First of all, I want to thank you for inviting us to talk with you today, because, frankly, the world needs you to respond to the climate crisis. I don't know if you are familiar with the notion of narrative economics, but I think it applies here. Narrative economics is a new branch of behavioral economics, and it posits that we behave in ways that follow the story-lines that make up the narratives that we tell ourselves, and that we then live. You, the National Academy, have the power to shape the narrative of the healthcare industry and its response to environmental health, and I hope we can help you do that today. You did it with your "To Err is Human" document and you have the power to do it again and for that, I thank you – hopefully in advance.

Now, I lead an engineering company that is deeply involved in the planning, design, and construction of healthcare facilities, and I will give you ideas from that world. Over time, I have used the platform of my company to become involved in research that tries to find better ways to deliver the care we need while reducing or even reversing harm to our global commons. I have also been immersed in the world of policy as it applies to the ways we design and build our buildings, and I have come to learn that excellence in any one domain – research, policy, or design – is insufficient. It is only when we do the research, and fix policy to enable these ideas, and then make new ideas manifest, that we are able to make progress. This is what I am trying to do every day, and this is where I think there is significant opportunity for you to put your covid-free finger on the scale and help the industry to save the health of our planet and its ecosystems.

Today, I am going to tell you three stories, each illustrating a point. My goal is to give you three specific narratives I think you could change in ways that would lead in healing our global commons.

Π.

Before I tell you my three stories, however, I do want to point out one essential thing you must remember as you think about what you want to do. When we talk about healthcare sustainability, we tend to think about the building, and how much energy it consumes. This is important but it is only part of the story.

A number of years ago, the National Health Service of the UK did what was probably the most comprehensive accounting for the greenhouse gas emissions of the health sector. That analysis revealed that the building is really only the tip of the healthcare emissions iceberg (apt analogy, in this era of melting glaciers, right?). I think it is tempting for us to think about how to design greener buildings, and that is important, but we must be thinking much more deeply. The NHS study showed us that the building only accounts for about 25% of healthcare's footprint, the balance being the supply chain and transportation associated with delivering health services. So, while I am heavily focused on the built environment, I think it is critical to remember that

we must also address the issues outside of the built environment if we are really going to have an impact. I have all kinds of ideas in these arenas as well, but I will only mention one.

I do a lot of work with Kaiser Permanente, on the built environment. Years ago, Kaiser rolled out its first telemedicine program. When they did that, they found that the numbers of primary care visits fell, and when the number of primary care visits fell, the number of hospitalizations fell, but they had no changes in outcomes from the perspectives of their covered lives. What we learned was that by re-designing how we provide healthcare, we could eliminate some buildings and of course, the greenest building ever built is the one that is not built. That is, maybe one of the best ways for us to make our buildings sustainable is to change the rest of the healthcare iceberg; something else I think you are working on! And, incidentally, I think that working in buildings may create possibilities in other areas as well, so don't lose sight of your opportunity to work in different dimensions simultaneously.

But my expertise is in buildings, so let's talk about that.

III.

Α.

I want to start with a story from my home state of California. In California, as you might be aware, we have some of the most aggressive energy regulations in the world. Indeed, we are very proud of the fact that, since the 1970's, our per capita energy use has stayed flat, while our GDP per person has risen consistently. Thus, we like to say, it is not necessary to spend more energy to generate more wealth.

But, due to an administrative error, our energy regulations completely exempted hospitals until this year. The joke was that the only place in America you could still find an incandescent light bulb was inside a California hospital

A couple of years ago, I was working with the California Energy Commission to convince them to begin to regulate hospitals. I was in one meeting with a high-placed official from our state healthcare licensing authority, and he said to me "Walt! Do you mean to tell me you would be willing to kill your mother on the operating room table because you want to save a little energy by putting in lower wattage light bulbs?" I wish this were a joke, but he was completely serious. And this notion that there is a fundamental conflict between taking care of patients and taking care of the environment is a narrative that must change. I think it comes from Jimmy Carter in his sweater telling us all to turn down the thermostats; the narrative was that we needed to sacrifice if we wanted to do something about the environment. This narrative has seeped into our culture, and certainly into the culture of medicine, and it is a narrative that we, that you, must change.

My second story comes from an organization I work with that writes codes for healthcare buildings. I am pretty sure you have never heard of this organization, but it is a very influential group, mostly volunteers. These groups of volunteers, in a very profound way, determine what healthcare buildings get built across this country.

I have served on many such bodies through the years, and, in various cycles of updates, I try to introduce some minimal environmental requirements into the documents. Every four years, many of these groups say no to these proposals, because, they say, their domain is the delivery of "safe" healthcare, not on environmental requirements. Environmental requirements, these organizations say, are not our job. These organizations tell themselves that they have the freedom to ignore environmental imperatives because it is somebody else's job to care about the environment.

And this narrative, that environmental sustainability is not our job, is a related, but different narrative that has to change. This narrative comes up over and over in so many ways. Just yesterday, I was working with a large national healthcare chain that is a leader in the environmental movement, and we were talking about what it would take to help them save energy and reduce their environmental footprint. They have a bunch of old hospital buildings scattered through the country, and they are even award winners from Gary's group. But the bulk of their buildings are terrible, and even this committed organization is struggling with how to find the money to make the most basic investments into energy efficiency. In the real world, most healthcare organizations are only interested in improving environmental performance if they can show a reasonably rapid rate of return. And, while there are case studies where this can occur, in the vast majority of real world cases, it is much harder than it looks.

In healthcare, the narrative is that environmental sustainability is "not my job", inside the organizations, and inside the allied organizations. It is this narrative you must change.

C.

My final story comes from another building codes organization. This organization deals with the air conditioning and ventilation systems for buildings. This particular organization has allowed me to serve on many of their teams, even though I am an electrical engineer. As a kind of outsider, I have the ability to sometimes question whether the emperor has clothes. This group makes its policy decisions usually as a consensus of experts, and, therefore, subject to all of the cognitive biases common to collective decision-making.

I am doing a project right now for Academy Health. We are working with them to do process engineering for the purpose of re-designing the way Health Services Research is accomplished. We are looking together at how questions are asked, how projects are funded, how research teams are selected, how research is conducted, and all the way through the process to the point at which policy makers try to use that research to make better decisions and organizations try to implement these findings. We are working with Academy Health to use Human-Centered Design to re-design the way this all works, and, I have been working on this while at the same time watching my ventilation friends make their decisions. As I watch these two processes in parallel, I wish I could train the ventilation decision makers to adopt even the most rudimentary of practices from this more rigorous way of making evidence-based policy.

One of our Academy Health members is both an architect and a practicing physician. He is rather less generous than I am in describing my industry's decision-making process with respect to regulations. We are challenged by lack of knowledge and training, but also by lack of data. As hard as it is to get funding for medical research, it is infinitely more difficult to fund needed research for buildings, and their ability to heal or to infect, and so, we are frequently forced to resort to anecdotal data from one case study (when we are lucky) or, more often, intuition. This is not the way to make decisions of such import.

We need to change the narrative that one piece of data from one study is enough to change policy. We, who design the rules by which the energy and water and food and waste systems are planned, designed, built, and operated, need a narrative that helps us to better access and use evidence, balancing the implications with at least some attempt at wisdom.

IV.

Today, the narrative is that there is a conflict between patient care and the environment.

Today, the narrative is that it is not the job of healthcare to care about the environment.

Today, the narrative is that one piece of data, magnified through a safety lens, is enough to impose new regulations that MIGHT have some impact of healing, but will definitely impoverish the global commons.

Twenty years ago, the IOM issued the report, "To Err is Human." In doing so, you created a narrative for the healthcare industry. It is narrative that, though it has not eliminated the problem, has created tremendous focus and energy working to do so.

The climate scientists tell us we have a decade to bend the climate curve to avoid the worst impacts of climate change.

It is time for a new healthcare narrative, and you have the power to deliver that narrative, just as you did twenty years ago.

So I leave you with Don Berwick's challenge; if not you, who? And if not now, when?