't let us play through. It ruined our day.

And someone comes up to them and says, excuse me, are you new to this club? And they said, yes, we are. He said, well, I can tell you're new to the club because if you weren't new, you would have known the person you were playing behind is blind. And actually, it's a miracle he can get the ball in the hole at all. And usually, it's an honor to be on the same course as he is.

And the person walks away. And there's, like, a deadly silence. And the people at the table are like, wow. I feel terrible.

And the doctor goes, I can't-- I feel terrible. I can't believe I'm-- myself, a man of healing, would be so insulting towards someone who's blind. I'm going to dedicate a wing of my hospital to the blind. And he turns to the priest. And the priest says, I can't believe myself, a man of the cloth, and that I'm supposed to care for the less able in society, would do this. I'm going to set up a free soup kitchen for the blind. And they turn to the economist. And the economist says, well, if he's blind, why doesn't he just play at night?

And-- makes sense, right? And basically, the point is that the job of the economist is to sort of be annoying and look for the basic flaws in arguments, to understand them, to ask the difficult questions, but to have responsible answers. And that's what I hope you'll get out of this course that I hope you'll take forward with you. So thank you very much for sharing it with me. And good luck on the final.

[APPLAUSE]