

Lightfoot [music] Joining us from the state of South Carolina, our next speaker is Dr. Russell Pate. [applause]

Pate Well, howdy.

S? 00:29 Howdy.

S2 00:30 Really thrilled to be here, but to be honest with you, I've got a problem. And I hope that in the next 15 minutes, I can convince you to help me solve that problem. The problem is that we're not very physically active in this society. That carries a huge public health burden, and the problem I'm bringing to you is our public health system in this country's not doing very much about it. I think that needs to change, and in trying to convince you that that's the case, I'm going to address 6 points over the next 15 minutes. First one is physical activity exerts powerful influence on health. Now I doubt there's anybody in this room that doesn't already believe that physical activity's related to health. Most people in our society believe that. But most people in our society don't appreciate just how powerful that influence is.

S2 01:36 There we go. The Greeks figured this out quite a long while ago, but it really wasn't until the 1960s and '70s that science began to accumulate that has demonstrated just how influential physical activity is to health. In the UK, an epidemiologist named Jeremy Morris and this gentleman, Ralph Paffenbarger, epidemiologist here in the US, in the '60s and '70s conducted a series of large population studies examining the relationship between physical activity and health. They call this the Paffenbarger Curve. It's been replicated in literally hundreds of epidemiologic studies over the years, and it basically shows that if you want to live a long time, where you should not be is way to the left side of this curve. And those are people that are essentially sedentary, do not engage in very much physical activity. In the intervening years, there's been a huge amount of science that's accumulated. This is just a very raw count from PubMed of the number of scientific publications with either the word exercise or the phrase physical activity as a keyword. You can see that beginning in the '70s and '80s, the science began to accumulate rapidly and curve a linear increase in the rate of publications in this area ever since. So there's been a tremendous growth in the science in this field. The federal government has reviewed this and concluded that there is strong evidence that physical activity reduces risk of everything from early death to colon and breast cancer and lots of other chronic disease outcomes in between, as well as associated with higher levels of fitness and reduced likelihood of becoming overweight or obese. I think the science is compelling.

S2 03:42 Point number two. Want to be fair here. I already told you that my main point is our public health system isn't doing much about this problem, but I want to acknowledge progress that has been made, and some has been. In 1992, I think the floodgate opened a bit when the American Heart Association declared that physical inactivity should be considered a major risk factor for coronary artery disease. That was followed a couple years later by the first public health recommendation on physical activity and health, 1995, jointly released by the US Centers for Disease Control and the American College of Sports Medicine. A year later, the first surgeon general's report on physical activity in health was released. I call it the first, hoping I live long enough to see the second. We haven't had that yet. We need it. There was a hiatus of several years. Then in 2008, a very important step was taken, and the first federal guidelines on physical activity were released by the US Department of Health and Human Services. Two years later, the first comprehensive, strategic plan for increasing physical activity in the US population was released, and I'm going to come back to that toward the end of my presentation. Five years after the guidelines were released, a

mid-course report was released by the US Department of Health and Human Services. It focused on strategies for promoting physical activity in children and adolescents in our society. And then just last year, a surgeon general's call to action on walking and walkable communities was released. So, to be fair, there has been progress in establishing physical activity in the public health system in this country.

S2 05:40

Nonetheless, most Americans do not meet physical activity guidelines, and that creates an enormous public health burden. And I emphasize enormous. These are the data for adults complying with current physical activity guidelines, less than half. These are self-reported data through the Behavioral Risk Factor Surveillance System. This is probably a generous estimate of the percentage of adults in the US that meet physical activity guidelines. Objective measurement of physical activity with accelerometers and other devices suggest that the percentage is probably a good bit lower than that. In youth - this is self-reported - compliance with the the physical activity guideline by high school students in the US, and you can see it's quite a low percentage. Same pattern there for kids. Put accelerometers on them, a far smaller percentage than this meet the current physical activity guideline. That all adds up to a problem. These are findings from a type of study that's been replicated a number of times called population attributable risk analysis, and this particular analysis indicated found that physical inactivity accounted for, in one year, 191,000 premature deaths. Sounds like a problem to me.

S2 07:12

It's a worldwide problem. It's growing. Countries develop, they develop this problem. A special issue of The Lancet just four years ago, I-Min Lee reported that these worldwide percentages of deaths due to those particular chronic diseases could be accounted for by physical inactivity. So we have this problem in spades but we share it with all the other developed countries in the world. And even if you don't really care about people and their health but you care about your wallet, you should care about this problem. The most recent special issue of The Lancet published earlier this year did an economic analysis of this problem. And you can see that the direct health care costs in the US in a year are 24 and a half billion and the additional indirect costs are another 3 billion. It's a costly problem.

S2 08:21

My fourth point is physical activity should be treated as one of the great public health priorities of the 21st century. And instead, it's being treated as the red-headed stepchild of public health and I think it's time for that to end. Now, why do I say that? Well, I don't have time to go into all the detail, but here's what's currently happening. US Department of Health and Human Services, the US Centers for Disease Control and Prevention, there is a physical activity and health branch. It's smaller today than it was 10 years ago, and it was not big 10 years ago. We've had a President's Council on Physical Fitness and Sports and Nutrition in this country since the 1950s. It doesn't have a budget today much larger than the one that it had 30 years ago. It's a very small-- it's a visible organization, but it's a small one. We do have physical activity guidelines, but there's no law that says we have to have them. We got them in 2008 because the administration at that time decided to do it. They're currently being updated and will be released next year, but again, only because people in those positions decided to do it. It's not mandated by law. The US Department of Education, physical activity is almost invisible in that agency. Not totally, but almost invisible. US Department of Transportation has a huge budget. A tiny little fraction of transportation dollars are set aside for active transport projects. I could go on. We're not heavily invested in dealing with this problem. It's time to make those investments and make them in a way that is proportionate to the public health cost associated with this problem.

S2 10:25

So back to the national physical activity plan, which has been a focus of my work for

the last several years. Earlier this year, we released a totally updated, comprehensive, strategic plan for increasing physical activity in the US population. It has about 250 strategies and tactics that are organized in these 9 societal sectors. So if you don't know about the plan, go to physicalactivityplan.org and I hope you'll review it and send us comments. In front of all of those strategies and tactics are eight overarching priorities. And I'm going to conclude by presenting these to you and arguing that these are large-scale steps that we ought to be taking. First, we should have a federal Office of Physical Activity and Health. Think of it as analogous to the Office of Tobacco and Health, which has produced an enormous public health benefit in this country over the last 50 or so years. That office should be resourced at a level that would allow it to be impactful. Now, let me assure you, I don't think the long-term solution to this problem is going to lie in just throwing federal dollars at it. That's not what's going to get the job done. But right now, there are not sufficient resources to coordinate and lead the changes that will need to occur at the state and in particular the community level in order to produce the change that we need.

S2 12:04

Second, we need to monitor what we're doing in this area far better than we're doing. We need a comprehensive physical activity public health surveillance system and we have one now that is Swiss cheese. We have one but it's got a lot of holes in it and we need to fill those holes. Third, we need to score ourselves. We need to be fair in evaluating where we are in this area, and we don't currently have such a system. Next, we're going to have to design and implement policies that will produce the changes that we're looking for. And we do not yet, in this country, have a sophisticated process for developing those policies, let alone advocating for their implementation. Next, we need a national physical activity promotion campaign. I'm going to bet that a few of you in the audience were at the right age to be targeted by something 10, 12 years ago called the VERB campaign. And it operated through Nickelodeon and TV channels that were viewed a great deal by kids in the tween ages. It was a large-scale campaign and the darn thing worked and then we promptly stopped funding it, and haven't done it in a decade.

S2 13:31

But this can work. We need to do this. I think it would help us move the dial. We need to take this down to the state and community level, and we need to facilitate comprehensive planning at those levels. In the end, the changes that matter the most are the changes that operate proximal to each of us. In our neighborhoods, our communities, our work sites, our schools, healthcare systems, that's the level where the change has to happen. We've got to bring the planning process down to that level. And finally, we've got to be prepared to invest more in this, not all of it at the federal level. We need to invest more in it at all levels. In many cases, there are resources out there that can be redirected, so I don't think it all has to be new money, probably shouldn't be new money, but some of it will have to be. So I'm delighted to have been with you here today and I hope you will join me in speaking to your policymakers and politicians and legislators and administrators at all levels and help us make these changes. Thank you very much. [applause]

S1 14:51

Thank you, Dr. Pate. Good job. So we have a few questions here for you. We had one that came in a little bit earlier and it said-- the question was, increasing activity is great, but isn't there an increase in injury rate as well? Does that offset some of the benefits?

S2 15:07

Yep. Yeah, to be really fair about it, yes. We do need to consider unintended negative consequences. I think we do know that when people move, there is some increased risk of orthopedic injury and other negative consequences. My view is, and others have analyzed this, I think it's quite clear that the positive effects of adopting and maintaining a physically active lifestyle far outweigh the negative

consequences, but we shouldn't pretend that there aren't some.

- S1 15:42 That there aren't some. Mike G. of College Station says, "What do you think can be done for communities who do not feel safe exercising in their community?"
- S2 15:49 Yeah, it's a huge, huge issue. Absolutely a huge issue. And it's not unique to women, but I think it's particularly an important factor for a lot of women in our communities. I think that the-- there's not a simple, easy solution to this. But one factor that will contribute, we are currently experiencing a re-immigration to the city centers, which is going to put a lot more people out there walking to meaningful destinations. And when there are more people out there doing this, each of them is safer than when it's a single individual out on a remote street or bike trail, something of that sort. So part of the solution is going to be, get a lot more people out there doing it.
- S1 16:39 So there's a good slogan. Exercise and make your street safer.
- S2 16:42 Yes, yes, yes.
- S1 16:43 There you go. One last question, Dr. Pate. Help us make sense of K through 12 reducing time in PE for more subject content time as a perceived benefit for cognitive achievement.
- S2 16:56 Yeah, well, don't come to me for that one. My work, Tim, as you know, is primarily focused on trying to figure out how to promote physical activity in kids. And I don't want to load this whole responsibility on the schools. I understand. They've got a lot already. But I think we know that we can implement what's being called the Comprehensive School Physical Activity Model, have kids a lot more physically active during the school day than they tend to be now, and probably not only not have a negative impact on their learning, but likely have a positive impact on it. So we've got to better disseminate that concept, communicate better with the school officials about that, but we can have it both ways. We can have kids active during the school day, and have them learning very effectively.
- S1 17:52 Great answer. Thank you so much for being here with us.
- S2 17:54 My pleasure. [applause] [music]
[silence]