

WEBVTT

NOTE duration:"01:22:57"

NOTE recognizability:0.931

NOTE language:en-us

NOTE Confidence: 0.953671466666667

00:00:00.000 --> 00:00:01.750 Welcome everybody to the final

NOTE Confidence: 0.953671466666667

00:00:01.750 --> 00:00:03.966 evening ethics seminar at the Yale

NOTE Confidence: 0.953671466666667

00:00:03.966 --> 00:00:05.598 Program for Biomedical Ethics.

NOTE Confidence: 0.953671466666667

00:00:05.600 --> 00:00:06.596 The final one for this year.

NOTE Confidence: 0.953671466666667

00:00:06.600 --> 00:00:10.760 Of course we'll be back in in September,

NOTE Confidence: 0.953671466666667

00:00:10.760 --> 00:00:11.573 but for tonight,

NOTE Confidence: 0.953671466666667

00:00:11.573 --> 00:00:13.199 I want to introduce Doctor Sherman.

NOTE Confidence: 0.953671466666667

00:00:13.200 --> 00:00:14.984 But just before I do that to remind

NOTE Confidence: 0.953671466666667

00:00:14.984 --> 00:00:16.705 you folks who are here and you focus

NOTE Confidence: 0.953671466666667

00:00:16.705 --> 00:00:18.607 on zoom to let you know how it

NOTE Confidence: 0.953671466666667

00:00:18.607 --> 00:00:20.155 works is after a brief introduction,

NOTE Confidence: 0.953671466666667

00:00:20.160 --> 00:00:22.036 I'll turn it over to Doctor Sherman.

NOTE Confidence: 0.953671466666667

00:00:22.040 --> 00:00:24.994 She'll speak for 45 minutes plus minus.

NOTE Confidence: 0.953671466666667

00:00:25.000 --> 00:00:27.760 After that, we're going to have time for  
NOTE Confidence: 0.953671466666667

00:00:27.760 --> 00:00:29.987 some discussion questions you guys have.  
NOTE Confidence: 0.953671466666667

00:00:29.990 --> 00:00:31.350 And the folks on Zoom,  
NOTE Confidence: 0.953671466666667

00:00:31.350 --> 00:00:33.436 you can send questions in through  
NOTE Confidence: 0.953671466666667

00:00:33.436 --> 00:00:35.066 the Q&A portion of Zoom,  
NOTE Confidence: 0.953671466666667

00:00:35.070 --> 00:00:36.856 not through chat, but through Q&A.  
NOTE Confidence: 0.953671466666667

00:00:36.856 --> 00:00:40.328 I'll be reading those questions to to Jody  
NOTE Confidence: 0.953671466666667

00:00:40.328 --> 00:00:42.790 and we will, I'll moderate a session.  
NOTE Confidence: 0.953671466666667

00:00:42.790 --> 00:00:45.010 We'll have here a discussion and we'll  
NOTE Confidence: 0.953671466666667

00:00:45.010 --> 00:00:47.470 finish sometime between 6:00 and 6:30.  
NOTE Confidence: 0.953671466666667

00:00:47.470 --> 00:00:49.630 We'll see, Well, we won't go past 6:30,  
NOTE Confidence: 0.953671466666667

00:00:49.630 --> 00:00:50.990 we'll see how we do.  
NOTE Confidence: 0.953671466666667

00:00:50.990 --> 00:00:52.750 So with that said,  
NOTE Confidence: 0.953671466666667

00:00:52.750 --> 00:00:54.950 let me introduce tonight's speaker,  
NOTE Confidence: 0.953671466666667

00:00:54.950 --> 00:00:56.570 Jody Sherman is Associate Professor  
NOTE Confidence: 0.953671466666667

00:00:56.570 --> 00:00:58.190 of Anesthesiology at the Yale

NOTE Confidence: 0.953671466666667  
00:00:58.242 --> 00:00:59.190 School of Medicine.  
NOTE Confidence: 0.953671466666667  
00:00:59.190 --> 00:01:01.365 And associate professor of Epidemiology  
NOTE Confidence: 0.953671466666667  
00:01:01.365 --> 00:01:03.105 and Environmental Health Sciences  
NOTE Confidence: 0.953671466666667  
00:01:03.110 --> 00:01:04.690 and the founding director of  
NOTE Confidence: 0.953671466666667  
00:01:04.690 --> 00:01:06.270 the Yale Program on Healthcare,  
NOTE Confidence: 0.953671466666667  
00:01:06.270 --> 00:01:07.629 Environmental Sustainability in  
NOTE Confidence: 0.953671466666667  
00:01:07.629 --> 00:01:10.347 the Yale Center on Climate Change,  
NOTE Confidence: 0.953671466666667  
00:01:10.350 --> 00:01:11.070 and Health.  
NOTE Confidence: 0.953671466666667  
00:01:11.070 --> 00:01:13.230 Doctor Sherman also serves as the  
NOTE Confidence: 0.953671466666667  
00:01:13.230 --> 00:01:15.569 Medical Director for Yale New Haven  
NOTE Confidence: 0.953671466666667  
00:01:15.569 --> 00:01:17.509 Health Center for Sustainable Healthcare.  
NOTE Confidence: 0.953671466666667  
00:01:17.510 --> 00:01:19.014 She's an internationally recognized  
NOTE Confidence: 0.953671466666667  
00:01:19.014 --> 00:01:21.270 researcher in the emerging field of  
NOTE Confidence: 0.953671466666667  
00:01:21.323 --> 00:01:23.067 sustainability and clinical care.  
NOTE Confidence: 0.953671466666667  
00:01:23.070 --> 00:01:25.224 Her research interest is in life  
NOTE Confidence: 0.953671466666667

00:01:25.224 --> 00:01:26.660 cycle assessment of environmental  
NOTE Confidence: 0.953671466666667

00:01:26.714 --> 00:01:28.398 emissions human health impacts.  
NOTE Confidence: 0.953671466666667

00:01:28.400 --> 00:01:29.960 And economic impacts of drugs,  
NOTE Confidence: 0.953671466666667

00:01:29.960 --> 00:01:32.084 Devices, clinical care pathways,  
NOTE Confidence: 0.953671466666667

00:01:32.084 --> 00:01:33.677 and Health systems.  
NOTE Confidence: 0.953671466666667

00:01:33.680 --> 00:01:35.660 Her work seeks to establish  
NOTE Confidence: 0.953671466666667

00:01:35.660 --> 00:01:37.244 sustainability metrics paired with  
NOTE Confidence: 0.953671466666667

00:01:37.244 --> 00:01:39.555 health outcomes and costs to help  
NOTE Confidence: 0.953671466666667

00:01:39.555 --> 00:01:41.035 guide clinical decision making,  
NOTE Confidence: 0.953671466666667

00:01:41.040 --> 00:01:42.120 professional behaviors,  
NOTE Confidence: 0.953671466666667

00:01:42.120 --> 00:01:44.280 and organizational management toward  
NOTE Confidence: 0.953671466666667

00:01:44.280 --> 00:01:46.440 more ecologically sustainable practices.  
NOTE Confidence: 0.953671466666667

00:01:46.440 --> 00:01:48.480 To improve the quality, safety,  
NOTE Confidence: 0.953671466666667

00:01:48.480 --> 00:01:49.800 and value of clinical care,  
NOTE Confidence: 0.953671466666667

00:01:49.800 --> 00:01:52.480 and to protect public health.  
NOTE Confidence: 0.953671466666667

00:01:52.480 --> 00:01:54.144 She collaborates with environmental

NOTE Confidence: 0.953671466666667

00:01:54.144 --> 00:01:55.166 engineers, epidemiologists,

NOTE Confidence: 0.953671466666667

00:01:55.166 --> 00:01:56.984 toxicologists, health economists.

NOTE Confidence: 0.953671466666667

00:01:56.984 --> 00:01:58.196 Health administrators,

NOTE Confidence: 0.953671466666667

00:01:58.200 --> 00:02:00.300 health professionals and most

NOTE Confidence: 0.953671466666667

00:02:00.300 --> 00:02:02.720 importantly bioethicist tonight, right.

NOTE Confidence: 0.953671466666667

00:02:02.720 --> 00:02:04.400 Come on.

NOTE Confidence: 0.953671466666667

00:02:04.400 --> 00:02:07.217 And when I could go on the the her

NOTE Confidence: 0.953671466666667

00:02:07.217 --> 00:02:08.958 credentials are quite impressive

NOTE Confidence: 0.953671466666667

00:02:08.960 --> 00:02:11.438 and I just heard today that you

NOTE Confidence: 0.953671466666667

00:02:11.438 --> 00:02:13.906 were just made coeditor of the

NOTE Confidence: 0.953671466666667

00:02:13.906 --> 00:02:15.318 British Journal of Anesthesiology.

NOTE Confidence: 0.953671466666667

00:02:15.320 --> 00:02:15.719 Is that right?

NOTE Confidence: 0.9352219

00:02:17.800 --> 00:02:19.876 Of a special issue. Got you.

NOTE Confidence: 0.9352219

00:02:19.880 --> 00:02:21.560 Well that's not nothing. Okay.

NOTE Confidence: 0.9352219

00:02:21.560 --> 00:02:23.792 I just got this hot hot off the presses.

NOTE Confidence: 0.9352219

00:02:23.800 --> 00:02:25.312 But a little if I got a little wrong,  
NOTE Confidence: 0.9352219

00:02:25.320 --> 00:02:27.910 I apologize.  
NOTE Confidence: 0.9352219

00:02:27.910 --> 00:02:31.170 Jody trained at the Stanford University,  
NOTE Confidence: 0.9352219

00:02:31.170 --> 00:02:32.345 where she was a resident,  
NOTE Confidence: 0.9352219

00:02:32.350 --> 00:02:33.950 did a fellowship at University  
NOTE Confidence: 0.9352219

00:02:33.950 --> 00:02:35.550 of California at San Francisco.  
NOTE Confidence: 0.9352219

00:02:35.550 --> 00:02:37.626 She did her internship at Columbia  
NOTE Confidence: 0.9352219

00:02:37.630 --> 00:02:39.910 and received her MD at SUNY  
NOTE Confidence: 0.9352219

00:02:39.910 --> 00:02:41.430 Downstate College of Medicine.  
NOTE Confidence: 0.9352219

00:02:41.430 --> 00:02:42.590 So we're really fortunate,  
NOTE Confidence: 0.9352219

00:02:42.590 --> 00:02:44.647 and I'm a little bit embarrassed to  
NOTE Confidence: 0.9352219

00:02:44.647 --> 00:02:46.474 say that this is such a colossally  
NOTE Confidence: 0.9352219

00:02:46.474 --> 00:02:48.031 important topic and not one that  
NOTE Confidence: 0.9352219

00:02:48.031 --> 00:02:49.507 we've really addressed yet in the  
NOTE Confidence: 0.9352219

00:02:49.510 --> 00:02:51.062 program for biomedical ethics.  
NOTE Confidence: 0.9352219

00:02:51.062 --> 00:02:53.430 So I think, and this is on me,

NOTE Confidence: 0.9352219

00:02:53.430 --> 00:02:54.825 I think we're a little late to the party,

NOTE Confidence: 0.9352219

00:02:54.830 --> 00:02:56.516 but I'm glad to be here.

NOTE Confidence: 0.9352219

00:02:56.520 --> 00:02:57.474 And we are so pleased that

NOTE Confidence: 0.9352219

00:02:57.474 --> 00:02:58.519 you've made time for us tonight.

NOTE Confidence: 0.9352219

00:02:58.520 --> 00:02:59.320 Thanks a lot, Jody.

NOTE Confidence: 0.9402535

00:03:01.560 --> 00:03:01.650 Well,

NOTE Confidence: 0.946004008571429

00:03:08.590 --> 00:03:12.265 thanks so much for that kind introduction.

NOTE Confidence: 0.946004008571429

00:03:12.270 --> 00:03:13.110 I have disclosures,

NOTE Confidence: 0.946004008571429

00:03:13.110 --> 00:03:15.070 I do have grant funding from the

NOTE Confidence: 0.946004008571429

00:03:15.127 --> 00:03:17.227 Canadian Institutes of Health Research,

NOTE Confidence: 0.946004008571429

00:03:17.230 --> 00:03:19.372 Commonwealth Fund and I do serve

NOTE Confidence: 0.946004008571429

00:03:19.372 --> 00:03:21.524 as faculty for the Institute

NOTE Confidence: 0.946004008571429

00:03:21.524 --> 00:03:23.468 for Healthcare Improvement.

NOTE Confidence: 0.946004008571429

00:03:23.470 --> 00:03:25.270 So for learning objectives for today,

NOTE Confidence: 0.946004008571429

00:03:25.270 --> 00:03:27.412 I hope you'll be able to identify

NOTE Confidence: 0.946004008571429

00:03:27.412 --> 00:03:28.330 relationship between healthcare  
NOTE Confidence: 0.946004008571429

00:03:28.382 --> 00:03:29.750 pollution and disease burden,  
NOTE Confidence: 0.946004008571429

00:03:29.750 --> 00:03:32.100 summarize some of the latest  
NOTE Confidence: 0.946004008571429

00:03:32.100 --> 00:03:33.510 healthcare pollution findings.  
NOTE Confidence: 0.946004008571429

00:03:33.510 --> 00:03:33.947 Importantly,  
NOTE Confidence: 0.946004008571429

00:03:33.947 --> 00:03:36.569 discuss some ethical conflicts and hopefully  
NOTE Confidence: 0.946004008571429

00:03:36.569 --> 00:03:38.670 describe opportunities for investigation,  
NOTE Confidence: 0.946004008571429

00:03:38.670 --> 00:03:42.430 practice improvement and regulatory reform.  
NOTE Confidence: 0.946004008571429

00:03:42.430 --> 00:03:46.670 So like many people in this emerging space,  
NOTE Confidence: 0.946004008571429

00:03:46.670 --> 00:03:48.590 my interest started during my  
NOTE Confidence: 0.946004008571429

00:03:48.590 --> 00:03:50.837 residency training where was so much  
NOTE Confidence: 0.946004008571429

00:03:50.837 --> 00:03:53.159 fun to be able to do my specialty of  
NOTE Confidence: 0.946004008571429

00:03:53.227 --> 00:03:55.557 anesthesiology take care of patients.  
NOTE Confidence: 0.946004008571429

00:03:55.560 --> 00:03:56.440 And at the same time,  
NOTE Confidence: 0.946004008571429

00:03:56.440 --> 00:03:58.190 it was blatantly obvious that  
NOTE Confidence: 0.946004008571429

00:03:58.190 --> 00:03:59.240 there's a problem.



NOTE Confidence: 0.946004008571429  
00:03:59.240 --> 00:04:00.680 We're using so much stuff,  
NOTE Confidence: 0.946004008571429  
00:04:00.680 --> 00:04:03.000 we're wasting so much stuff used and unused.  
NOTE Confidence: 0.946004008571429  
00:04:03.000 --> 00:04:05.178 Throwing it away must be causing  
NOTE Confidence: 0.946004008571429  
00:04:05.178 --> 00:04:07.600 some harm to the environment.  
NOTE Confidence: 0.946004008571429  
00:04:07.600 --> 00:04:10.036 And so really it's I asked a  
NOTE Confidence: 0.946004008571429  
00:04:10.036 --> 00:04:12.617 question what is best practice for  
NOTE Confidence: 0.946004008571429  
00:04:12.617 --> 00:04:15.037 both patients and public health,  
NOTE Confidence: 0.946004008571429  
00:04:15.040 --> 00:04:17.455 and there was little to no information  
NOTE Confidence: 0.946004008571429  
00:04:17.455 --> 00:04:19.880 which started me on my career journey.  
NOTE Confidence: 0.946004008571429  
00:04:19.880 --> 00:04:21.546 And so I thought it would help  
NOTE Confidence: 0.946004008571429  
00:04:21.546 --> 00:04:23.623 me to review some of the core  
NOTE Confidence: 0.946004008571429  
00:04:23.623 --> 00:04:24.598 principles of bioethics.  
NOTE Confidence: 0.946004008571429  
00:04:24.600 --> 00:04:25.865 I actually was a philosophy  
NOTE Confidence: 0.946004008571429  
00:04:25.865 --> 00:04:26.877 major as an undergrad,  
NOTE Confidence: 0.946004008571429  
00:04:26.880 --> 00:04:28.560 but it's been quite some time since.  
NOTE Confidence: 0.946004008571429

00:04:28.560 --> 00:04:31.758 I delve into these core concepts,  
NOTE Confidence: 0.946004008571429

00:04:31.760 --> 00:04:33.594 Of course applying them to medical ethics.  
NOTE Confidence: 0.946004008571429

00:04:33.600 --> 00:04:36.036 But beneficence a duty to help the  
NOTE Confidence: 0.946004008571429

00:04:36.036 --> 00:04:38.344 patient advance their own good and to  
NOTE Confidence: 0.946004008571429

00:04:38.344 --> 00:04:41.160 act in their pay in their best interest,  
NOTE Confidence: 0.946004008571429

00:04:41.160 --> 00:04:41.450 autonomy,  
NOTE Confidence: 0.946004008571429

00:04:41.450 --> 00:04:43.480 they do need to honor the patient's  
NOTE Confidence: 0.946004008571429

00:04:43.480 --> 00:04:45.486 right to make their own decisions  
NOTE Confidence: 0.946004008571429

00:04:45.486 --> 00:04:46.854 and to be selfdetermining.  
NOTE Confidence: 0.946004008571429

00:04:46.860 --> 00:04:48.125 Non malfeasance or the duty  
NOTE Confidence: 0.946004008571429

00:04:48.125 --> 00:04:50.139 to do no harm to the patient,  
NOTE Confidence: 0.946004008571429

00:04:50.140 --> 00:04:51.460 which is really what we most  
NOTE Confidence: 0.946004008571429

00:04:51.460 --> 00:04:52.982 think about when we think about  
NOTE Confidence: 0.946004008571429

00:04:52.982 --> 00:04:54.457 the Hippocratic Oath and justice.  
NOTE Confidence: 0.946004008571429

00:04:54.460 --> 00:04:57.450 A duty to be fair and how the care is  
NOTE Confidence: 0.946004008571429

00:04:57.538 --> 00:05:00.856 provided and how resources are allocated.

NOTE Confidence: 0.946004008571429  
00:05:00.860 --> 00:05:03.300 What about public health ethics?  
NOTE Confidence: 0.946004008571429  
00:05:03.300 --> 00:05:04.540 This is something I definitely  
NOTE Confidence: 0.946004008571429  
00:05:04.540 --> 00:05:06.140 was not taught in medical school.  
NOTE Confidence: 0.946004008571429  
00:05:06.140 --> 00:05:09.094 There are some very variabilities to it.  
NOTE Confidence: 0.946004008571429  
00:05:09.100 --> 00:05:11.805 It distinguishes itself by emphasizing  
NOTE Confidence: 0.946004008571429  
00:05:11.805 --> 00:05:14.510 communitarian values and social justice.  
NOTE Confidence: 0.946004008571429  
00:05:14.510 --> 00:05:15.790 And balancing individual autonomy  
NOTE Confidence: 0.946004008571429  
00:05:15.790 --> 00:05:16.750 and the economy.  
NOTE Confidence: 0.946004008571429  
00:05:16.750 --> 00:05:17.821 Good remains central,  
NOTE Confidence: 0.946004008571429  
00:05:17.821 --> 00:05:19.963 but does not begin with emphasis  
NOTE Confidence: 0.946004008571429  
00:05:19.963 --> 00:05:21.710 on individual interests.  
NOTE Confidence: 0.946004008571429  
00:05:21.710 --> 00:05:24.510 So beneficence of potential benefits  
NOTE Confidence: 0.946004008571429  
00:05:24.510 --> 00:05:27.618 to individuals and society should be  
NOTE Confidence: 0.946004008571429  
00:05:27.618 --> 00:05:29.788 maximized and potential harms minimized.  
NOTE Confidence: 0.946004008571429  
00:05:29.790 --> 00:05:31.805 Non malfeasance includes harm to  
NOTE Confidence: 0.946004008571429

00:05:31.805 --> 00:05:33.820 both patients and public health  
NOTE Confidence: 0.946004008571429

00:05:33.884 --> 00:05:35.268 and should be avoided.  
NOTE Confidence: 0.946004008571429

00:05:35.270 --> 00:05:36.618 Autonomy, duty to honor,  
NOTE Confidence: 0.946004008571429

00:05:36.618 --> 00:05:38.005 rights of self, determination.  
NOTE Confidence: 0.946004008571429

00:05:38.005 --> 00:05:40.630 But this includes members of the community,  
NOTE Confidence: 0.946004008571429

00:05:40.630 --> 00:05:42.270 not just the patients.  
NOTE Confidence: 0.946004008571429

00:05:42.270 --> 00:05:43.090 And justice,  
NOTE Confidence: 0.946004008571429

00:05:43.090 --> 00:05:46.168 maximizing public utility of all affected,  
NOTE Confidence: 0.946004008571429

00:05:46.170 --> 00:05:49.116 which raises questions of equality versus  
NOTE Confidence: 0.946004008571429

00:05:49.116 --> 00:05:52.490 equity and intergenerational rights.  
NOTE Confidence: 0.946004008571429

00:05:52.490 --> 00:05:54.440 And I start thinking further  
NOTE Confidence: 0.946004008571429

00:05:54.440 --> 00:05:57.125 because I work very intently in  
NOTE Confidence: 0.946004008571429

00:05:57.125 --> 00:05:58.449 healthcare administration.  
NOTE Confidence: 0.946004008571429

00:05:58.450 --> 00:06:00.070 Corporations are entities too.  
NOTE Confidence: 0.946004008571429

00:06:00.070 --> 00:06:04.330 Or so does, say, our 17th Amendment.  
NOTE Confidence: 0.946004008571429

00:06:04.330 --> 00:06:06.790 I actually had a hard time

NOTE Confidence: 0.946004008571429  
00:06:06.790 --> 00:06:08.430 finding these same principles.  
NOTE Confidence: 0.946004008571429  
00:06:08.430 --> 00:06:09.958 Applied to corporate ethics,  
NOTE Confidence: 0.946004008571429  
00:06:09.958 --> 00:06:12.446 But they're there, just in different forms.  
NOTE Confidence: 0.946004008571429  
00:06:12.446 --> 00:06:14.450 But it's defined as application of  
NOTE Confidence: 0.946004008571429  
00:06:14.507 --> 00:06:16.394 ethical values to business behavior  
NOTE Confidence: 0.946004008571429  
00:06:16.394 --> 00:06:19.166 relative to both conduct of individuals  
NOTE Confidence: 0.946004008571429  
00:06:19.166 --> 00:06:21.867 and the organization as a whole.  
NOTE Confidence: 0.946962463333333  
00:06:21.870 --> 00:06:23.245 Applies to any and all  
NOTE Confidence: 0.946962463333333  
00:06:23.245 --> 00:06:24.345 aspects of business conduct,  
NOTE Confidence: 0.946962463333333  
00:06:24.350 --> 00:06:26.642 from boardroom strategies and how companies  
NOTE Confidence: 0.946962463333333  
00:06:26.642 --> 00:06:28.990 treat their employees, how they treat  
NOTE Confidence: 0.946962463333333  
00:06:28.990 --> 00:06:30.990 their producers and their suppliers.  
NOTE Confidence: 0.946962463333333  
00:06:30.990 --> 00:06:32.725 Their sales techniques and accounting  
NOTE Confidence: 0.946962463333333  
00:06:32.725 --> 00:06:35.249 practices and so try to stretch them  
NOTE Confidence: 0.946962463333333  
00:06:35.249 --> 00:06:37.427 to the same principles of beneficence,  
NOTE Confidence: 0.946962463333333

00:06:37.430 --> 00:06:41.270 so that maximizing benefits to shareholders.

NOTE Confidence: 0.9469624633333333

00:06:41.270 --> 00:06:42.830 But I would ask what timeline

NOTE Confidence: 0.9469624633333333

00:06:42.830 --> 00:06:43.870 because there's a difference.

NOTE Confidence: 0.9469624633333333

00:06:43.870 --> 00:06:45.190 If it's a short timeline,

NOTE Confidence: 0.9469624633333333

00:06:45.190 --> 00:06:47.549 then great is good for your shareholders.

NOTE Confidence: 0.9469624633333333

00:06:47.550 --> 00:06:49.030 If it's a longer timeline,

NOTE Confidence: 0.9469624633333333

00:06:49.030 --> 00:06:51.616 sustainability or business is also the

NOTE Confidence: 0.9469624633333333

00:06:51.616 --> 00:06:54.149 same as sustainability of the planet.

NOTE Confidence: 0.9469624633333333

00:06:54.150 --> 00:06:56.621 And I think there are differences between

NOTE Confidence: 0.9469624633333333

00:06:56.621 --> 00:06:58.729 publicly and privately held corporations.

NOTE Confidence: 0.9469624633333333

00:06:58.730 --> 00:06:58.975 Autonomy.

NOTE Confidence: 0.9469624633333333

00:06:58.975 --> 00:07:00.690 I couldn't really make a stretch here.

NOTE Confidence: 0.9469624633333333

00:07:00.690 --> 00:07:02.965 Maybe the audience has some ideas now.

NOTE Confidence: 0.9469624633333333

00:07:02.970 --> 00:07:04.730 Not non malfeasance, of course.

NOTE Confidence: 0.9469624633333333

00:07:04.730 --> 00:07:06.810 Duty to do no harm to the company,

NOTE Confidence: 0.9469624633333333

00:07:06.810 --> 00:07:08.906 whether it's reputation, finances,

NOTE Confidence: 0.9469624633333333  
00:07:08.906 --> 00:07:11.526 harm being sustainability as well.  
NOTE Confidence: 0.9469624633333333  
00:07:11.530 --> 00:07:12.433 And then justice.  
NOTE Confidence: 0.9469624633333333  
00:07:12.433 --> 00:07:14.540 I already elucidated some of those on  
NOTE Confidence: 0.9469624633333333  
00:07:14.598 --> 00:07:16.643 how it's applied, including to fair,  
NOTE Confidence: 0.9469624633333333  
00:07:16.643 --> 00:07:18.127 fair treatment of employees,  
NOTE Confidence: 0.9469624633333333  
00:07:18.130 --> 00:07:19.762 whether it's wage promotions,  
NOTE Confidence: 0.9469624633333333  
00:07:19.762 --> 00:07:21.352 diversity, equity, inclusion,  
NOTE Confidence: 0.9469624633333333  
00:07:21.352 --> 00:07:24.898 being fair with the customer suppliers.  
NOTE Confidence: 0.9469624633333333  
00:07:24.900 --> 00:07:27.434 And to the community and I think  
NOTE Confidence: 0.9469624633333333  
00:07:27.434 --> 00:07:29.679 we might even consider structing  
NOTE Confidence: 0.9469624633333333  
00:07:29.679 --> 00:07:32.374 that to ecosystems in nature.  
NOTE Confidence: 0.9469624633333333  
00:07:32.380 --> 00:07:34.005 Of course there's a concept  
NOTE Confidence: 0.9469624633333333  
00:07:34.005 --> 00:07:34.980 of environmental ethics  
NOTE Confidence: 0.9352219  
00:07:37.780 --> 00:07:40.825 and how we define that I think  
NOTE Confidence: 0.9352219  
00:07:40.825 --> 00:07:44.139 is is up for conversation.  
NOTE Confidence: 0.9352219

00:07:44.140 --> 00:07:47.540 So, but why sustainability in  
NOTE Confidence: 0.9352219

00:07:47.540 --> 00:07:49.579 healthcare pollution is the  
NOTE Confidence: 0.9352219

00:07:49.579 --> 00:07:51.844 leading cause of morbidity and  
NOTE Confidence: 0.9352219

00:07:51.844 --> 00:07:53.618 mortality responsible for 9,000,000.  
NOTE Confidence: 0.9352219

00:07:53.618 --> 00:07:55.412 Premature deaths annually,  
NOTE Confidence: 0.9352219

00:07:55.412 --> 00:07:58.930 or 16% of all premature deaths,  
NOTE Confidence: 0.9352219

00:07:58.930 --> 00:08:01.570 is due to pollution.  
NOTE Confidence: 0.9352219

00:08:01.570 --> 00:08:03.610 Healthcare itself is a leading  
NOTE Confidence: 0.9352219

00:08:03.610 --> 00:08:05.242 emitter of environmental pollutants.  
NOTE Confidence: 0.9352219

00:08:05.250 --> 00:08:07.690 It's against our mission to do no harm.  
NOTE Confidence: 0.9352219

00:08:07.690 --> 00:08:08.810 Reducing healthcare pollution can  
NOTE Confidence: 0.9352219

00:08:08.810 --> 00:08:10.210 improve the triple bottom line,  
NOTE Confidence: 0.9352219

00:08:10.210 --> 00:08:12.116 the best care for the most  
NOTE Confidence: 0.9352219

00:08:12.116 --> 00:08:13.846 patients at the least cost.  
NOTE Confidence: 0.9352219

00:08:13.850 --> 00:08:15.914 And why I got involved in this work  
NOTE Confidence: 0.9352219

00:08:15.914 --> 00:08:18.570 as a healthcare professional is that



NOTE Confidence: 0.9352219

00:08:18.570 --> 00:08:21.170 engaging each other in this industry.

NOTE Confidence: 0.94931066

00:08:23.600 --> 00:08:25.592 Really can be key for public

NOTE Confidence: 0.94931066

00:08:25.592 --> 00:08:26.920 policy and societal transformation.

NOTE Confidence: 0.94931066

00:08:26.920 --> 00:08:28.745 Healthcare is an enormous part

NOTE Confidence: 0.94931066

00:08:28.745 --> 00:08:30.770 of our economy. We are well

NOTE Confidence: 0.94931066

00:08:30.770 --> 00:08:32.320 respected members of the community.

NOTE Confidence: 0.94931066

00:08:32.320 --> 00:08:33.950 Now we do talk a lot or I you'll hear

NOTE Confidence: 0.94931066

00:08:34.000 --> 00:08:35.680 me talking a lot about climate change,

NOTE Confidence: 0.94931066

00:08:35.680 --> 00:08:39.400 carbon dioxide equivalents greenhouse gases,

NOTE Confidence: 0.94931066

00:08:39.400 --> 00:08:42.424 these this is from Rockstrom

NOTE Confidence: 0.94931066

00:08:42.424 --> 00:08:44.776 and Stefan Whitney.

NOTE Confidence: 0.94931066

00:08:44.776 --> 00:08:48.325 The describes the planetary ecosystem in

NOTE Confidence: 0.94931066

00:08:48.325 --> 00:08:52.170 terms of boundaries and 9 dimensions.

NOTE Confidence: 0.94931066

00:08:52.170 --> 00:08:55.626 Where we are outside the planet's

NOTE Confidence: 0.94931066

00:08:55.626 --> 00:08:57.770 ability to regenerate itself,

NOTE Confidence: 0.94931066

00:08:57.770 --> 00:08:58.962 threatening life on Earth.  
NOTE Confidence: 0.94931066

00:08:58.962 --> 00:09:01.610 Climate change is just one of those concerns,  
NOTE Confidence: 0.94931066

00:09:01.610 --> 00:09:03.210 of course, and biodiversity loss,  
NOTE Confidence: 0.94931066

00:09:03.210 --> 00:09:05.730 which is closely related to land use?  
NOTE Confidence: 0.94931066

00:09:05.730 --> 00:09:07.676 We are in the midst of the  
NOTE Confidence: 0.94931066

00:09:07.676 --> 00:09:09.290 sixth great mass extinction,  
NOTE Confidence: 0.94931066

00:09:09.290 --> 00:09:11.404 probably heard calls for 30 by 30,  
NOTE Confidence: 0.94931066

00:09:11.410 --> 00:09:14.615 or protecting 1/3 of untouched  
NOTE Confidence: 0.94931066

00:09:14.615 --> 00:09:17.179 natural systems by 2030.  
NOTE Confidence: 0.94931066

00:09:17.180 --> 00:09:17.984 And of course,  
NOTE Confidence: 0.94931066

00:09:17.984 --> 00:09:19.056 nitrogen and phosphorus loading,  
NOTE Confidence: 0.94931066

00:09:19.060 --> 00:09:20.604 for example, through fertilization.  
NOTE Confidence: 0.94931066

00:09:20.604 --> 00:09:23.180 So for, excuse me,  
NOTE Confidence: 0.94931066

00:09:23.180 --> 00:09:24.198 agricultural fertilization.  
NOTE Confidence: 0.94931066

00:09:24.198 --> 00:09:27.761 So we're already well beyond the planet's  
NOTE Confidence: 0.94931066

00:09:27.761 --> 00:09:30.128 ability to regenerate itself in these

NOTE Confidence: 0.94931066  
00:09:30.128 --> 00:09:32.580 areas and really have to act fast.  
NOTE Confidence: 0.94931066  
00:09:32.580 --> 00:09:35.112 Gray are areas where we don't  
NOTE Confidence: 0.94931066  
00:09:35.112 --> 00:09:37.148 have enough scientific data yet.  
NOTE Confidence: 0.94931066  
00:09:37.148 --> 00:09:39.158 Doesn't mean we're not outside  
NOTE Confidence: 0.94931066  
00:09:39.158 --> 00:09:40.340 the boundaries.  
NOTE Confidence: 0.94931066  
00:09:40.340 --> 00:09:41.552 But importantly,  
NOTE Confidence: 0.94931066  
00:09:41.552 --> 00:09:44.532 we can reduce these problems  
NOTE Confidence: 0.94931066  
00:09:44.532 --> 00:09:46.740 by providing less care.  
NOTE Confidence: 0.94931066  
00:09:46.740 --> 00:09:48.660 That's not the goal.  
NOTE Confidence: 0.94931066  
00:09:48.660 --> 00:09:49.140 Obviously,  
NOTE Confidence: 0.94931066  
00:09:49.140 --> 00:09:51.540 we want to provide better care  
NOTE Confidence: 0.94931066  
00:09:51.540 --> 00:09:54.124 and more care for the most people.  
NOTE Confidence: 0.94931066  
00:09:54.124 --> 00:09:56.611 And so there's this concept of the  
NOTE Confidence: 0.94931066  
00:09:56.611 --> 00:09:58.306 social foundation that we want  
NOTE Confidence: 0.94931066  
00:09:58.306 --> 00:10:00.453 to be above the the foundation,  
NOTE Confidence: 0.94931066

00:10:00.453 --> 00:10:04.140 so no one's left behind but below.

NOTE Confidence: 0.94931066

00:10:04.140 --> 00:10:06.940 The ecological system is so-called

NOTE Confidence: 0.94931066

00:10:06.940 --> 00:10:08.060 donut economics.

NOTE Confidence: 0.94931066

00:10:08.060 --> 00:10:10.028 So even those talk will be

NOTE Confidence: 0.94931066

00:10:10.028 --> 00:10:11.340 mostly about climate change.

NOTE Confidence: 0.94931066

00:10:11.340 --> 00:10:13.405 I would be neglectful if we didn't

NOTE Confidence: 0.94931066

00:10:13.405 --> 00:10:14.795 talk somewhat about plastics.

NOTE Confidence: 0.94931066

00:10:14.795 --> 00:10:16.255 Most plastic is actually

NOTE Confidence: 0.94931066

00:10:16.255 --> 00:10:17.730 derived from fossil fuels,

NOTE Confidence: 0.94931066

00:10:17.730 --> 00:10:20.514 so their sources and their business

NOTE Confidence: 0.94931066

00:10:20.514 --> 00:10:22.370 interests are very similar.

NOTE Confidence: 0.94931066

00:10:22.370 --> 00:10:24.125 If we consider if we

NOTE Confidence: 0.94931066

00:10:24.125 --> 00:10:25.529 continue business as usual,

NOTE Confidence: 0.94931066

00:10:25.530 --> 00:10:27.726 there will be more plastic volume

NOTE Confidence: 0.94931066

00:10:27.726 --> 00:10:30.288 than fish in the ocean by 2050.

NOTE Confidence: 0.94931066

00:10:30.290 --> 00:10:31.265 And it's not just what's

NOTE Confidence: 0.94931066

00:10:31.265 --> 00:10:32.045 floating on the surface.

NOTE Confidence: 0.94931066

00:10:32.050 --> 00:10:34.090 If you've heard of the great

NOTE Confidence: 0.94931066

00:10:34.090 --> 00:10:36.425 gyres or the garbage patches or,

NOTE Confidence: 0.94931066

00:10:36.425 --> 00:10:37.255 you know,

NOTE Confidence: 0.94931066

00:10:37.255 --> 00:10:38.500 there was a.

NOTE Confidence: 0.94931066

00:10:38.500 --> 00:10:41.083 Very well known 18 year old who developed a

NOTE Confidence: 0.94931066

00:10:41.083 --> 00:10:43.378 device that safely skims a surface ocean.

NOTE Confidence: 0.94931066

00:10:43.380 --> 00:10:45.935 That's not going to solve this issue.

NOTE Confidence: 0.94931066

00:10:45.940 --> 00:10:48.635 There's plastic at the bottom of the

NOTE Confidence: 0.94931066

00:10:48.635 --> 00:10:51.546 ocean and in fact there's no place

NOTE Confidence: 0.94931066

00:10:51.546 --> 00:10:54.060 that's untouched by plastic pollution.

NOTE Confidence: 0.94931066

00:10:54.060 --> 00:10:56.860 And of course the fossil fuel drive plastic,

NOTE Confidence: 0.94931066

00:10:56.860 --> 00:10:59.676 which is about 95% or more of all

NOTE Confidence: 0.94931066

00:10:59.676 --> 00:11:01.091 our plastic doesn't go anywhere.

NOTE Confidence: 0.94931066

00:11:01.091 --> 00:11:02.513 It just breaks down into smaller

NOTE Confidence: 0.94931066

00:11:02.513 --> 00:11:03.419 and smaller pieces.  
NOTE Confidence: 0.94931066

00:11:03.420 --> 00:11:05.520 And so we've got micro  
NOTE Confidence: 0.94931066

00:11:05.520 --> 00:11:06.780 nanoplastic pollution problem.  
NOTE Confidence: 0.94931066

00:11:06.780 --> 00:11:08.100 I literally can't keep up  
NOTE Confidence: 0.94931066

00:11:08.100 --> 00:11:09.420 with the evidence on this.  
NOTE Confidence: 0.94931066

00:11:09.420 --> 00:11:12.740 Every time I do a slide a talk,  
NOTE Confidence: 0.94931066

00:11:12.740 --> 00:11:15.260 I end up adding more and more  
NOTE Confidence: 0.94931066

00:11:15.260 --> 00:11:16.728 on to this list.  
NOTE Confidence: 0.94931066

00:11:16.728 --> 00:11:18.930 Plastic is ubiquitous in our tap  
NOTE Confidence: 0.94931066

00:11:19.010 --> 00:11:21.859 water and table salt around the world.  
NOTE Confidence: 0.94931066

00:11:21.860 --> 00:11:23.328 Found in human stool,  
NOTE Confidence: 0.94931066

00:11:23.328 --> 00:11:25.530 Found in wild animal stools and  
NOTE Confidence: 0.94931066

00:11:25.600 --> 00:11:27.540 remote places on the planet.  
NOTE Confidence: 0.94931066

00:11:27.540 --> 00:11:29.857 Found in human blood, Found in placentas.  
NOTE Confidence: 0.94931066

00:11:29.860 --> 00:11:31.344 Found in breast milk,  
NOTE Confidence: 0.94931066

00:11:31.344 --> 00:11:33.855 found in sperm, Found in lungs.

NOTE Confidence: 0.94931066

00:11:33.855 --> 00:11:36.180 And now the nanoplastics are

NOTE Confidence: 0.94931066

00:11:36.180 --> 00:11:39.312 found in the brain have breached

NOTE Confidence: 0.94931066

00:11:39.312 --> 00:11:41.420 the blood brain barrier.

NOTE Confidence: 0.928668785714286

00:11:41.420 --> 00:11:44.535 This is being called the plasticine error.

NOTE Confidence: 0.928668785714286

00:11:44.540 --> 00:11:49.058 And it's not just obstructive concerns.

NOTE Confidence: 0.928668785714286

00:11:49.060 --> 00:11:52.738 These plastics are laden with chemicals,

NOTE Confidence: 0.928668785714286

00:11:52.740 --> 00:11:57.080 and so there's a cocktail

NOTE Confidence: 0.928668785714286

00:11:57.080 --> 00:11:58.816 chemical contaminants,

NOTE Confidence: 0.928668785714286

00:11:58.820 --> 00:12:02.228 many of which are known neurotoxins.

NOTE Confidence: 0.928668785714286

00:12:02.230 --> 00:12:04.459 Endocrine disruptors, carcinogens.

NOTE Confidence: 0.928668785714286

00:12:04.459 --> 00:12:08.174 And so we are constantly

NOTE Confidence: 0.928668785714286

00:12:08.174 --> 00:12:10.989 being exposed to all this.

NOTE Confidence: 0.928668785714286

00:12:10.990 --> 00:12:14.516 And so industrial chemicals

NOTE Confidence: 0.928668785714286

00:12:14.516 --> 00:12:17.294 are not regulated the same as

NOTE Confidence: 0.928668785714286

00:12:17.294 --> 00:12:19.350 pharmaceuticals and pharmaceuticals.

NOTE Confidence: 0.928668785714286

00:12:19.350 --> 00:12:22.087 You you have to demonstrate safety before

NOTE Confidence: 0.928668785714286

00:12:22.087 --> 00:12:24.310 releasing something to the marketplace.

NOTE Confidence: 0.928668785714286

00:12:24.310 --> 00:12:26.266 The opposite true is of chemicals.

NOTE Confidence: 0.928668785714286

00:12:26.270 --> 00:12:28.050 There's more than 100,000

NOTE Confidence: 0.928668785714286

00:12:28.050 --> 00:12:29.830 industrial chemicals in existence.

NOTE Confidence: 0.928668785714286

00:12:29.830 --> 00:12:32.413 There is no requirement to prove safety

NOTE Confidence: 0.928668785714286

00:12:32.413 --> 00:12:34.655 before releasing them into the marketplace.

NOTE Confidence: 0.928668785714286

00:12:34.655 --> 00:12:38.750 The the trouble is that with 100,

NOTE Confidence: 0.928668785714286

00:12:38.750 --> 00:12:41.150 you know, 100,000 chemicals out there,

NOTE Confidence: 0.928668785714286

00:12:41.150 --> 00:12:42.630 how do you prove harm?

NOTE Confidence: 0.928668785714286

00:12:42.630 --> 00:12:44.910 It's a it's the same exact

NOTE Confidence: 0.928668785714286

00:12:44.910 --> 00:12:47.030 story as a tobacco story,

NOTE Confidence: 0.928668785714286

00:12:47.030 --> 00:12:48.518 and there's been a movement toward

NOTE Confidence: 0.928668785714286

00:12:48.518 --> 00:12:49.262 the precautionary principle,

NOTE Confidence: 0.928668785714286

00:12:49.270 --> 00:12:52.306 which is prove proving safety first

NOTE Confidence: 0.928668785714286

00:12:52.306 --> 00:12:55.450 before releasing to the marketplace.



NOTE Confidence: 0.928668785714286  
00:12:55.450 --> 00:12:56.930 And then the healthcare sector,  
NOTE Confidence: 0.928668785714286  
00:12:56.930 --> 00:12:58.490 I never thought about this in my training,  
NOTE Confidence: 0.928668785714286  
00:12:58.490 --> 00:13:01.058 but the healthcare sector is a  
NOTE Confidence: 0.928668785714286  
00:13:01.058 --> 00:13:02.770 leading purchaser of chemicals.  
NOTE Confidence: 0.928668785714286  
00:13:02.770 --> 00:13:04.594 On the right is an image from the  
NOTE Confidence: 0.928668785714286  
00:13:04.594 --> 00:13:06.197 famous Body Burden study from  
NOTE Confidence: 0.928668785714286  
00:13:06.197 --> 00:13:07.649 the environmental working Group.  
NOTE Confidence: 0.928668785714286  
00:13:07.650 --> 00:13:12.168 This started the whole biomonitoring field.  
NOTE Confidence: 0.928668785714286  
00:13:12.170 --> 00:13:14.210 There was A at the time.  
NOTE Confidence: 0.928668785714286  
00:13:14.210 --> 00:13:16.883 This is now, gosh, at least 15 years ago,  
NOTE Confidence: 0.928668785714286  
00:13:16.890 --> 00:13:18.490 if not actually more than 20 years ago.  
NOTE Confidence: 0.928668785714286  
00:13:18.490 --> 00:13:21.472 I'm dating myself a very small study  
NOTE Confidence: 0.928668785714286  
00:13:21.472 --> 00:13:24.420 looking at new board newborn cord.  
NOTE Confidence: 0.928668785714286  
00:13:24.420 --> 00:13:27.720 Samples across the United States  
NOTE Confidence: 0.928668785714286  
00:13:27.720 --> 00:13:29.980 for 267 chemicals of concern.  
NOTE Confidence: 0.928668785714286

00:13:29.980 --> 00:13:31.548 Out of those 100,000,  
NOTE Confidence: 0.928668785714286

00:13:31.548 --> 00:13:33.020 virtually every single chemical  
NOTE Confidence: 0.928668785714286

00:13:33.020 --> 00:13:35.226 is found in every single one  
NOTE Confidence: 0.928668785714286

00:13:35.226 --> 00:13:36.736 of those blood cord samples.  
NOTE Confidence: 0.928668785714286

00:13:36.740 --> 00:13:38.196 So in other words,  
NOTE Confidence: 0.928668785714286

00:13:38.196 --> 00:13:40.016 babies are being born polluted.  
NOTE Confidence: 0.928668785714286

00:13:40.020 --> 00:13:42.465 There's a massive experiment being  
NOTE Confidence: 0.928668785714286

00:13:42.465 --> 00:13:46.379 conducted on all of us without consent.  
NOTE Confidence: 0.928668785714286

00:13:46.380 --> 00:13:48.414 So I am going to shift to climate change.  
NOTE Confidence: 0.928668785714286

00:13:48.420 --> 00:13:50.340 It will be the bulk of this talk.  
NOTE Confidence: 0.928668785714286

00:13:50.340 --> 00:13:55.625 Climate change is called a health emergency.  
NOTE Confidence: 0.928668785714286

00:13:55.630 --> 00:13:56.680 An urgent action.  
NOTE Confidence: 0.928668785714286

00:13:56.680 --> 00:13:59.470 There's still a window where we can act.  
NOTE Confidence: 0.928668785714286

00:13:59.470 --> 00:14:02.630 Urgent action is required to secure a fair,  
NOTE Confidence: 0.928668785714286

00:14:02.630 --> 00:14:04.706 equitable and livable future for all.  
NOTE Confidence: 0.928668785714286

00:14:04.710 --> 00:14:06.670 It's not that we're going to go away,

NOTE Confidence: 0.928668785714286  
00:14:06.670 --> 00:14:08.455 but civilization will look very  
NOTE Confidence: 0.928668785714286  
00:14:08.455 --> 00:14:10.710 differently if we don't change things.  
NOTE Confidence: 0.928668785714286  
00:14:10.710 --> 00:14:14.912 We're already seeing harm from 1.2 degrees  
NOTE Confidence: 0.928668785714286  
00:14:14.912 --> 00:14:17.796 average centigrade surface temperature  
NOTE Confidence: 0.928668785714286  
00:14:17.796 --> 00:14:21.550 change compared to preindustrial baseline.  
NOTE Confidence: 0.928668785714286  
00:14:21.550 --> 00:14:24.850 So if we'll get historic emissions.  
NOTE Confidence: 0.928668785714286  
00:14:24.850 --> 00:14:26.149 Business as usual.  
NOTE Confidence: 0.928668785714286  
00:14:26.149 --> 00:14:28.872 We're seeing a four to five  
NOTE Confidence: 0.928668785714286  
00:14:28.872 --> 00:14:30.768 degree centigrade average change,  
NOTE Confidence: 0.928668785714286  
00:14:30.770 --> 00:14:33.528 which is not compatible with human life.  
NOTE Confidence: 0.928668785714286  
00:14:33.530 --> 00:14:35.375 Our current policies to mitigate  
NOTE Confidence: 0.928668785714286  
00:14:35.375 --> 00:14:37.610 bring us between 3:00 and 4:00.  
NOTE Confidence: 0.928668785714286  
00:14:37.610 --> 00:14:41.088 Pledges get us somewhere between 2.6 and 3.2,  
NOTE Confidence: 0.928668785714286  
00:14:41.088 --> 00:14:42.486 the Paris agreement,  
NOTE Confidence: 0.928668785714286  
00:14:42.490 --> 00:14:45.112 so even though there was global  
NOTE Confidence: 0.928668785714286

00:14:45.112 --> 00:14:46.860 consensus on signing this.  
NOTE Confidence: 0.928668785714286

00:14:46.860 --> 00:14:48.545 Not all national policies actually  
NOTE Confidence: 0.928668785714286

00:14:48.545 --> 00:14:49.893 get us to that.  
NOTE Confidence: 0.928668785714286

00:14:49.900 --> 00:14:50.654 And really,  
NOTE Confidence: 0.928668785714286

00:14:50.654 --> 00:14:52.916 the scientific community says we need  
NOTE Confidence: 0.928668785714286

00:14:52.916 --> 00:14:55.455 to limit warming to 1 1/2 degrees  
NOTE Confidence: 0.928668785714286

00:14:55.455 --> 00:14:58.137 centigrade in order to avert the worst  
NOTE Confidence: 0.928668785714286

00:14:58.137 --> 00:15:00.813 predicted harms to civilization this century.  
NOTE Confidence: 0.928668785714286

00:15:00.820 --> 00:15:02.136 And in fact, this is possible than  
NOTE Confidence: 0.928668785714286

00:15:02.136 --> 00:15:03.619 the laws and chemistry and physics.  
NOTE Confidence: 0.928668785714286

00:15:03.620 --> 00:15:05.690 It requires unprecedented  
NOTE Confidence: 0.928668785714286

00:15:05.690 --> 00:15:09.140 scale and timeline of action.  
NOTE Confidence: 0.928668785714286

00:15:09.140 --> 00:15:09.980 And in fact,  
NOTE Confidence: 0.928668785714286

00:15:09.980 --> 00:15:11.100 there's there's some really  
NOTE Confidence: 0.928668785714286

00:15:11.100 --> 00:15:12.470 great lessons from the COVID.  
NOTE Confidence: 0.928668785714286

00:15:12.470 --> 00:15:13.170 19 pandemic,

NOTE Confidence: 0.928668785714286  
00:15:13.170 --> 00:15:15.270 where the global community came together,  
NOTE Confidence: 0.928668785714286  
00:15:15.270 --> 00:15:17.358 shared scientific information,  
NOTE Confidence: 0.928668785714286  
00:15:17.358 --> 00:15:18.750 shared resources.  
NOTE Confidence: 0.91313638  
00:15:18.750 --> 00:15:19.830 We actually can do this.  
NOTE Confidence: 0.91313638  
00:15:19.830 --> 00:15:23.064 This is a matter of political will.  
NOTE Confidence: 0.91313638  
00:15:23.070 --> 00:15:24.474 And so nobody's death certificate is  
NOTE Confidence: 0.91313638  
00:15:24.474 --> 00:15:25.989 going to say climate change on it.  
NOTE Confidence: 0.91313638  
00:15:25.990 --> 00:15:28.228 So direct effects of climate change,  
NOTE Confidence: 0.91313638  
00:15:28.230 --> 00:15:30.030 including more storms and floods,  
NOTE Confidence: 0.91313638  
00:15:30.030 --> 00:15:31.692 droughts, heat waves,  
NOTE Confidence: 0.91313638  
00:15:31.692 --> 00:15:33.908 wildfires, these are wildfires.  
NOTE Confidence: 0.91313638  
00:15:33.910 --> 00:15:36.549 These are direct effects of climate change.  
NOTE Confidence: 0.91313638  
00:15:36.550 --> 00:15:38.970 Indirect effects are things  
NOTE Confidence: 0.91313638  
00:15:38.970 --> 00:15:41.390 like poor water quality,  
NOTE Confidence: 0.91313638  
00:15:41.390 --> 00:15:46.830 air pollution and physical harm  
NOTE Confidence: 0.91313638

00:15:46.830 --> 00:15:51.452 through from storms and then physical  
NOTE Confidence: 0.91313638

00:15:51.452 --> 00:15:53.438 displacement of populations,  
NOTE Confidence: 0.91313638

00:15:53.438 --> 00:15:55.424 causing political instability,  
NOTE Confidence: 0.91313638

00:15:55.430 --> 00:15:57.550 which we're actually already seeing.  
NOTE Confidence: 0.91313638

00:15:57.550 --> 00:16:00.190 And not everyone is affected equally,  
NOTE Confidence: 0.91313638

00:16:00.190 --> 00:16:04.636 so those most vulnerable are often.  
NOTE Confidence: 0.91313638

00:16:04.640 --> 00:16:07.125 Harmed the worst and the  
NOTE Confidence: 0.91313638

00:16:07.125 --> 00:16:09.113 least capable of adapting,  
NOTE Confidence: 0.91313638

00:16:09.120 --> 00:16:11.479 and so some of the known health  
NOTE Confidence: 0.91313638

00:16:11.479 --> 00:16:13.759 impacts from all of these include,  
NOTE Confidence: 0.91313638

00:16:13.760 --> 00:16:16.880 of course, mental illness,  
NOTE Confidence: 0.91313638

00:16:16.880 --> 00:16:21.234 problems with food and and water nutrition,  
NOTE Confidence: 0.91313638

00:16:21.240 --> 00:16:23.859 worsening allergy seasons,  
NOTE Confidence: 0.91313638

00:16:23.859 --> 00:16:25.605 worsening cardiovascular  
NOTE Confidence: 0.91313638

00:16:25.605 --> 00:16:26.824 serovascular disease,  
NOTE Confidence: 0.91313638

00:16:26.824 --> 00:16:28.200 of course infectious diseases,

NOTE Confidence: 0.91313638

00:16:28.200 --> 00:16:28.998 and so forth.

NOTE Confidence: 0.9620576333333333

00:16:31.270 --> 00:16:33.550 Climate change also impacts health systems.

NOTE Confidence: 0.9620576333333333

00:16:33.550 --> 00:16:35.674 In addition to seeing altered healthcare

NOTE Confidence: 0.9620576333333333

00:16:35.674 --> 00:16:37.550 patterns of increased disease burdens,

NOTE Confidence: 0.9620576333333333

00:16:37.550 --> 00:16:40.616 there's structural risks to our our

NOTE Confidence: 0.9620576333333333

00:16:40.616 --> 00:16:43.606 buildings or utilities or physical

NOTE Confidence: 0.9620576333333333

00:16:43.606 --> 00:16:47.026 infrastructure supply chain interruptions.

NOTE Confidence: 0.9620576333333333

00:16:47.030 --> 00:16:49.400 There's a lot of similarities

NOTE Confidence: 0.9620576333333333

00:16:49.400 --> 00:16:51.565 with with the COVID-19 pandemic,

NOTE Confidence: 0.9620576333333333

00:16:51.565 --> 00:16:56.478 and a lot of lessons to be taken as well.

NOTE Confidence: 0.9620576333333333

00:16:56.480 --> 00:16:58.076 And in fact, we're already saying this.

NOTE Confidence: 0.9620576333333333

00:16:58.080 --> 00:17:02.292 There's increased numbers of billion dollar

NOTE Confidence: 0.9620576333333333

00:17:02.292 --> 00:17:05.040 storms in the United States every year,

NOTE Confidence: 0.9620576333333333

00:17:05.040 --> 00:17:07.956 both from wildfires and from hurricanes,

NOTE Confidence: 0.9620576333333333

00:17:07.960 --> 00:17:10.160 flooding. These are already dated.

NOTE Confidence: 0.9620576333333333

00:17:10.160 --> 00:17:12.400 Hard to even keep up with it all on the left,  
NOTE Confidence: 0.9620576333333333

00:17:12.400 --> 00:17:13.952 of course. Hurricane Sandy,  
NOTE Confidence: 0.9620576333333333

00:17:13.952 --> 00:17:17.440 which we felt certainly here in New Haven.  
NOTE Confidence: 0.9620576333333333

00:17:17.440 --> 00:17:19.316 I live just off the Grand St.  
NOTE Confidence: 0.9620576333333333

00:17:19.320 --> 00:17:20.145 at the time,  
NOTE Confidence: 0.9620576333333333

00:17:20.145 --> 00:17:21.520 right on the Quinnipiac River.  
NOTE Confidence: 0.9620576333333333

00:17:21.520 --> 00:17:23.949 My whole street was flooded and was  
NOTE Confidence: 0.9620576333333333

00:17:23.949 --> 00:17:26.059 evacuated by the National Guard.  
NOTE Confidence: 0.9620576333333333

00:17:26.060 --> 00:17:27.824 And of course you're seeing some  
NOTE Confidence: 0.9620576333333333

00:17:27.824 --> 00:17:29.700 famous images here of NYU Langone  
NOTE Confidence: 0.9620576333333333

00:17:29.700 --> 00:17:31.295 being evacuated on the right,  
NOTE Confidence: 0.9620576333333333

00:17:31.300 --> 00:17:34.018 of course the campfires which leveled  
NOTE Confidence: 0.9620576333333333

00:17:34.020 --> 00:17:38.140 the the the Paradise Fire also  
NOTE Confidence: 0.9620576333333333

00:17:38.140 --> 00:17:40.729 leveled the Adventist Health Center.  
NOTE Confidence: 0.9620576333333333

00:17:40.729 --> 00:17:42.474 You're seeing it being evacuated  
NOTE Confidence: 0.9620576333333333

00:17:42.474 --> 00:17:44.740 literally an hour before it caught fire.



NOTE Confidence: 0.9620576333333333  
00:17:44.740 --> 00:17:47.146 So we're already seeing these disruptions.  
NOTE Confidence: 0.9620576333333333  
00:17:47.150 --> 00:17:48.038 And then, of course,  
NOTE Confidence: 0.9620576333333333  
00:17:48.038 --> 00:17:48.704 supply chain disruptions.  
NOTE Confidence: 0.9620576333333333  
00:17:48.710 --> 00:17:50.554 Hurricane Maria, most famously,  
NOTE Confidence: 0.9620576333333333  
00:17:50.554 --> 00:17:52.859 people across the United States  
NOTE Confidence: 0.9620576333333333  
00:17:52.859 --> 00:17:55.147 were aware of saline shortages,  
NOTE Confidence: 0.9620576333333333  
00:17:55.150 --> 00:17:57.070 but also there were drug shortages.  
NOTE Confidence: 0.9620576333333333  
00:17:57.070 --> 00:18:01.165 This led to patient safety concerns from  
NOTE Confidence: 0.9620576333333333  
00:18:01.165 --> 00:18:03.814 substituting less desirable medications,  
NOTE Confidence: 0.9620576333333333  
00:18:03.814 --> 00:18:05.190 changing protocols,  
NOTE Confidence: 0.9620576333333333  
00:18:05.190 --> 00:18:06.950 cancellation of elective cases  
NOTE Confidence: 0.9620576333333333  
00:18:06.950 --> 00:18:08.710 due to these shortages.  
NOTE Confidence: 0.9620576333333333  
00:18:08.710 --> 00:18:10.286 And then of course,  
NOTE Confidence: 0.9620576333333333  
00:18:10.286 --> 00:18:12.650 my specialty of anesthesiology was also.  
NOTE Confidence: 0.9620576333333333  
00:18:12.650 --> 00:18:13.805 Specifically affected the  
NOTE Confidence: 0.9620576333333333

00:18:13.805 --> 00:18:15.730 small vials if you pivocain,  
NOTE Confidence: 0.9620576333333333

00:18:15.730 --> 00:18:18.418 which are used for spinal anesthesia  
NOTE Confidence: 0.9620576333333333

00:18:18.418 --> 00:18:20.763 for commonly used for emergency  
NOTE Confidence: 0.9620576333333333

00:18:20.763 --> 00:18:23.528 C sections were completely out.  
NOTE Confidence: 0.9620576333333333

00:18:23.530 --> 00:18:24.042 Ironically,  
NOTE Confidence: 0.9620576333333333

00:18:24.042 --> 00:18:27.674 we had to substitute 30ML vials which  
NOTE Confidence: 0.9620576333333333

00:18:27.674 --> 00:18:30.702 we cannot easily safely split split  
NOTE Confidence: 0.9620576333333333

00:18:30.702 --> 00:18:33.167 between patients without creating new  
NOTE Confidence: 0.9620576333333333

00:18:33.167 --> 00:18:36.063 systems and so we had this paradox of  
NOTE Confidence: 0.9620576333333333

00:18:36.063 --> 00:18:39.688 throwing away 99% of this drug when  
NOTE Confidence: 0.9620576333333333

00:18:39.688 --> 00:18:42.754 we had shortages of the smaller one.  
NOTE Confidence: 0.9620576333333333

00:18:42.760 --> 00:18:45.448 And so Healthcare is a major  
NOTE Confidence: 0.9620576333333333

00:18:45.448 --> 00:18:47.240 contributor to this problem.  
NOTE Confidence: 0.9620576333333333

00:18:47.240 --> 00:18:49.100 Our organizations run 24/7,  
NOTE Confidence: 0.9620576333333333

00:18:49.100 --> 00:18:50.960 they have hightech therapeutic  
NOTE Confidence: 0.9620576333333333

00:18:50.960 --> 00:18:52.600 and diagnostic equipment.

NOTE Confidence: 0.9620576333333333  
00:18:52.600 --> 00:18:55.465 Our industry is very unique  
NOTE Confidence: 0.9620576333333333  
00:18:55.465 --> 00:18:57.757 requirements for infection prevention.  
NOTE Confidence: 0.9620576333333333  
00:18:57.760 --> 00:18:59.680 We have a regulatory complexity  
NOTE Confidence: 0.9620576333333333  
00:18:59.680 --> 00:19:01.600 and business models that Dr.  
NOTE Confidence: 0.9620576333333333  
00:19:01.600 --> 00:19:04.288 wasteful unnecessary utilization of  
NOTE Confidence: 0.9620576333333333  
00:19:04.288 --> 00:19:08.264 resources and we have a culture of excess  
NOTE Confidence: 0.9620576333333333  
00:19:08.264 --> 00:19:10.970 and where disposability is normalized.  
NOTE Confidence: 0.9620576333333333  
00:19:10.970 --> 00:19:11.522 And of course,  
NOTE Confidence: 0.9620576333333333  
00:19:11.522 --> 00:19:12.442 we have a social mission  
NOTE Confidence: 0.9620576333333333  
00:19:12.442 --> 00:19:13.650 to our individual patients.  
NOTE Confidence: 0.9620576333333333  
00:19:13.650 --> 00:19:15.015 So we feel that we're doing good  
NOTE Confidence: 0.9620576333333333  
00:19:15.015 --> 00:19:16.355 in the world and we are doing  
NOTE Confidence: 0.9620576333333333  
00:19:16.355 --> 00:19:17.730 good at the world in the world.  
NOTE Confidence: 0.9620576333333333  
00:19:17.730 --> 00:19:19.170 But what about public health?  
NOTE Confidence: 0.9620576333333333  
00:19:19.170 --> 00:19:21.658 What about the harm we're causing at the  
NOTE Confidence: 0.9620576333333333

00:19:21.658 --> 00:19:24.090 same time that we're helping patients?  
NOTE Confidence: 0.9620576333333333

00:19:24.090 --> 00:19:26.160 And so this is our work with The Lancet  
NOTE Confidence: 0.9620576333333333

00:19:26.160 --> 00:19:27.809 Countdown in health and Climate change.  
NOTE Confidence: 0.9620576333333333

00:19:27.810 --> 00:19:28.458 Globally,  
NOTE Confidence: 0.9620576333333333

00:19:28.458 --> 00:19:32.192 the healthcare sector emits 5.2% of  
NOTE Confidence: 0.9620576333333333

00:19:32.192 --> 00:19:35.047 total global greenhouse gas emissions.  
NOTE Confidence: 0.9620576333333333

00:19:35.050 --> 00:19:36.450 Healthcare is an enormous part  
NOTE Confidence: 0.9620576333333333

00:19:36.450 --> 00:19:38.436 of our economy, 10% globally,  
NOTE Confidence: 0.9620576333333333

00:19:38.436 --> 00:19:40.728 20% of United States.  
NOTE Confidence: 0.9620576333333333

00:19:40.730 --> 00:19:42.385 1/4 of these global emissions  
NOTE Confidence: 0.9620576333333333

00:19:42.385 --> 00:19:44.530 come just from the United States,  
NOTE Confidence: 0.9620576333333333

00:19:44.530 --> 00:19:46.750 even though we're only we only  
NOTE Confidence: 0.9620576333333333

00:19:46.750 --> 00:19:49.890 have 4% of the population,  
NOTE Confidence: 0.9620576333333333

00:19:49.890 --> 00:19:52.277 so we have the highest per capita  
NOTE Confidence: 0.9620576333333333

00:19:52.277 --> 00:19:54.088 healthcare greenhouse gases in the world.  
NOTE Confidence: 0.9620576333333333

00:19:54.090 --> 00:19:55.404 Now if we had the best

NOTE Confidence: 0.9620576333333333  
00:19:55.404 --> 00:19:56.280 healthcare system in the  
NOTE Confidence: 0.9273994  
00:19:56.330 --> 00:19:58.342 world, that might somehow justify  
NOTE Confidence: 0.9273994  
00:19:58.342 --> 00:20:00.170 those emissions, but we don't.  
NOTE Confidence: 0.9273994  
00:20:00.170 --> 00:20:02.090 1/4 of services globally in 1/3  
NOTE Confidence: 0.9273994  
00:20:02.090 --> 00:20:04.655 in the United States are deemed  
NOTE Confidence: 0.9273994  
00:20:04.655 --> 00:20:06.825 inappropriate or low value wasteful.  
NOTE Confidence: 0.9273994  
00:20:06.830 --> 00:20:09.014 Half the world Box likes lacks  
NOTE Confidence: 0.9273994  
00:20:09.014 --> 00:20:11.110 access to essential health services.  
NOTE Confidence: 0.9273994  
00:20:11.110 --> 00:20:12.834 In the United States.  
NOTE Confidence: 0.9273994  
00:20:12.834 --> 00:20:16.750 Half of Americans are on or under insured,  
NOTE Confidence: 0.9273994  
00:20:16.750 --> 00:20:17.854 11% totally uninsured.  
NOTE Confidence: 0.9273994  
00:20:17.854 --> 00:20:21.046 And we can see if we plot per  
NOTE Confidence: 0.9273994  
00:20:21.046 --> 00:20:23.194 capita healthcare greenhouse gas  
NOTE Confidence: 0.9273994  
00:20:23.194 --> 00:20:25.342 emissions against some measure  
NOTE Confidence: 0.9273994  
00:20:25.342 --> 00:20:27.950 of healthcare system quality.  
NOTE Confidence: 0.9273994

00:20:27.950 --> 00:20:29.340 We've used many measures now

NOTE Confidence: 0.9273994

00:20:29.340 --> 00:20:31.070 and the story is the same.

NOTE Confidence: 0.9273994

00:20:31.070 --> 00:20:33.461 Here you're seeing the I HME's

NOTE Confidence: 0.9273994

00:20:33.461 --> 00:20:35.816 Healthcare Access and Quality Index.

NOTE Confidence: 0.9273994

00:20:35.820 --> 00:20:37.689 You can see the United States is

NOTE Confidence: 0.9273994

00:20:37.689 --> 00:20:39.630 by no means the best performing

NOTE Confidence: 0.9273994

00:20:39.630 --> 00:20:41.415 health system in the world,

NOTE Confidence: 0.9273994

00:20:41.420 --> 00:20:43.180 despite having the highest

NOTE Confidence: 0.9273994

00:20:43.180 --> 00:20:44.500 greenhouse gas emissions.

NOTE Confidence: 0.9273994

00:20:44.500 --> 00:20:46.936 But there's a good news in this

NOTE Confidence: 0.9273994

00:20:46.936 --> 00:20:49.160 story here and that there is

NOTE Confidence: 0.9273994

00:20:49.160 --> 00:20:51.505 room to improve and reduce our

NOTE Confidence: 0.9273994

00:20:51.505 --> 00:20:53.165 emissions while maintaining or

NOTE Confidence: 0.9273994

00:20:53.165 --> 00:20:54.940 even improving healthcare quality.

NOTE Confidence: 0.9273994

00:20:54.940 --> 00:20:57.652 To break even point is around

NOTE Confidence: 0.9273994

00:20:57.652 --> 00:20:59.460 400 kilograms per capita,

NOTE Confidence: 0.9273994

00:20:59.460 --> 00:21:01.692 and so right now we're about four times that.

NOTE Confidence: 0.9273994

00:21:01.700 --> 00:21:05.700 But there there is a positive story here.

NOTE Confidence: 0.9273994

00:21:05.700 --> 00:21:07.692 But if we look at the disease

NOTE Confidence: 0.9273994

00:21:07.692 --> 00:21:08.820 burden from healthcare,

NOTE Confidence: 0.9273994

00:21:08.820 --> 00:21:11.145 to help trying to contextualize

NOTE Confidence: 0.9273994

00:21:11.145 --> 00:21:12.540 the scope here,

NOTE Confidence: 0.9273994

00:21:12.540 --> 00:21:14.380 we've estimated that healthcare pollution,

NOTE Confidence: 0.9273994

00:21:14.380 --> 00:21:16.155 both greenhouse gas and non

NOTE Confidence: 0.9273994

00:21:16.155 --> 00:21:17.220 greenhouse gas pollution,

NOTE Confidence: 0.9273994

00:21:17.220 --> 00:21:19.580 together cause an estimated 388,000

NOTE Confidence: 0.9273994

00:21:19.580 --> 00:21:23.020 disability just of life here's lost annually,

NOTE Confidence: 0.9273994

00:21:23.020 --> 00:21:24.852 especially from particulate matter.

NOTE Confidence: 0.9273994

00:21:24.852 --> 00:21:27.600 And the biggest source of particulate

NOTE Confidence: 0.9273994

00:21:27.671 --> 00:21:29.961 matter and greenhouse gas emissions

NOTE Confidence: 0.9273994

00:21:29.961 --> 00:21:32.251 emissions is fossil fuel combustions.

NOTE Confidence: 0.9273994

00:21:32.260 --> 00:21:35.660 Clean up our energy and we'll do a lot here.

NOTE Confidence: 0.9273994

00:21:35.660 --> 00:21:36.868 This harm is similar.

NOTE Confidence: 0.9273994

00:21:36.868 --> 00:21:38.680 Magnitude is death due to medical

NOTE Confidence: 0.9273994

00:21:38.740 --> 00:21:40.588 errors as first reported by the

NOTE Confidence: 0.9273994

00:21:40.588 --> 00:21:42.440 Institute of Medicine in 1999 in

NOTE Confidence: 0.9273994

00:21:42.440 --> 00:21:44.300 the famous to Errors Human report,

NOTE Confidence: 0.9273994

00:21:44.300 --> 00:21:46.740 which found 44 to

NOTE Confidence: 0.9301902

00:21:48.980 --> 00:21:51.388 44 to 98,000.

NOTE Confidence: 0.9301902

00:21:51.388 --> 00:21:54.480 I believe it was premature deaths

NOTE Confidence: 0.9301902

00:21:54.480 --> 00:21:56.460 due to medical errors or ACT.

NOTE Confidence: 0.9301902

00:21:56.460 --> 00:21:58.335 The actuaries say it's about

NOTE Confidence: 0.9301902

00:21:58.335 --> 00:22:00.210 10 years of life lost.

NOTE Confidence: 0.9301902

00:22:00.210 --> 00:22:01.250 For each of those deaths,

NOTE Confidence: 0.9301902

00:22:01.250 --> 00:22:02.804 and if you multiply that by ten,

NOTE Confidence: 0.9301902

00:22:02.810 --> 00:22:05.169 we're in the same order of magnitude

NOTE Confidence: 0.9301902

00:22:05.169 --> 00:22:06.918 as harm from healthcare pollution.



NOTE Confidence: 0.9301902

00:22:06.918 --> 00:22:09.410 And if there's no other take away,

NOTE Confidence: 0.9301902

00:22:09.410 --> 00:22:11.400 it's this that pollution prevention

NOTE Confidence: 0.9301902

00:22:11.400 --> 00:22:14.050 is the new patient safety movement.

NOTE Confidence: 0.9301902

00:22:14.050 --> 00:22:15.538 Everything we do in Healthcare is

NOTE Confidence: 0.9301902

00:22:15.538 --> 00:22:17.290 through the lens of patient safety.

NOTE Confidence: 0.9301902

00:22:17.290 --> 00:22:19.130 Since this report came out,

NOTE Confidence: 0.9301902

00:22:19.130 --> 00:22:21.321 we thought we were doing good beforehand

NOTE Confidence: 0.9301902

00:22:21.321 --> 00:22:24.330 and we learned not Harm is just as big

NOTE Confidence: 0.9301902

00:22:24.330 --> 00:22:26.646 from healthcare pollution and it cannot

NOTE Confidence: 0.9301902

00:22:26.646 --> 00:22:29.260 be ignored and in order to impact.

NOTE Confidence: 0.9301902

00:22:29.260 --> 00:22:31.122 You have to know where there's emissions

NOTE Confidence: 0.9301902

00:22:31.122 --> 00:22:33.532 coming from and several studies including

NOTE Confidence: 0.9301902

00:22:33.532 --> 00:22:36.340 our own paint a similar picture.

NOTE Confidence: 0.9301902

00:22:36.340 --> 00:22:37.868 About 2/3 of healthcare

NOTE Confidence: 0.9301902

00:22:37.868 --> 00:22:39.778 come from the supply chain.

NOTE Confidence: 0.9301902

00:22:39.780 --> 00:22:42.628 The goods and services that we use to  
NOTE Confidence: 0.9301902

00:22:42.628 --> 00:22:45.960 deliver care about 5% for anesthetic gases  
NOTE Confidence: 0.9301902

00:22:45.960 --> 00:22:48.580 and pressurized metered dose inhalers.  
NOTE Confidence: 0.9301902

00:22:48.580 --> 00:22:51.082 Building energy and transportation are are  
NOTE Confidence: 0.9301902

00:22:51.082 --> 00:22:54.237 other big areas but the biggest one here.  
NOTE Confidence: 0.9301902

00:22:54.240 --> 00:22:56.320 Is the supply chain,  
NOTE Confidence: 0.9301902

00:22:56.320 --> 00:22:58.400 especially pharmaceuticals and chemicals,  
NOTE Confidence: 0.9301902

00:22:58.400 --> 00:23:01.598 medical devices and supplies and food,  
NOTE Confidence: 0.9301902

00:23:01.600 --> 00:23:03.712 and the two ways to impact  
NOTE Confidence: 0.9301902

00:23:03.712 --> 00:23:05.120 or mitigate these emissions.  
NOTE Confidence: 0.9301902

00:23:05.120 --> 00:23:07.088 One is to address waster and  
NOTE Confidence: 0.9301902

00:23:07.088 --> 00:23:08.400 efficiency in the system.  
NOTE Confidence: 0.9301902

00:23:08.400 --> 00:23:09.975 Clinicians, administrators, regulators.  
NOTE Confidence: 0.9301902

00:23:09.975 --> 00:23:12.600 We control consumption of resource.  
NOTE Confidence: 0.9301902

00:23:12.600 --> 00:23:15.162 The other big way to reduce emissions  
NOTE Confidence: 0.9301902

00:23:15.162 --> 00:23:18.274 is to use stuff and services with

NOTE Confidence: 0.9301902

00:23:18.274 --> 00:23:20.694 less embodied emissions in them.

NOTE Confidence: 0.9301902

00:23:20.700 --> 00:23:21.055 Manufacturers,

NOTE Confidence: 0.9301902

00:23:21.055 --> 00:23:22.475 regulators they control will

NOTE Confidence: 0.9301902

00:23:22.475 --> 00:23:23.540 go to marketplace,

NOTE Confidence: 0.9301902

00:23:23.540 --> 00:23:25.544 although we have some agency and

NOTE Confidence: 0.9301902

00:23:25.544 --> 00:23:27.939 some of the things that we select.

NOTE Confidence: 0.9301902

00:23:27.940 --> 00:23:29.396 So I'm going to shift gears and

NOTE Confidence: 0.9301902

00:23:29.396 --> 00:23:30.864 talk about the problem with

NOTE Confidence: 0.9301902

00:23:30.864 --> 00:23:32.058 healthcare acquired infections.

NOTE Confidence: 0.9301902

00:23:32.060 --> 00:23:34.377 This is one of the harms that

NOTE Confidence: 0.9301902

00:23:34.377 --> 00:23:36.819 it is our duty to prevent.

NOTE Confidence: 0.9301902

00:23:36.820 --> 00:23:38.670 There are about 700,000 healthcare

NOTE Confidence: 0.9301902

00:23:38.670 --> 00:23:40.520 acquired infections annually in acute

NOTE Confidence: 0.9301902

00:23:40.578 --> 00:23:42.559 care hospitals in the United States and

NOTE Confidence: 0.9301902

00:23:42.559 --> 00:23:44.848 it's the number one adverse event globally.

NOTE Confidence: 0.9301902

00:23:44.850 --> 00:23:47.570 About 75,000 premature deaths annually,  
NOTE Confidence: 0.9301902

00:23:47.570 --> 00:23:50.042 the United States causing costing between  
NOTE Confidence: 0.9301902

00:23:50.042 --> 00:23:54.969 6 and \$7 billion from excessive care.  
NOTE Confidence: 0.9301902

00:23:54.970 --> 00:23:57.010 And this data is already old,  
NOTE Confidence: 0.9301902

00:23:57.010 --> 00:23:59.032 so I would imagine it's even  
NOTE Confidence: 0.9301902

00:23:59.032 --> 00:24:00.043 larger than that.  
NOTE Confidence: 0.9301902

00:24:00.050 --> 00:24:01.770 It is our duty, obviously,  
NOTE Confidence: 0.9301902

00:24:01.770 --> 00:24:04.625 to prevent harm from healthcare  
NOTE Confidence: 0.9301902

00:24:04.625 --> 00:24:05.767 required infections.  
NOTE Confidence: 0.9301902

00:24:05.770 --> 00:24:06.223 Unfortunately,  
NOTE Confidence: 0.9301902

00:24:06.223 --> 00:24:08.941 this is driving a trend toward  
NOTE Confidence: 0.9301902

00:24:08.941 --> 00:24:11.280 excessive use of single use  
NOTE Confidence: 0.9301902

00:24:11.280 --> 00:24:13.525 disposal devices and drug waste.  
NOTE Confidence: 0.9301902

00:24:13.530 --> 00:24:16.810 And anyone who's in the clinical care spaces  
NOTE Confidence: 0.9301902

00:24:16.810 --> 00:24:19.687 knows exactly what I'm talking about here.  
NOTE Confidence: 0.9301902

00:24:19.690 --> 00:24:21.746 So I'm going to give you an example

NOTE Confidence: 0.9301902

00:24:21.746 --> 00:24:23.930 from the perioperative space,

NOTE Confidence: 0.9301902

00:24:23.930 --> 00:24:26.330 although this is just one type of infection,

NOTE Confidence: 0.9301902

00:24:26.330 --> 00:24:27.350 surgical site infection,

NOTE Confidence: 0.9301902

00:24:27.350 --> 00:24:29.730 we go back a couple 100 years.

NOTE Confidence: 0.9301902

00:24:29.730 --> 00:24:30.930 If you had a major surgery,

NOTE Confidence: 0.9301902

00:24:30.930 --> 00:24:32.218 you had about 95.

NOTE Confidence: 0.9301902

00:24:32.218 --> 00:24:34.150 Percent chance of getting an infection.

NOTE Confidence: 0.9301902

00:24:34.150 --> 00:24:36.988 About a 40% chance of survival.

NOTE Confidence: 0.9301902

00:24:36.990 --> 00:24:38.838 Along comes my hero is somewhat wise

NOTE Confidence: 0.9301902

00:24:38.838 --> 00:24:41.068 and then of course pastor and lister.

NOTE Confidence: 0.9301902

00:24:41.070 --> 00:24:43.860 So germ theory.

NOTE Confidence: 0.9301902

00:24:43.860 --> 00:24:47.112 Of course Lou and Hook in the

NOTE Confidence: 0.9301902

00:24:47.112 --> 00:24:49.808 microscope and and the ability to see

NOTE Confidence: 0.9301902

00:24:49.808 --> 00:24:52.260 those terms and to do pasteurization

NOTE Confidence: 0.9301902

00:24:52.260 --> 00:24:54.940 have aseptic antiseptic techniques

NOTE Confidence: 0.9301902

00:24:54.940 --> 00:24:58.015 and most important things that have  
NOTE Confidence: 0.9301902

00:24:58.015 --> 00:25:00.145 happened in the history of medicine.  
NOTE Confidence: 0.9301902

00:25:00.150 --> 00:25:03.190 To decrease infections and  
NOTE Confidence: 0.9301902

00:25:03.190 --> 00:25:04.710 increase survivability,  
NOTE Confidence: 0.9301902

00:25:04.710 --> 00:25:06.078 the next blip you see here  
NOTE Confidence: 0.9301902

00:25:06.078 --> 00:25:06.990 in the curves is  
NOTE Confidence: 0.925047263913043

00:25:07.052 --> 00:25:08.702 from the introduction of antibiotics  
NOTE Confidence: 0.925047263913043

00:25:08.702 --> 00:25:11.149 between World War One and World War Two,  
NOTE Confidence: 0.925047263913043

00:25:11.150 --> 00:25:14.426 the next greatest invention  
NOTE Confidence: 0.925047263913043

00:25:14.426 --> 00:25:17.006 in the history of medicine.  
NOTE Confidence: 0.925047263913043

00:25:17.010 --> 00:25:19.746 And so now you're seeing as we refine  
NOTE Confidence: 0.925047263913043

00:25:19.746 --> 00:25:21.660 our antibiotics and treatments over  
NOTE Confidence: 0.925047263913043

00:25:21.660 --> 00:25:26.410 time or asymptotically approaching 0,  
NOTE Confidence: 0.925047263913043

00:25:26.410 --> 00:25:28.170 and now you have less than a 5%  
NOTE Confidence: 0.925047263913043

00:25:28.170 --> 00:25:29.710 chance of getting infected and  
NOTE Confidence: 0.925047263913043

00:25:29.710 --> 00:25:31.490 greater than 95% chance of survival.

NOTE Confidence: 0.925047263913043  
00:25:31.490 --> 00:25:33.540 But we have a problem here if  
NOTE Confidence: 0.925047263913043  
00:25:33.540 --> 00:25:35.248 you blow up that portion of the  
NOTE Confidence: 0.925047263913043  
00:25:35.248 --> 00:25:37.248 curb as we're trying to get to 0,  
NOTE Confidence: 0.925047263913043  
00:25:37.250 --> 00:25:39.494 we're throwing more and more and  
NOTE Confidence: 0.925047263913043  
00:25:39.494 --> 00:25:42.566 more stuff trying to get to 0 and  
NOTE Confidence: 0.925047263913043  
00:25:42.566 --> 00:25:44.446 we're ignoring the increasing harm,  
NOTE Confidence: 0.925047263913043  
00:25:44.450 --> 00:25:45.719 the increasing indirect.  
NOTE Confidence: 0.925047263913043  
00:25:45.719 --> 00:25:47.834 Burden of disease from all  
NOTE Confidence: 0.925047263913043  
00:25:47.834 --> 00:25:49.590 the stuff we're using,  
NOTE Confidence: 0.925047263913043  
00:25:49.590 --> 00:25:52.146 all the stuff we're throwing away.  
NOTE Confidence: 0.925047263913043  
00:25:52.150 --> 00:25:53.830 And we really have to ask this question,  
NOTE Confidence: 0.925047263913043  
00:25:53.830 --> 00:25:56.870 is IF0 healthcare acquired infections?  
NOTE Confidence: 0.925047263913043  
00:25:56.870 --> 00:25:59.798 Are they realistic and we cannot  
NOTE Confidence: 0.925047263913043  
00:25:59.798 --> 00:26:01.750 ignore the indirect damages.  
NOTE Confidence: 0.925047263913043  
00:26:01.750 --> 00:26:03.775 Now of course causes of  
NOTE Confidence: 0.925047263913043

00:26:03.775 --> 00:26:04.990 infection are multifactorial.  
NOTE Confidence: 0.925047263913043

00:26:04.990 --> 00:26:07.130 The two most important things  
NOTE Confidence: 0.925047263913043

00:26:07.130 --> 00:26:09.270 to prevent infection are staff  
NOTE Confidence: 0.925047263913043

00:26:09.343 --> 00:26:11.267 discipline and a something,  
NOTE Confidence: 0.925047263913043

00:26:11.270 --> 00:26:12.743 an antiseptic technique,  
NOTE Confidence: 0.925047263913043

00:26:12.743 --> 00:26:14.707 especially washing our hands,  
NOTE Confidence: 0.925047263913043

00:26:14.710 --> 00:26:16.678 which we know we don't do enough of.  
NOTE Confidence: 0.925047263913043

00:26:16.680 --> 00:26:17.560 And then of course,  
NOTE Confidence: 0.925047263913043

00:26:17.560 --> 00:26:18.440 the patient health status,  
NOTE Confidence: 0.925047263913043

00:26:18.440 --> 00:26:19.499 are they immunocompromised?  
NOTE Confidence: 0.925047263913043

00:26:19.499 --> 00:26:20.558 You have diabetes,  
NOTE Confidence: 0.925047263913043

00:26:20.560 --> 00:26:22.380 they have immune disorders,  
NOTE Confidence: 0.925047263913043

00:26:22.380 --> 00:26:24.200 Do they have cancer?  
NOTE Confidence: 0.925047263913043

00:26:24.200 --> 00:26:25.955 Of course, exposure site types  
NOTE Confidence: 0.925047263913043

00:26:25.955 --> 00:26:27.359 and quantities of inoculation,  
NOTE Confidence: 0.925047263913043

00:26:27.360 --> 00:26:29.040 those two matter as well.



NOTE Confidence: 0.925047263913043  
00:26:29.040 --> 00:26:30.440 But we know we've got a problem.  
NOTE Confidence: 0.925047263913043  
00:26:30.440 --> 00:26:33.073 We don't wash our hands enough and  
NOTE Confidence: 0.925047263913043  
00:26:33.073 --> 00:26:35.544 we're not going to cure hand washing  
NOTE Confidence: 0.925047263913043  
00:26:35.544 --> 00:26:37.920 or diabetes by throwing more and  
NOTE Confidence: 0.925047263913043  
00:26:37.920 --> 00:26:39.920 more disposables at the problem.  
NOTE Confidence: 0.925047263913043  
00:26:39.920 --> 00:26:42.852 And we also have another problem and that  
NOTE Confidence: 0.925047263913043  
00:26:42.852 --> 00:26:44.994 is what we've learned through the pandemic.  
NOTE Confidence: 0.925047263913043  
00:26:45.000 --> 00:26:47.736 And that our supply chains are  
NOTE Confidence: 0.925047263913043  
00:26:47.736 --> 00:26:49.560 very vulnerable to interruption.  
NOTE Confidence: 0.925047263913043  
00:26:49.560 --> 00:26:51.954 We require so much stock to be  
NOTE Confidence: 0.925047263913043  
00:26:51.954 --> 00:26:54.830 coming in and out because of our  
NOTE Confidence: 0.925047263913043  
00:26:54.830 --> 00:26:57.035 reliance on single use disposal.  
NOTE Confidence: 0.925047263913043  
00:26:57.040 --> 00:26:59.638 The supply chains are very fragile.  
NOTE Confidence: 0.925047263913043  
00:26:59.640 --> 00:27:02.440 On the left are this is the United States on.  
NOTE Confidence: 0.925047263913043  
00:27:02.440 --> 00:27:03.960 On the left you're seeing  
NOTE Confidence: 0.925047263913043

00:27:03.960 --> 00:27:05.400 some nurses in Brooklyn,  
NOTE Confidence: 0.925047263913043

00:27:05.400 --> 00:27:06.760 NY, on the right in England,  
NOTE Confidence: 0.925047263913043

00:27:06.760 --> 00:27:09.756 in the UK These are hard images  
NOTE Confidence: 0.925047263913043

00:27:09.756 --> 00:27:12.780 to look at and of course.  
NOTE Confidence: 0.925047263913043

00:27:12.780 --> 00:27:15.100 Our global supply chain,  
NOTE Confidence: 0.925047263913043

00:27:15.100 --> 00:27:17.109 and it benefits us in many ways  
NOTE Confidence: 0.925047263913043

00:27:17.109 --> 00:27:18.910 because it can reduce production  
NOTE Confidence: 0.925047263913043

00:27:18.910 --> 00:27:20.658 costs and storage costs,  
NOTE Confidence: 0.925047263913043

00:27:20.660 --> 00:27:22.820 reduces local pollution in some countries,  
NOTE Confidence: 0.925047263913043

00:27:22.820 --> 00:27:24.260 but it actually increases  
NOTE Confidence: 0.925047263913043

00:27:24.260 --> 00:27:25.700 pollution in other countries.  
NOTE Confidence: 0.925047263913043

00:27:25.700 --> 00:27:27.415 And we know that there are unfair  
NOTE Confidence: 0.925047263913043

00:27:27.415 --> 00:27:29.272 wages in other countries and unfair  
NOTE Confidence: 0.925047263913043

00:27:29.272 --> 00:27:31.057 labor practices in other countries.  
NOTE Confidence: 0.925047263913043

00:27:31.060 --> 00:27:32.656 So there's a real question about it.  
NOTE Confidence: 0.925047263913043

00:27:32.660 --> 00:27:33.830 Is it just?

NOTE Confidence: 0.925047263913043

00:27:33.830 --> 00:27:36.170 And there's also a lack of

NOTE Confidence: 0.925047263913043

00:27:36.170 --> 00:27:37.630 transparency of suppliers.

NOTE Confidence: 0.925047263913043

00:27:37.630 --> 00:27:39.422 And so we do know who our

NOTE Confidence: 0.925047263913043

00:27:39.422 --> 00:27:40.190 direct suppliers are,

NOTE Confidence: 0.925047263913043

00:27:40.190 --> 00:27:43.774 but it is well known that it

NOTE Confidence: 0.925047263913043

00:27:43.774 --> 00:27:47.406 is very rare that second tier,

NOTE Confidence: 0.925047263913043

00:27:47.406 --> 00:27:50.140 third tier suppliers are transparent.

NOTE Confidence: 0.925047263913043

00:27:50.140 --> 00:27:53.745 And any vital hub in this web

NOTE Confidence: 0.925047263913043

00:27:53.745 --> 00:27:57.147 can take the whole system down,

NOTE Confidence: 0.925047263913043

00:27:57.150 --> 00:27:58.530 which is what happened partially

NOTE Confidence: 0.925047263913043

00:27:58.530 --> 00:27:59.910 would happen with the pandemic.

NOTE Confidence: 0.925047263913043

00:27:59.910 --> 00:28:01.625 And whether it's climate change or pandemics,

NOTE Confidence: 0.925047263913043

00:28:01.630 --> 00:28:04.100 the risks are the same.

NOTE Confidence: 0.925047263913043

00:28:04.100 --> 00:28:06.501 Now part of the problem we have

NOTE Confidence: 0.925047263913043

00:28:06.501 --> 00:28:09.126 in the Healthcare is over cleaning

NOTE Confidence: 0.925047263913043

00:28:09.126 --> 00:28:11.898 over sterilization critical items.  
NOTE Confidence: 0.925047263913043

00:28:11.900 --> 00:28:13.404 Things that normally contact  
NOTE Confidence: 0.925047263913043

00:28:13.404 --> 00:28:15.660 sterile tissue need to be sterile.  
NOTE Confidence: 0.925047263913043

00:28:15.660 --> 00:28:17.705 Some uncritical items are those  
NOTE Confidence: 0.925047263913043

00:28:17.705 --> 00:28:19.750 that contact mucous membranes are  
NOTE Confidence: 0.921113966153846

00:28:19.813 --> 00:28:20.818 not intact skin.  
NOTE Confidence: 0.921113966153846

00:28:20.820 --> 00:28:22.374 They do not need to be sterile.  
NOTE Confidence: 0.921113966153846

00:28:22.380 --> 00:28:23.964 Things that you put in your  
NOTE Confidence: 0.921113966153846

00:28:23.964 --> 00:28:25.898 mouth do not need to be sterile.  
NOTE Confidence: 0.921113966153846

00:28:25.900 --> 00:28:29.160 Obstetrics procedures.  
NOTE Confidence: 0.921113966153846

00:28:29.160 --> 00:28:32.320 Colorectal procedures and two procedures.  
NOTE Confidence: 0.921113966153846

00:28:32.320 --> 00:28:35.456 Many of those are not sterile techniques and  
NOTE Confidence: 0.921113966153846

00:28:35.456 --> 00:28:39.040 many of them do not require sterile devices.  
NOTE Confidence: 0.921113966153846

00:28:39.040 --> 00:28:40.320 And then non critical items.  
NOTE Confidence: 0.921113966153846

00:28:40.320 --> 00:28:42.210 Things that touch intact skin are  
NOTE Confidence: 0.921113966153846

00:28:42.210 --> 00:28:44.360 blood pressure cuffs or pulse oximeter.

NOTE Confidence: 0.921113966153846  
00:28:44.360 --> 00:28:45.960 Probes are bed linens.  
NOTE Confidence: 0.921113966153846  
00:28:45.960 --> 00:28:48.360 These are things that are pillows.  
NOTE Confidence: 0.921113966153846  
00:28:48.360 --> 00:28:49.720 These are things that are  
NOTE Confidence: 0.921113966153846  
00:28:49.720 --> 00:28:51.340 disposable or patient.  
NOTE Confidence: 0.921113966153846  
00:28:51.340 --> 00:28:53.800 Gowns are are are clinician gowns.  
NOTE Confidence: 0.921113966153846  
00:28:53.800 --> 00:28:55.480 These are things that are disposable.  
NOTE Confidence: 0.921113966153846  
00:28:55.480 --> 00:28:57.880 It's it's really rather insane.  
NOTE Confidence: 0.921113966153846  
00:28:57.880 --> 00:28:59.462 I'm going to give him one example  
NOTE Confidence: 0.921113966153846  
00:28:59.462 --> 00:29:00.991 from my own practice now.  
NOTE Confidence: 0.921113966153846  
00:29:00.991 --> 00:29:02.776 We use thousands of medical  
NOTE Confidence: 0.921113966153846  
00:29:02.776 --> 00:29:04.639 devices every day in a hospital.  
NOTE Confidence: 0.921113966153846  
00:29:04.640 --> 00:29:06.040 I call this a bit of a Canary.  
NOTE Confidence: 0.921113966153846  
00:29:06.040 --> 00:29:06.733 This is laryngoscope.  
NOTE Confidence: 0.921113966153846  
00:29:06.733 --> 00:29:09.199 Of course we used to put in a breathing tube,  
NOTE Confidence: 0.921113966153846  
00:29:09.200 --> 00:29:10.760 has two parts,  
NOTE Confidence: 0.921113966153846

00:29:10.760 --> 00:29:13.880 the tongue blade and the handle.  
NOTE Confidence: 0.921113966153846

00:29:13.880 --> 00:29:14.764 There has been some,  
NOTE Confidence: 0.921113966153846

00:29:14.764 --> 00:29:16.599 so the tongue blade goes in the mouth.  
NOTE Confidence: 0.921113966153846

00:29:16.600 --> 00:29:18.840 So that's a semi critical device that  
NOTE Confidence: 0.921113966153846

00:29:18.840 --> 00:29:21.799 must be at least high level disinfected.  
NOTE Confidence: 0.921113966153846

00:29:21.800 --> 00:29:24.572 So that goes down to the central  
NOTE Confidence: 0.921113966153846

00:29:24.572 --> 00:29:26.540 sterilization department for processing.  
NOTE Confidence: 0.921113966153846

00:29:26.540 --> 00:29:28.910 The handle, something we hold on  
NOTE Confidence: 0.921113966153846

00:29:28.910 --> 00:29:30.940 to is considered low risk,  
NOTE Confidence: 0.921113966153846

00:29:30.940 --> 00:29:33.004 and so low risk items are  
NOTE Confidence: 0.921113966153846

00:29:33.004 --> 00:29:34.980 cleaned at the point of use.  
NOTE Confidence: 0.921113966153846

00:29:34.980 --> 00:29:38.368 But there has been a loophole in  
NOTE Confidence: 0.921113966153846

00:29:38.368 --> 00:29:41.060 CDC designation of this handle.  
NOTE Confidence: 0.921113966153846

00:29:41.060 --> 00:29:43.344 There's been conflicting designations  
NOTE Confidence: 0.921113966153846

00:29:43.344 --> 00:29:45.057 by professional societies,  
NOTE Confidence: 0.921113966153846

00:29:45.060 --> 00:29:48.980 and so the CDDC leaves it to

NOTE Confidence: 0.921113966153846  
00:29:48.980 --> 00:29:51.800 industry to decide, well,  
NOTE Confidence: 0.921113966153846  
00:29:51.800 --> 00:29:55.028 industry by their own declarations.  
NOTE Confidence: 0.921113966153846  
00:29:55.028 --> 00:29:57.488 Are not infection prevention specialists.  
NOTE Confidence: 0.921113966153846  
00:29:57.490 --> 00:30:00.206 They can say how to clean something.  
NOTE Confidence: 0.921113966153846  
00:30:00.210 --> 00:30:02.604 They can't say what level of risk it is.  
NOTE Confidence: 0.921113966153846  
00:30:02.610 --> 00:30:03.618 And so,  
NOTE Confidence: 0.921113966153846  
00:30:03.618 --> 00:30:06.138 but industries jumped all over  
NOTE Confidence: 0.921113966153846  
00:30:06.138 --> 00:30:09.346 this and so now there is saying  
NOTE Confidence: 0.921113966153846  
00:30:09.346 --> 00:30:11.226 that these are intermediate risk  
NOTE Confidence: 0.921113966153846  
00:30:11.226 --> 00:30:13.666 devices and must go down to  
NOTE Confidence: 0.921113966153846  
00:30:13.666 --> 00:30:15.406 central sterilization and supply.  
NOTE Confidence: 0.921113966153846  
00:30:15.410 --> 00:30:17.966 Or alternatively you can buy their  
NOTE Confidence: 0.921113966153846  
00:30:17.966 --> 00:30:19.750 single use disposable device.  
NOTE Confidence: 0.921113966153846  
00:30:19.750 --> 00:30:22.250 And so there's this wave.  
NOTE Confidence: 0.921113966153846  
00:30:22.250 --> 00:30:24.992 Of moving to single use of  
NOTE Confidence: 0.921113966153846

00:30:24.992 --> 00:30:27.530 social devices across the country  
NOTE Confidence: 0.921113966153846

00:30:27.530 --> 00:30:29.490 because of this regulatory risk.  
NOTE Confidence: 0.921113966153846

00:30:29.490 --> 00:30:31.765 And so there's this concept of greenwashing.  
NOTE Confidence: 0.921113966153846

00:30:31.770 --> 00:30:33.765 There are many different aspects to it,  
NOTE Confidence: 0.921113966153846

00:30:33.770 --> 00:30:35.891 but in general it's a practice of  
NOTE Confidence: 0.921113966153846

00:30:35.891 --> 00:30:37.359 making unwarranted or exaggerated  
NOTE Confidence: 0.921113966153846

00:30:37.359 --> 00:30:39.218 claims of sustainability or  
NOTE Confidence: 0.921113966153846

00:30:39.218 --> 00:30:40.690 environmental preference and an  
NOTE Confidence: 0.921113966153846

00:30:40.690 --> 00:30:42.530 attempt to gain market share.  
NOTE Confidence: 0.921113966153846

00:30:42.530 --> 00:30:46.754 This particular device was presented to  
NOTE Confidence: 0.921113966153846

00:30:46.754 --> 00:30:51.170 our Peri Operative Manager as a green device.  
NOTE Confidence: 0.921113966153846

00:30:51.170 --> 00:30:53.370 Because it could be recycled.  
NOTE Confidence: 0.921113966153846

00:30:53.370 --> 00:30:55.102 Well, that is questionable,  
NOTE Confidence: 0.921113966153846

00:30:55.102 --> 00:30:56.738 but nonetheless, I didn't.  
NOTE Confidence: 0.921113966153846

00:30:56.738 --> 00:30:57.890 And also cheaper,  
NOTE Confidence: 0.921113966153846

00:30:57.890 --> 00:30:59.610 but I didn't take anyone's word for it.



NOTE Confidence: 0.921113966153846  
00:30:59.610 --> 00:31:01.800 So we got together with their  
NOTE Confidence: 0.921113966153846  
00:31:01.800 --> 00:31:03.466 engineering students and it was  
NOTE Confidence: 0.921113966153846  
00:31:03.466 --> 00:31:05.086 called the Life Cycle Assessment.  
NOTE Confidence: 0.921113966153846  
00:31:05.090 --> 00:31:07.288 LCA is a modeling tool for quantifying  
NOTE Confidence: 0.921113966153846  
00:31:07.288 --> 00:31:08.914 the total resource inputs and  
NOTE Confidence: 0.921113966153846  
00:31:08.914 --> 00:31:10.170 environmental burdens over the  
NOTE Confidence: 0.921113966153846  
00:31:10.170 --> 00:31:12.530 life cycle of a product or process.  
NOTE Confidence: 0.921113966153846  
00:31:12.530 --> 00:31:14.750 We tend to think about stuff  
NOTE Confidence: 0.921113966153846  
00:31:14.750 --> 00:31:16.230 as we're using it.  
NOTE Confidence: 0.921113966153846  
00:31:16.230 --> 00:31:18.659 We think less about what goes into  
NOTE Confidence: 0.921113966153846  
00:31:18.659 --> 00:31:21.024 manufacturing it and even less about  
NOTE Confidence: 0.921113966153846  
00:31:21.024 --> 00:31:23.109 the natural resource extraction that  
NOTE Confidence: 0.921113966153846  
00:31:23.109 --> 00:31:25.149 even preceded the manufacturing.  
NOTE Confidence: 0.921113966153846  
00:31:25.150 --> 00:31:27.550 And we might think about something,  
NOTE Confidence: 0.921113966153846  
00:31:27.550 --> 00:31:28.790 what happens to something when  
NOTE Confidence: 0.921113966153846

00:31:28.790 --> 00:31:29.782 we throw it away.  
NOTE Confidence: 0.921113966153846

00:31:29.790 --> 00:31:31.210 But unless you consider all  
NOTE Confidence: 0.921113966153846

00:31:31.210 --> 00:31:32.346 of these things together,  
NOTE Confidence: 0.921113966153846

00:31:32.350 --> 00:31:34.522 you can't make very fair you  
NOTE Confidence: 0.921113966153846

00:31:34.522 --> 00:31:35.970 can't make any assessment  
NOTE Confidence: 0.949542892307692

00:31:36.043 --> 00:31:37.990 of environmental performance.  
NOTE Confidence: 0.949542892307692

00:31:37.990 --> 00:31:41.501 And so LCA considers the entire system the  
NOTE Confidence: 0.949542892307692

00:31:41.501 --> 00:31:44.567 the hotspots are not always intuitive.  
NOTE Confidence: 0.949542892307692

00:31:44.570 --> 00:31:46.402 And importantly, even though we I talk and  
NOTE Confidence: 0.949542892307692

00:31:46.402 --> 00:31:48.609 we talk a lot about greenhouse gas emissions,  
NOTE Confidence: 0.949542892307692

00:31:48.610 --> 00:31:51.250 carbon emissions, it's not the only  
NOTE Confidence: 0.949542892307692

00:31:51.250 --> 00:31:53.010 environmental pollutant of concern.  
NOTE Confidence: 0.949542892307692

00:31:53.010 --> 00:31:53.854 There are multiple environmental  
NOTE Confidence: 0.949542892307692

00:31:53.854 --> 00:31:55.450 impacts and we have to be careful.  
NOTE Confidence: 0.949542892307692

00:31:55.450 --> 00:31:57.928 We're not shifting one problem to another.  
NOTE Confidence: 0.949542892307692

00:31:57.930 --> 00:32:00.464 So this is a method of quantifying

NOTE Confidence: 0.949542892307692  
00:32:00.464 --> 00:32:03.008 emissions for design and decision support.  
NOTE Confidence: 0.949542892307692  
00:32:03.010 --> 00:32:06.510 And so very briefly we did an LC of the.  
NOTE Confidence: 0.949542892307692  
00:32:06.510 --> 00:32:07.869 Reasonable disposable laryngoscope.  
NOTE Confidence: 0.949542892307692  
00:32:07.869 --> 00:32:10.587 So for the single use disposables,  
NOTE Confidence: 0.949542892307692  
00:32:10.590 --> 00:32:12.310 the SUD's we consider raw  
NOTE Confidence: 0.949542892307692  
00:32:12.310 --> 00:32:14.030 material extraction all the way,  
NOTE Confidence: 0.949542892307692  
00:32:14.030 --> 00:32:14.545 manufacturing,  
NOTE Confidence: 0.949542892307692  
00:32:14.545 --> 00:32:17.120 packaging and then eventually throwing  
NOTE Confidence: 0.949542892307692  
00:32:17.120 --> 00:32:19.772 away and compare that to reusable.  
NOTE Confidence: 0.949542892307692  
00:32:19.772 --> 00:32:20.536 Now importantly,  
NOTE Confidence: 0.949542892307692  
00:32:20.536 --> 00:32:22.828 especially if you're reading the literature,  
NOTE Confidence: 0.949542892307692  
00:32:22.830 --> 00:32:24.747 you don't have to know how to interpret it.  
NOTE Confidence: 0.949542892307692  
00:32:24.750 --> 00:32:27.830 The handle was rated for 4000 uses,  
NOTE Confidence: 0.949542892307692  
00:32:27.830 --> 00:32:31.946 so one disposables compared to 1/4  
NOTE Confidence: 0.949542892307692  
00:32:31.946 --> 00:32:35.526 thousandth of a reusables manufacturing.  
NOTE Confidence: 0.949542892307692

00:32:35.530 --> 00:32:40.410 And packaging and transportation to  
NOTE Confidence: 0.949542892307692

00:32:40.410 --> 00:32:42.816 one use in cleaning and repackaging  
NOTE Confidence: 0.949542892307692

00:32:42.816 --> 00:32:45.557 and one four thousandth of the device  
NOTE Confidence: 0.949542892307692

00:32:45.557 --> 00:32:47.687 being thrown away in one package.  
NOTE Confidence: 0.949542892307692

00:32:47.690 --> 00:32:49.690 So you have to do a fair comparison.  
NOTE Confidence: 0.949542892307692

00:32:49.690 --> 00:32:50.850 We also looked at cost.  
NOTE Confidence: 0.949542892307692

00:32:50.850 --> 00:32:52.872 We considered refurbishment.  
NOTE Confidence: 0.949542892307692

00:32:52.872 --> 00:32:56.410 We consider labor costs and disposal fees.  
NOTE Confidence: 0.949542892307692

00:32:56.410 --> 00:32:58.370 Now there's a lot of information here.  
NOTE Confidence: 0.949542892307692

00:32:58.370 --> 00:33:00.426 I just want you to squint at it.  
NOTE Confidence: 0.949542892307692

00:33:00.430 --> 00:33:01.708 There are some clear things to  
NOTE Confidence: 0.949542892307692

00:33:01.708 --> 00:33:02.347 take away here.  
NOTE Confidence: 0.949542892307692

00:33:02.350 --> 00:33:04.990 The Gray is a disposable and  
NOTE Confidence: 0.949542892307692

00:33:04.990 --> 00:33:06.990 the green are the reusable.  
NOTE Confidence: 0.949542892307692

00:33:06.990 --> 00:33:08.915 So even though the vendor told us  
NOTE Confidence: 0.949542892307692

00:33:08.915 --> 00:33:11.092 that it was more costeffective and

NOTE Confidence: 0.949542892307692  
00:33:11.092 --> 00:33:13.232 more environmentally friendly to you  
NOTE Confidence: 0.949542892307692  
00:33:13.232 --> 00:33:15.749 because we could recycle that device,  
NOTE Confidence: 0.949542892307692  
00:33:15.750 --> 00:33:17.346 that is not what we found.  
NOTE Confidence: 0.949542892307692  
00:33:17.350 --> 00:33:21.270 The disposable device several times,  
NOTE Confidence: 0.949542892307692  
00:33:21.270 --> 00:33:23.982 the emissions of all different scenarios  
NOTE Confidence: 0.949542892307692  
00:33:23.982 --> 00:33:27.366 and how to clean the reusable and.  
NOTE Confidence: 0.949542892307692  
00:33:27.366 --> 00:33:31.584 It also increased our cost by about \$700,000,  
NOTE Confidence: 0.949542892307692  
00:33:31.584 --> 00:33:33.440 just our one department.  
NOTE Confidence: 0.949542892307692  
00:33:33.440 --> 00:33:37.193 The other take away here is the waste phase.  
NOTE Confidence: 0.949542892307692  
00:33:37.200 --> 00:33:39.918 Now the manufacturer said it's green,  
NOTE Confidence: 0.949542892307692  
00:33:39.920 --> 00:33:41.272 you can recycle it.  
NOTE Confidence: 0.949542892307692  
00:33:41.272 --> 00:33:42.962 Actually all those components are  
NOTE Confidence: 0.949542892307692  
00:33:42.962 --> 00:33:45.025 not recyclable and you have to go  
NOTE Confidence: 0.949542892307692  
00:33:45.025 --> 00:33:46.560 to a vendor willing to take it,  
NOTE Confidence: 0.949542892307692  
00:33:46.560 --> 00:33:50.235 which would be about 1000 miles away.  
NOTE Confidence: 0.949542892307692

00:33:50.240 --> 00:33:51.836 But for the sake of argument,  
NOTE Confidence: 0.949542892307692

00:33:51.840 --> 00:33:55.160 so the red here is the average US waste mix,  
NOTE Confidence: 0.949542892307692

00:33:55.160 --> 00:33:56.704 so a fraction is.  
NOTE Confidence: 0.949542892307692

00:33:56.704 --> 00:33:58.634 Recycle The fraction is incinerated  
NOTE Confidence: 0.949542892307692

00:33:58.634 --> 00:34:00.677 in a fraction of landfill.  
NOTE Confidence: 0.949542892307692

00:34:00.680 --> 00:34:01.800 For the sake of argument,  
NOTE Confidence: 0.949542892307692

00:34:01.800 --> 00:34:04.022 we said what if we could 100%  
NOTE Confidence: 0.949542892307692

00:34:04.022 --> 00:34:05.834 recycle this device, which we can't.  
NOTE Confidence: 0.949542892307692

00:34:05.840 --> 00:34:07.240 But what if we could?  
NOTE Confidence: 0.949542892307692

00:34:07.240 --> 00:34:09.436 That's what this bar is representing.  
NOTE Confidence: 0.949542892307692

00:34:09.440 --> 00:34:12.632 And what this means is that we  
NOTE Confidence: 0.949542892307692

00:34:12.632 --> 00:34:15.559 cannot overcome the higher emissions  
NOTE Confidence: 0.949542892307692

00:34:15.560 --> 00:34:17.480 of these devices by recycling.  
NOTE Confidence: 0.949542892307692

00:34:17.480 --> 00:34:21.008 We cannot recycle our way out of this issue.  
NOTE Confidence: 0.949542892307692

00:34:21.010 --> 00:34:21.766 And in fact,  
NOTE Confidence: 0.949542892307692

00:34:21.766 --> 00:34:23.530 we need to ask ourselves what a

NOTE Confidence: 0.949542892307692  
00:34:23.588 --> 00:34:25.248 singleuse disposal device is.  
NOTE Confidence: 0.949542892307692  
00:34:25.250 --> 00:34:27.008 There is an industry called reprocessing,  
NOTE Confidence: 0.949542892307692  
00:34:27.010 --> 00:34:29.116 which third party takes some of  
NOTE Confidence: 0.949542892307692  
00:34:29.116 --> 00:34:30.730 our disposal devices, cleans them,  
NOTE Confidence: 0.949542892307692  
00:34:30.730 --> 00:34:32.130 test them, send them back,  
NOTE Confidence: 0.949542892307692  
00:34:32.130 --> 00:34:35.370 sells them back at a fraction of the cost.  
NOTE Confidence: 0.949542892307692  
00:34:35.370 --> 00:34:37.140 And it's important to know that  
NOTE Confidence: 0.949542892307692  
00:34:37.140 --> 00:34:38.935 singleuse disposal is an industry  
NOTE Confidence: 0.949542892307692  
00:34:38.935 --> 00:34:41.450 designation, is not a regulatory designation.  
NOTE Confidence: 0.949542892307692  
00:34:41.450 --> 00:34:43.942 It does not mean that a device  
NOTE Confidence: 0.949542892307692  
00:34:43.942 --> 00:34:45.010 can't be reused.  
NOTE Confidence: 0.949542892307692  
00:34:45.010 --> 00:34:47.086 What it does mean is that  
NOTE Confidence: 0.949542892307692  
00:34:47.086 --> 00:34:48.470 whoever cleans it assumes  
NOTE Confidence: 0.946962471666667  
00:34:48.544 --> 00:34:50.709 that it's going to function  
NOTE Confidence: 0.946962471666667  
00:34:50.709 --> 00:34:52.008 as originally intended.  
NOTE Confidence: 0.946962471666667

00:34:52.010 --> 00:34:53.810 And so there's this concept of  
NOTE Confidence: 0.946962471666667

00:34:53.810 --> 00:34:55.462 the circular economy that should  
NOTE Confidence: 0.946962471666667

00:34:55.462 --> 00:34:57.046 become carbon common parlance.  
NOTE Confidence: 0.946962471666667

00:34:57.050 --> 00:34:58.688 What we have is a linear economy,  
NOTE Confidence: 0.946962471666667

00:34:58.690 --> 00:35:00.090 a take, make waste,  
NOTE Confidence: 0.946962471666667

00:35:00.090 --> 00:35:02.267 where we extract resources, we make stuff,  
NOTE Confidence: 0.946962471666667

00:35:02.267 --> 00:35:04.969 we use it very briefly and we throw it away.  
NOTE Confidence: 0.946962471666667

00:35:04.970 --> 00:35:06.230 The circular economy comes  
NOTE Confidence: 0.946962471666667

00:35:06.230 --> 00:35:07.490 from nature and nature.  
NOTE Confidence: 0.946962471666667

00:35:07.490 --> 00:35:10.010 There is no such thing as waste.  
NOTE Confidence: 0.946962471666667

00:35:10.010 --> 00:35:11.444 The waste product of 1 system  
NOTE Confidence: 0.946962471666667

00:35:11.444 --> 00:35:12.850 is a feedstock for another.  
NOTE Confidence: 0.946962471666667

00:35:12.850 --> 00:35:16.333 And that is the the the foundation of this.  
NOTE Confidence: 0.946962471666667

00:35:16.340 --> 00:35:16.654 Approach.  
NOTE Confidence: 0.946962471666667

00:35:16.654 --> 00:35:18.852 So we want to retain and reuse  
NOTE Confidence: 0.946962471666667

00:35:18.852 --> 00:35:20.618 things as much as possible,



NOTE Confidence: 0.946962471666667  
00:35:20.620 --> 00:35:23.176 repair and refurbish them as needed,  
NOTE Confidence: 0.946962471666667  
00:35:23.180 --> 00:35:24.584 repurpose them when they can't be  
NOTE Confidence: 0.946962471666667  
00:35:24.584 --> 00:35:25.980 used for their original intention.  
NOTE Confidence: 0.946962471666667  
00:35:25.980 --> 00:35:28.419 The last thing you want to do is recycle.  
NOTE Confidence: 0.946962471666667  
00:35:28.420 --> 00:35:30.116 It's better than nothing.  
NOTE Confidence: 0.946962471666667  
00:35:30.116 --> 00:35:31.980 But even that might even  
NOTE Confidence: 0.946962471666667  
00:35:31.980 --> 00:35:33.420 be called into question.  
NOTE Confidence: 0.946962471666667  
00:35:33.420 --> 00:35:35.540 And of course we need to redesign things.  
NOTE Confidence: 0.946962471666667  
00:35:35.540 --> 00:35:37.760 We need to redesign products and  
NOTE Confidence: 0.946962471666667  
00:35:37.760 --> 00:35:39.240 services where fewer embodied  
NOTE Confidence: 0.946962471666667  
00:35:39.301 --> 00:35:41.386 materials and chemicals and energy.  
NOTE Confidence: 0.946962471666667  
00:35:41.390 --> 00:35:43.469 We need to design things for reuse.  
NOTE Confidence: 0.946962471666667  
00:35:43.470 --> 00:35:45.174 They have a modular design so  
NOTE Confidence: 0.946962471666667  
00:35:45.174 --> 00:35:46.310 they're easy to disassemble,  
NOTE Confidence: 0.946962471666667  
00:35:46.310 --> 00:35:47.324 clean and reassemble.  
NOTE Confidence: 0.946962471666667

00:35:47.324 --> 00:35:49.352 And we need systems for recovering  
NOTE Confidence: 0.946962471666667

00:35:49.352 --> 00:35:50.990 and repurposing materials.  
NOTE Confidence: 0.946962471666667

00:35:50.990 --> 00:35:53.120 We need to address policy drivers  
NOTE Confidence: 0.946962471666667

00:35:53.120 --> 00:35:54.185 of manufactured obsolescence.  
NOTE Confidence: 0.946962471666667

00:35:54.190 --> 00:35:56.444 I'm going to shift gears and talk  
NOTE Confidence: 0.946962471666667

00:35:56.444 --> 00:35:59.029 about a couple of medication examples.  
NOTE Confidence: 0.946962471666667

00:35:59.030 --> 00:36:02.782 I mentioned that 5% of health sector  
NOTE Confidence: 0.946962471666667

00:36:02.782 --> 00:36:05.398 emissions are coming from inhaled  
NOTE Confidence: 0.946962471666667

00:36:05.398 --> 00:36:08.038 anesthetics and meter dose inhalers.  
NOTE Confidence: 0.946962471666667

00:36:08.040 --> 00:36:09.540 Meter dose inhalers used for  
NOTE Confidence: 0.946962471666667

00:36:09.540 --> 00:36:10.440 reactive airway disease.  
NOTE Confidence: 0.946962471666667

00:36:10.440 --> 00:36:13.080 You see people puffing.  
NOTE Confidence: 0.946962471666667

00:36:13.080 --> 00:36:16.410 Those inhalers have a propellant  
NOTE Confidence: 0.946962471666667

00:36:16.410 --> 00:36:19.060 that actively pushes the medication  
NOTE Confidence: 0.946962471666667

00:36:19.060 --> 00:36:21.040 into the patient's lungs.  
NOTE Confidence: 0.946962471666667

00:36:21.040 --> 00:36:23.038 One Albuterol inhaler.

NOTE Confidence: 0.946962471666667  
00:36:23.038 --> 00:36:25.036 Because of those,  
NOTE Confidence: 0.946962471666667  
00:36:25.040 --> 00:36:27.945 the gases in the delivery device is  
NOTE Confidence: 0.946962471666667  
00:36:27.945 --> 00:36:29.999 equivalent of driving 200 miles.  
NOTE Confidence: 0.946962471666667  
00:36:30.000 --> 00:36:32.202 There are 55 million devices sold  
NOTE Confidence: 0.946962471666667  
00:36:32.202 --> 00:36:34.272 annually in the equivalent of more  
NOTE Confidence: 0.946962471666667  
00:36:34.272 --> 00:36:36.155 than a half million cars on the  
NOTE Confidence: 0.946962471666667  
00:36:36.155 --> 00:36:38.078 road just in the United States.  
NOTE Confidence: 0.946962471666667  
00:36:38.080 --> 00:36:40.080 There are multiple device  
NOTE Confidence: 0.946962471666667  
00:36:40.080 --> 00:36:41.435 alternatives with 110th,  
NOTE Confidence: 0.946962471666667  
00:36:41.435 --> 00:36:42.500 120th the emissions,  
NOTE Confidence: 0.946962471666667  
00:36:42.500 --> 00:36:44.275 most notably dry powered inhalers,  
NOTE Confidence: 0.946962471666667  
00:36:44.280 --> 00:36:45.280 softness inhalers.  
NOTE Confidence: 0.946962471666667  
00:36:45.280 --> 00:36:49.280 Of course not every patient can use these,  
NOTE Confidence: 0.946962471666667  
00:36:49.280 --> 00:36:52.280 we can't get to 0 metered dose inhalers,  
NOTE Confidence: 0.946962471666667  
00:36:52.280 --> 00:36:54.304 but we do know that Sweden is now  
NOTE Confidence: 0.946962471666667

00:36:54.304 --> 00:36:56.960 about 12% metered dose inhalers,  
NOTE Confidence: 0.946962471666667

00:36:56.960 --> 00:36:58.240 the USUK around  
NOTE Confidence: 0.934662822222222

00:37:00.320 --> 00:37:04.757 70%. So we have room to move on this.  
NOTE Confidence: 0.934662822222222

00:37:04.760 --> 00:37:07.840 So choosing, we talked about making choices.  
NOTE Confidence: 0.934662822222222

00:37:07.840 --> 00:37:12.033 Lower embodied carbon as one of  
NOTE Confidence: 0.934662822222222

00:37:12.033 --> 00:37:13.517 our approaches to mitigation.  
NOTE Confidence: 0.934662822222222

00:37:13.520 --> 00:37:16.556 So inhale anesthetics is another area.  
NOTE Confidence: 0.934662822222222

00:37:16.560 --> 00:37:17.520 These are not.  
NOTE Confidence: 0.934662822222222

00:37:17.520 --> 00:37:19.120 These medications are not metabolized.  
NOTE Confidence: 0.934662822222222

00:37:19.120 --> 00:37:20.720 They're exhaled by the patient.  
NOTE Confidence: 0.934662822222222

00:37:20.720 --> 00:37:22.595 They're essentially blown off the  
NOTE Confidence: 0.934662822222222

00:37:22.595 --> 00:37:24.873 hospital rooftop where they are potent  
NOTE Confidence: 0.934662822222222

00:37:24.873 --> 00:37:27.253 greenhouse gases and some of them are  
NOTE Confidence: 0.934662822222222

00:37:27.253 --> 00:37:29.526 destructive to the ozone layer and  
NOTE Confidence: 0.934662822222222

00:37:29.526 --> 00:37:31.054 their emissions are uncontrolled.  
NOTE Confidence: 0.934662822222222

00:37:31.060 --> 00:37:32.176 This is another study we did.

NOTE Confidence: 0.9346628222222222

00:37:32.180 --> 00:37:34.295 Again, I just want you to squint at it.

NOTE Confidence: 0.9346628222222222

00:37:34.300 --> 00:37:36.939 These top three drugs you see here,

NOTE Confidence: 0.9346628222222222

00:37:36.940 --> 00:37:38.568 Destroine, Isoflorine and Cevoflourine.

NOTE Confidence: 0.9346628222222222

00:37:38.568 --> 00:37:41.441 Deaths Rain is at least 20 times

NOTE Confidence: 0.9346628222222222

00:37:41.441 --> 00:37:43.286 the emissions of isoflourine and

NOTE Confidence: 0.9346628222222222

00:37:43.286 --> 00:37:45.579 cevoflourine on a life cycle basis.

NOTE Confidence: 0.9346628222222222

00:37:45.580 --> 00:37:46.642 The pink hair.

NOTE Confidence: 0.9346628222222222

00:37:46.642 --> 00:37:49.362 So you see the the other thing is if you

NOTE Confidence: 0.9346628222222222

00:37:49.362 --> 00:37:50.899 use in combination with nitrous oxide,

NOTE Confidence: 0.9346628222222222

00:37:50.900 --> 00:37:52.511 which is common,

NOTE Confidence: 0.9346628222222222

00:37:52.511 --> 00:37:54.659 nitrous oxide emissions are.

NOTE Confidence: 0.9346628222222222

00:37:54.660 --> 00:37:58.020 Close to those of deserine and clinical

NOTE Confidence: 0.9346628222222222

00:37:58.020 --> 00:37:59.460 clinical equipment quantities.

NOTE Confidence: 0.9346628222222222

00:37:59.460 --> 00:38:01.462 And so if you add them to

NOTE Confidence: 0.9346628222222222

00:38:01.462 --> 00:38:02.980 Isopylane and Cebo chlorine,

NOTE Confidence: 0.9346628222222222

00:38:02.980 --> 00:38:05.740 they make those combinations worse.  
NOTE Confidence: 0.9346628222222222

00:38:05.740 --> 00:38:06.868 And then this one that you  
NOTE Confidence: 0.9346628222222222

00:38:06.868 --> 00:38:07.620 can hardly see here,  
NOTE Confidence: 0.9346628222222222

00:38:07.620 --> 00:38:08.076 propofol,  
NOTE Confidence: 0.9346628222222222

00:38:08.076 --> 00:38:09.900 it's not a typo,  
NOTE Confidence: 0.9346628222222222

00:38:09.900 --> 00:38:12.876 it's an intravenous medication and the  
NOTE Confidence: 0.9346628222222222

00:38:12.876 --> 00:38:15.457 life cycle greenhouse gas emissions  
NOTE Confidence: 0.9346628222222222

00:38:15.457 --> 00:38:18.057 are several orders of magnitude  
NOTE Confidence: 0.9346628222222222

00:38:18.057 --> 00:38:20.560 fewer than the inhale metaesthetic.  
NOTE Confidence: 0.9346628222222222

00:38:20.560 --> 00:38:24.040 So here's an opportunity where choices exist.  
NOTE Confidence: 0.9346628222222222

00:38:24.040 --> 00:38:26.840 Choose a lower carbon approach.  
NOTE Confidence: 0.9346628222222222

00:38:26.840 --> 00:38:28.611 And so of course there are other  
NOTE Confidence: 0.9346628222222222

00:38:28.611 --> 00:38:30.199 things we use in anesthesia,  
NOTE Confidence: 0.9346628222222222

00:38:30.200 --> 00:38:32.517 general inhale with the patient being asleep,  
NOTE Confidence: 0.9346628222222222

00:38:32.520 --> 00:38:34.296 we could do regional or peripheral  
NOTE Confidence: 0.9346628222222222

00:38:34.296 --> 00:38:36.319 nerve block whether we numb up an arm,

NOTE Confidence: 0.9346628222222222

00:38:36.320 --> 00:38:39.920 for example for a limb surgery

NOTE Confidence: 0.9346628222222222

00:38:39.920 --> 00:38:41.372 or here you're seeing a patient

NOTE Confidence: 0.9346628222222222

00:38:41.372 --> 00:38:42.871 getting an injection to have either

NOTE Confidence: 0.9346628222222222

00:38:42.871 --> 00:38:43.839 a spinal or epidural.

NOTE Confidence: 0.9346628222222222

00:38:43.840 --> 00:38:46.340 Those are types of regional

NOTE Confidence: 0.9346628222222222

00:38:46.340 --> 00:38:47.875 anesthesia or total intravenous,

NOTE Confidence: 0.9346628222222222

00:38:47.875 --> 00:38:49.600 meaning you could have general

NOTE Confidence: 0.9346628222222222

00:38:49.600 --> 00:38:50.860 anesthesia but performed.

NOTE Confidence: 0.9346628222222222

00:38:50.860 --> 00:38:52.300 Surely through intravenous drugs.

NOTE Confidence: 0.9346628222222222

00:38:52.300 --> 00:38:54.058 And again, if you just squint at this,

NOTE Confidence: 0.9346628222222222

00:38:54.060 --> 00:38:57.220 we hypothesize any anesthetic approach,

NOTE Confidence: 0.9346628222222222

00:38:57.220 --> 00:38:57.620 you know,

NOTE Confidence: 0.9346628222222222

00:38:57.620 --> 00:38:58.820 because it's not just those drugs

NOTE Confidence: 0.9346628222222222

00:38:58.820 --> 00:39:00.340 we use lots of drugs and supplies,

NOTE Confidence: 0.9346628222222222

00:39:00.340 --> 00:39:00.848 medications,

NOTE Confidence: 0.9346628222222222

00:39:00.848 --> 00:39:03.388 any anesthetic approach that use  
NOTE Confidence: 0.9346628222222222

00:39:03.388 --> 00:39:06.288 inhale anesthetics would be a worse  
NOTE Confidence: 0.9346628222222222

00:39:06.288 --> 00:39:08.458 approach from an environmental perspective.  
NOTE Confidence: 0.9346628222222222

00:39:08.460 --> 00:39:10.530 And that's what we found.  
NOTE Confidence: 0.9346628222222222

00:39:10.530 --> 00:39:11.242 Similarly,  
NOTE Confidence: 0.9346628222222222

00:39:11.242 --> 00:39:14.090 different approaches to surgery.  
NOTE Confidence: 0.9346628222222222

00:39:14.090 --> 00:39:16.740 This study looked at different  
NOTE Confidence: 0.9346628222222222

00:39:16.740 --> 00:39:18.330 approaches to hysterectomy,  
NOTE Confidence: 0.9346628222222222

00:39:18.330 --> 00:39:20.895 looking at open procedures and  
NOTE Confidence: 0.9346628222222222

00:39:20.895 --> 00:39:23.460 abdominal procedure versus a vaginally  
NOTE Confidence: 0.9346628222222222

00:39:23.534 --> 00:39:25.688 assisted abdominal procedure.  
NOTE Confidence: 0.9346628222222222

00:39:25.690 --> 00:39:27.590 Compared with minimally invasive  
NOTE Confidence: 0.9346628222222222

00:39:27.590 --> 00:39:29.015 laparoscopic robotic procedures  
NOTE Confidence: 0.9346628222222222

00:39:29.015 --> 00:39:31.688 and some of the takeaways here,  
NOTE Confidence: 0.9346628222222222

00:39:31.690 --> 00:39:33.490 the purple or the inhaled anesthetics.  
NOTE Confidence: 0.9346628222222222

00:39:33.490 --> 00:39:35.442 Inhaled anesthetics is responsible



NOTE Confidence: 0.9346628222222222  
00:39:35.442 --> 00:39:38.452 on average for about 50% of  
NOTE Confidence: 0.9346628222222222  
00:39:38.452 --> 00:39:39.576 perioperative emissions.  
NOTE Confidence: 0.9346628222222222  
00:39:39.576 --> 00:39:43.800 The other big offenders here are the  
NOTE Confidence: 0.9346628222222222  
00:39:43.800 --> 00:39:46.620 single use consumable instruments  
NOTE Confidence: 0.9346628222222222  
00:39:46.620 --> 00:39:50.266 and linens and the minimally invasive  
NOTE Confidence: 0.9346628222222222  
00:39:50.266 --> 00:39:54.590 procedures are using a lot more of these.  
NOTE Confidence: 0.9346628222222222  
00:39:54.590 --> 00:39:55.904 Obviously environmental performance  
NOTE Confidence: 0.9346628222222222  
00:39:55.904 --> 00:39:59.440 is not how we're going to select our  
NOTE Confidence: 0.9346628222222222  
00:39:59.440 --> 00:40:01.430 approach to a surgical procedure.  
NOTE Confidence: 0.9346628222222222  
00:40:01.430 --> 00:40:02.310 That said.  
NOTE Confidence: 0.9346628222222222  
00:40:02.310 --> 00:40:04.950 There are no better clinical outcomes  
NOTE Confidence: 0.9346628222222222  
00:40:04.950 --> 00:40:08.138 from robotic versus laparoscopic procedures.  
NOTE Confidence: 0.9346628222222222  
00:40:08.140 --> 00:40:09.974 So that's something to pay attention to.  
NOTE Confidence: 0.9346628222222222  
00:40:09.980 --> 00:40:13.496 These large bars here represent the  
NOTE Confidence: 0.9346628222222222  
00:40:13.496 --> 00:40:15.946 emissions of the anesthetics or  
NOTE Confidence: 0.9346628222222222

00:40:15.946 --> 00:40:17.661 or impacted by anesthetics because  
NOTE Confidence: 0.9346628222222222

00:40:17.661 --> 00:40:19.726 some of the patients in these  
NOTE Confidence: 0.9346628222222222

00:40:19.726 --> 00:40:21.076 studies had intravenous anesthesia  
NOTE Confidence: 0.9346628222222222

00:40:21.076 --> 00:40:23.512 versus the inhaled gases and and I  
NOTE Confidence: 0.9346628222222222

00:40:23.512 --> 00:40:25.639 already told you that there's four  
NOTE Confidence: 0.9346628222222222

00:40:25.639 --> 00:40:27.019 orders of magnitude difference.  
NOTE Confidence: 0.950317

00:40:27.020 --> 00:40:29.610 That's why you're seeing those error bars.  
NOTE Confidence: 0.950317

00:40:29.610 --> 00:40:31.054 Here's another interesting study  
NOTE Confidence: 0.950317

00:40:31.054 --> 00:40:32.498 comparing the same procedure  
NOTE Confidence: 0.950317

00:40:32.498 --> 00:40:34.249 performed in different countries.  
NOTE Confidence: 0.950317

00:40:34.250 --> 00:40:35.902 So variation in practice,  
NOTE Confidence: 0.950317

00:40:35.902 --> 00:40:37.967 particularly this is cataract surgery.  
NOTE Confidence: 0.950317

00:40:37.970 --> 00:40:40.140 So if you look at the emissions  
NOTE Confidence: 0.950317

00:40:40.140 --> 00:40:41.926 from the same surgery performed  
NOTE Confidence: 0.950317

00:40:41.926 --> 00:40:44.770 in the UK versus II has,  
NOTE Confidence: 0.845973834

00:40:47.690 --> 00:40:50.642 you know, two fold fewer emissions

NOTE Confidence: 0.845973834

00:40:50.642 --> 00:40:53.555 for the same procedure on the right,

NOTE Confidence: 0.845973834

00:40:53.555 --> 00:40:55.760 you're seeing all the trash from one

NOTE Confidence: 0.845973834

00:40:55.830 --> 00:40:58.230 cataract surgery in the United States.

NOTE Confidence: 0.845973834

00:40:58.230 --> 00:40:59.630 And on the bottom bottom,

NOTE Confidence: 0.845973834

00:40:59.630 --> 00:41:02.041 similar amount of trash from 93

NOTE Confidence: 0.845973834

00:41:02.041 --> 00:41:04.987 cataract surgeries performed in the UK.

NOTE Confidence: 0.845973834

00:41:04.990 --> 00:41:06.467 Now of course we also have to

NOTE Confidence: 0.845973834

00:41:06.467 --> 00:41:07.550 ask about clinical outcomes.

NOTE Confidence: 0.845973834

00:41:07.550 --> 00:41:08.866 While this study didn't look at that,

NOTE Confidence: 0.845973834

00:41:08.870 --> 00:41:12.092 other studies have shown that the

NOTE Confidence: 0.845973834

00:41:12.092 --> 00:41:14.558 clinical outcomes are are very similar.

NOTE Confidence: 0.845973834

00:41:14.560 --> 00:41:16.240 Now, it's a low risk procedure,

NOTE Confidence: 0.845973834

00:41:16.240 --> 00:41:18.358 but it really begs the question

NOTE Confidence: 0.845973834

00:41:18.358 --> 00:41:20.680 of what we're doing differently,

NOTE Confidence: 0.845973834

00:41:20.680 --> 00:41:22.480 why we're doing it differently.

NOTE Confidence: 0.845973834

00:41:22.480 --> 00:41:24.848 And also, it's not just about the global  
NOTE Confidence: 0.845973834

00:41:24.848 --> 00:41:27.235 S learning from us how to do better care.  
NOTE Confidence: 0.845973834

00:41:27.240 --> 00:41:28.985 It's about us learning from  
NOTE Confidence: 0.845973834

00:41:28.985 --> 00:41:31.160 them how to do better care.  
NOTE Confidence: 0.845973834

00:41:31.160 --> 00:41:34.108 And so we also have a problem with even  
NOTE Confidence: 0.845973834

00:41:34.108 --> 00:41:35.716 when we're delivering the right care,  
NOTE Confidence: 0.845973834

00:41:35.720 --> 00:41:37.512 using too much stuff,  
NOTE Confidence: 0.845973834

00:41:37.512 --> 00:41:39.844 using, doing too many tasks,  
NOTE Confidence: 0.845973834

00:41:39.844 --> 00:41:41.257 too many medications.  
NOTE Confidence: 0.845973834

00:41:41.260 --> 00:41:43.297 We really have to match the patient  
NOTE Confidence: 0.845973834

00:41:43.297 --> 00:41:44.539 complexity to the preparedness  
NOTE Confidence: 0.845973834

00:41:44.539 --> 00:41:46.375 and the stuff that we use.  
NOTE Confidence: 0.845973834

00:41:46.380 --> 00:41:48.244 Simple cases, simple stuff,  
NOTE Confidence: 0.845973834

00:41:48.244 --> 00:41:50.004 complex cases, complex stuff.  
NOTE Confidence: 0.845973834

00:41:50.004 --> 00:41:53.300 If we over prepare we create waste and  
NOTE Confidence: 0.845973834

00:41:53.379 --> 00:41:56.095 if we under prepare we create risk.

NOTE Confidence: 0.845973834

00:41:56.100 --> 00:41:58.440 So it really is about finding

NOTE Confidence: 0.845973834

00:41:58.440 --> 00:42:00.366 that balance And another topic,

NOTE Confidence: 0.845973834

00:42:00.366 --> 00:42:02.658 we're almost done here that I

NOTE Confidence: 0.845973834

00:42:02.658 --> 00:42:05.203 really want to dresses this idea

NOTE Confidence: 0.845973834

00:42:05.203 --> 00:42:06.454 of inappropriate care.

NOTE Confidence: 0.845973834

00:42:06.460 --> 00:42:08.971 We know we do too many tests to we

NOTE Confidence: 0.845973834

00:42:08.971 --> 00:42:10.618 prescribed too many medications,

NOTE Confidence: 0.845973834

00:42:10.620 --> 00:42:12.940 we do too many procedures.

NOTE Confidence: 0.845973834

00:42:12.940 --> 00:42:15.334 We prolong death at end of life

NOTE Confidence: 0.845973834

00:42:15.334 --> 00:42:18.113 most of our spending and is at end

NOTE Confidence: 0.845973834

00:42:18.113 --> 00:42:20.979 of life and much of it not wanted.

NOTE Confidence: 0.845973834

00:42:20.980 --> 00:42:23.500 And so how we act as clinicians,

NOTE Confidence: 0.845973834

00:42:23.500 --> 00:42:25.462 the micro level meaning in our

NOTE Confidence: 0.845973834

00:42:25.462 --> 00:42:27.516 personal practice we need to adhere

NOTE Confidence: 0.845973834

00:42:27.516 --> 00:42:29.580 to evidence based practice that means

NOTE Confidence: 0.845973834

00:42:29.580 --> 00:42:31.611 de adopting old ways of doing things  
NOTE Confidence: 0.845973834

00:42:31.611 --> 00:42:34.240 being on top of new ways of doing things.  
NOTE Confidence: 0.845973834

00:42:34.240 --> 00:42:36.250 Here at Yale New Haven Hospital,  
NOTE Confidence: 0.845973834

00:42:36.250 --> 00:42:37.810 we have the Care Signature program,  
NOTE Confidence: 0.845973834

00:42:37.810 --> 00:42:40.960 which really makes it easy for us to do  
NOTE Confidence: 0.845973834

00:42:40.960 --> 00:42:44.648 the most streamlined current best practices.  
NOTE Confidence: 0.845973834

00:42:44.650 --> 00:42:46.570 So we need to avoid technology  
NOTE Confidence: 0.845973834

00:42:46.570 --> 00:42:48.210 and indication creep as well,  
NOTE Confidence: 0.845973834

00:42:48.210 --> 00:42:51.160 something new and shiny for  
NOTE Confidence: 0.845973834

00:42:51.160 --> 00:42:52.930 one specific indication.  
NOTE Confidence: 0.845973834

00:42:52.930 --> 00:42:54.322 Once it becomes available,  
NOTE Confidence: 0.845973834

00:42:54.322 --> 00:42:56.410 then people start using things liberally.  
NOTE Confidence: 0.845973834

00:42:56.410 --> 00:42:58.888 That creates a lot of waste.  
NOTE Confidence: 0.845973834

00:42:58.890 --> 00:43:00.276 We need to focus more on  
NOTE Confidence: 0.845973834

00:43:00.276 --> 00:43:00.969 shared decision making,  
NOTE Confidence: 0.845973834

00:43:00.970 --> 00:43:03.994 providing care that is wanted by the patient.

NOTE Confidence: 0.845973834

00:43:04.000 --> 00:43:06.196 And also that also means educating

NOTE Confidence: 0.845973834

00:43:06.196 --> 00:43:08.182 our patients and not providing

NOTE Confidence: 0.845973834

00:43:08.182 --> 00:43:10.918 unnecessary care because they want it.

NOTE Confidence: 0.845973834

00:43:10.920 --> 00:43:12.200 The famous example, of course,

NOTE Confidence: 0.845973834

00:43:12.200 --> 00:43:14.864 being antibiotics for childhood

NOTE Confidence: 0.845973834

00:43:14.864 --> 00:43:16.196 ear infections,

NOTE Confidence: 0.845973834

00:43:16.200 --> 00:43:20.036 most of which are viral in nature.

NOTE Confidence: 0.845973834

00:43:20.040 --> 00:43:21.280 Of course parents feel bad.

NOTE Confidence: 0.845973834

00:43:21.280 --> 00:43:22.960 They want a solution, they want a pill,

NOTE Confidence: 0.845973834

00:43:22.960 --> 00:43:24.479 but the pill is not the answer.

NOTE Confidence: 0.845973834

00:43:24.480 --> 00:43:26.916 And so education is really important.

NOTE Confidence: 0.845973834

00:43:26.920 --> 00:43:29.321 And so shared decision making is not

NOTE Confidence: 0.845973834

00:43:29.321 --> 00:43:31.638 only just providing care that is wanted,

NOTE Confidence: 0.845973834

00:43:31.640 --> 00:43:33.448 it means not providing.

NOTE Confidence: 0.845973834

00:43:33.448 --> 00:43:36.780 Unnecessary care just because it is wanted.

NOTE Confidence: 0.845973834

00:43:36.780 --> 00:43:38.663 So at the meso level that means  
NOTE Confidence: 0.845973834

00:43:38.663 --> 00:43:40.300 acting within our organizations,  
NOTE Confidence: 0.845973834

00:43:40.300 --> 00:43:42.220 better care, coordinate in coordination,  
NOTE Confidence: 0.845973834

00:43:42.220 --> 00:43:44.096 avoiding duplication of care,  
NOTE Confidence: 0.845973834

00:43:44.096 --> 00:43:45.972 working to create institutional  
NOTE Confidence: 0.845973834

00:43:45.972 --> 00:43:47.939 structures to promote best  
NOTE Confidence: 0.845973834

00:43:47.939 --> 00:43:49.859 practices within our departments,  
NOTE Confidence: 0.845973834

00:43:49.860 --> 00:43:51.189 within our institutions.  
NOTE Confidence: 0.845973834

00:43:51.189 --> 00:43:54.290 And again this idea we can develop  
NOTE Confidence: 0.921558330454545

00:43:54.367 --> 00:43:56.617 protocols for D adopting low value  
NOTE Confidence: 0.921558330454545

00:43:56.617 --> 00:43:59.099 care and on the macro level.  
NOTE Confidence: 0.921558330454545

00:43:59.100 --> 00:44:01.180 Of course universal healthcare  
NOTE Confidence: 0.921558330454545

00:44:01.180 --> 00:44:03.820 access will will be one of the  
NOTE Confidence: 0.921558330454545

00:44:03.820 --> 00:44:05.420 things to advocate for here,  
NOTE Confidence: 0.921558330454545

00:44:05.420 --> 00:44:08.180 but also addressing clinical care guidelines,  
NOTE Confidence: 0.921558330454545

00:44:08.180 --> 00:44:09.932 standards of care education,



NOTE Confidence: 0.921558330454545  
00:44:09.932 --> 00:44:11.684 addressing payment models to  
NOTE Confidence: 0.921558330454545  
00:44:11.684 --> 00:44:13.300 discourage low value care.  
NOTE Confidence: 0.921558330454545  
00:44:13.300 --> 00:44:15.358 So there's ways of us getting  
NOTE Confidence: 0.921558330454545  
00:44:15.358 --> 00:44:17.240 involved on the national level  
NOTE Confidence: 0.921558330454545  
00:44:17.240 --> 00:44:19.016 and even international level.  
NOTE Confidence: 0.921558330454545  
00:44:19.020 --> 00:44:22.737 And so of course as an acute care provider,  
NOTE Confidence: 0.921558330454545  
00:44:22.740 --> 00:44:23.940 this is not my area,  
NOTE Confidence: 0.921558330454545  
00:44:23.940 --> 00:44:25.438 but I would be remiss if I  
NOTE Confidence: 0.921558330454545  
00:44:25.438 --> 00:44:26.527 didn't talk about prevention  
NOTE Confidence: 0.921558330454545  
00:44:26.527 --> 00:44:28.087 and crime disease management.  
NOTE Confidence: 0.921558330454545  
00:44:28.090 --> 00:44:29.710 Things like green spaces,  
NOTE Confidence: 0.921558330454545  
00:44:29.710 --> 00:44:30.925 encouraging active transportation,  
NOTE Confidence: 0.921558330454545  
00:44:30.930 --> 00:44:32.049 more physical activity,  
NOTE Confidence: 0.921558330454545  
00:44:32.049 --> 00:44:33.168 more Whole Foods,  
NOTE Confidence: 0.921558330454545  
00:44:33.170 --> 00:44:34.463 plant based diet,  
NOTE Confidence: 0.921558330454545

00:44:34.463 --> 00:44:36.618 addressing the social determinants of  
NOTE Confidence: 0.921558330454545

00:44:36.618 --> 00:44:38.822 health and affordable primary care  
NOTE Confidence: 0.921558330454545

00:44:38.822 --> 00:44:41.037 moving upstream to prevent people  
NOTE Confidence: 0.921558330454545

00:44:41.037 --> 00:44:44.178 from needing care to begin with is  
NOTE Confidence: 0.921558330454545

00:44:44.178 --> 00:44:46.330 essential for mitigating healthcare harm.  
NOTE Confidence: 0.921558330454545

00:44:46.330 --> 00:44:47.746 That said, if we.  
NOTE Confidence: 0.921558330454545

00:44:47.746 --> 00:44:50.720 Expand and do the same things to more  
NOTE Confidence: 0.921558330454545

00:44:50.720 --> 00:44:53.415 patients in the name of of prevention.  
NOTE Confidence: 0.921558330454545

00:44:53.420 --> 00:44:55.576 We will not be solving the problem,  
NOTE Confidence: 0.921558330454545

00:44:55.580 --> 00:44:56.780 We'll be worsening the problem.  
NOTE Confidence: 0.921558330454545

00:44:56.780 --> 00:45:00.140 So it really is about care transformation.  
NOTE Confidence: 0.921558330454545

00:45:00.140 --> 00:45:00.920 Some good news,  
NOTE Confidence: 0.921558330454545

00:45:00.920 --> 00:45:02.740 some good things that are happening globally.  
NOTE Confidence: 0.921558330454545

00:45:02.740 --> 00:45:03.187 Nationally,  
NOTE Confidence: 0.921558330454545

00:45:03.187 --> 00:45:05.422 the scientific community is called  
NOTE Confidence: 0.921558330454545

00:45:05.422 --> 00:45:07.660 for having emissions by 20-30,

NOTE Confidence: 0.921558330454545  
00:45:07.660 --> 00:45:09.976 getting to net 0 by 2050.  
NOTE Confidence: 0.921558330454545  
00:45:09.980 --> 00:45:10.874 On the left,  
NOTE Confidence: 0.921558330454545  
00:45:10.874 --> 00:45:12.364 you're seeing the National Health  
NOTE Confidence: 0.921558330454545  
00:45:12.364 --> 00:45:14.298 Service was the first in the world to  
NOTE Confidence: 0.957505142857143  
00:45:16.460 --> 00:45:20.366 regulate. Carbon reduction on of their  
NOTE Confidence: 0.957505142857143  
00:45:20.366 --> 00:45:23.050 national of their nation with that  
NOTE Confidence: 0.957505142857143  
00:45:23.050 --> 00:45:25.236 involve involved all their national  
NOTE Confidence: 0.957505142857143  
00:45:25.236 --> 00:45:27.456 systems including the health system.  
NOTE Confidence: 0.957505142857143  
00:45:27.460 --> 00:45:29.770 So they've been measuring their emissions  
NOTE Confidence: 0.957505142857143  
00:45:29.770 --> 00:45:32.737 since 28 and they have a whole greener  
NOTE Confidence: 0.957505142857143  
00:45:32.737 --> 00:45:35.108 NHS program is what it's called to  
NOTE Confidence: 0.957505142857143  
00:45:35.108 --> 00:45:37.076 strategically mitigate my team as part  
NOTE Confidence: 0.957505142857143  
00:45:37.076 --> 00:45:39.420 of the part of the analytics here.  
NOTE Confidence: 0.957505142857143  
00:45:39.420 --> 00:45:42.188 So if you figure what are all the  
NOTE Confidence: 0.957505142857143  
00:45:42.188 --> 00:45:45.310 things we can do to mitigate emissions.  
NOTE Confidence: 0.957505142857143

00:45:45.310 --> 00:45:48.430 And and phase them in strategically,  
NOTE Confidence: 0.957505142857143

00:45:48.430 --> 00:45:50.990 how long will it take to get to net zero?  
NOTE Confidence: 0.957505142857143

00:45:50.990 --> 00:45:52.824 And that's really what this plan is  
NOTE Confidence: 0.957505142857143

00:45:52.824 --> 00:45:54.910 all about. So the NHS has led this.  
NOTE Confidence: 0.957505142857143

00:45:54.910 --> 00:45:59.390 They got together with COP 26 and with  
NOTE Confidence: 0.957505142857143

00:45:59.390 --> 00:46:02.678 the UNF Triple C and The Who created a  
NOTE Confidence: 0.957505142857143

00:46:02.678 --> 00:46:05.870 global movement of committing to low carbon,  
NOTE Confidence: 0.957505142857143

00:46:05.870 --> 00:46:07.067 resilient health systems.  
NOTE Confidence: 0.957505142857143

00:46:07.067 --> 00:46:09.461 The White House has a similar  
NOTE Confidence: 0.957505142857143

00:46:09.461 --> 00:46:11.330 mandate under executive order  
NOTE Confidence: 0.957505142857143

00:46:11.330 --> 00:46:13.665 affecting all federal health systems.  
NOTE Confidence: 0.957505142857143

00:46:13.670 --> 00:46:15.970 The Joint Commission has developed  
NOTE Confidence: 0.957505142857143

00:46:15.970 --> 00:46:18.611 an environmental standard to help to  
NOTE Confidence: 0.957505142857143

00:46:18.611 --> 00:46:20.657 help move hospitals in this direction  
NOTE Confidence: 0.957505142857143

00:46:20.657 --> 00:46:22.390 of accounting and mitigation.  
NOTE Confidence: 0.957505142857143

00:46:22.390 --> 00:46:24.015 The National Academy of Medicine

NOTE Confidence: 0.957505142857143

00:46:24.015 --> 00:46:25.945 has a action collaborative and

NOTE Confidence: 0.957505142857143

00:46:25.945 --> 00:46:28.070 decarbonizing the US health sector.

NOTE Confidence: 0.957505142857143

00:46:28.070 --> 00:46:28.230 The

NOTE Confidence: 0.949109095555556

00:46:30.390 --> 00:46:33.057 SEC has proposed rules that would require

NOTE Confidence: 0.949109095555556

00:46:33.057 --> 00:46:35.795 accounting by all accounting and mitigation

NOTE Confidence: 0.949109095555556

00:46:35.795 --> 00:46:38.340 by all publicly traded organizations.

NOTE Confidence: 0.949109095555556

00:46:38.340 --> 00:46:40.168 Of a certain size.

NOTE Confidence: 0.949109095555556

00:46:40.168 --> 00:46:41.996 This all requires decarbonization

NOTE Confidence: 0.949109095555556

00:46:41.996 --> 00:46:43.700 targets and timelines.

NOTE Confidence: 0.949109095555556

00:46:43.700 --> 00:46:45.460 We can't just have them, you know,

NOTE Confidence: 0.949109095555556

00:46:45.460 --> 00:46:47.988 I'd like to say a merry band of

NOTE Confidence: 0.949109095555556

00:46:47.988 --> 00:46:50.220 volunteers who start a recycling program.

NOTE Confidence: 0.949109095555556

00:46:50.220 --> 00:46:52.900 We have to have clear targets and timelines.

NOTE Confidence: 0.949109095555556

00:46:52.900 --> 00:46:55.140 We have to be very strategic about this,

NOTE Confidence: 0.949109095555556

00:46:55.140 --> 00:46:58.367 which means we have to have robust

NOTE Confidence: 0.949109095555556

00:46:58.367 --> 00:47:00.300 benchmarking methods and tools,  
NOTE Confidence: 0.949109095555556

00:47:00.300 --> 00:47:03.093 and we have to consider interventions that  
NOTE Confidence: 0.949109095555556

00:47:03.093 --> 00:47:05.889 are both feasible and impactful together.  
NOTE Confidence: 0.949109095555556

00:47:05.890 --> 00:47:07.394 Addressing waste and inefficiency  
NOTE Confidence: 0.949109095555556

00:47:07.394 --> 00:47:08.898 and reducing embodied emissions  
NOTE Confidence: 0.949109095555556

00:47:08.898 --> 00:47:10.690 and our goods and services.  
NOTE Confidence: 0.949109095555556

00:47:10.690 --> 00:47:12.556 And we have to be careful  
NOTE Confidence: 0.949109095555556

00:47:12.556 --> 00:47:13.489 to avoid greenwashing,  
NOTE Confidence: 0.949109095555556

00:47:13.490 --> 00:47:15.270 both intentionally and unintentionally.  
NOTE Confidence: 0.949109095555556

00:47:15.270 --> 00:47:19.101 And so my colleague and I on Doctor Anna  
NOTE Confidence: 0.949109095555556

00:47:19.101 --> 00:47:21.642 McNeill is a surgeon at the University  
NOTE Confidence: 0.949109095555556

00:47:21.711 --> 00:47:24.296 of British Columbia have developed  
NOTE Confidence: 0.949109095555556

00:47:24.296 --> 00:47:26.364 a planetary healthcare framework.  
NOTE Confidence: 0.949109095555556

00:47:26.370 --> 00:47:28.169 You've heard these principles in my talk,  
NOTE Confidence: 0.949109095555556

00:47:28.170 --> 00:47:30.610 but I'll just present them.  
NOTE Confidence: 0.949109095555556

00:47:30.610 --> 00:47:32.932 The key principles include reducing emissions

NOTE Confidence: 0.949109095555556  
00:47:32.932 --> 00:47:35.020 and body within healthcare services.  
NOTE Confidence: 0.949109095555556  
00:47:35.020 --> 00:47:36.220 Conclusive electrification  
NOTE Confidence: 0.949109095555556  
00:47:36.220 --> 00:47:38.620 combined with clean energy,  
NOTE Confidence: 0.949109095555556  
00:47:38.620 --> 00:47:40.760 switching to a circular economy  
NOTE Confidence: 0.949109095555556  
00:47:40.760 --> 00:47:42.900 and being better resource stewards,  
NOTE Confidence: 0.949109095555556  
00:47:42.900 --> 00:47:44.208 matching supply with demand,  
NOTE Confidence: 0.949109095555556  
00:47:44.208 --> 00:47:45.843 meaning we have to address  
NOTE Confidence: 0.949109095555556  
00:47:45.843 --> 00:47:46.460 inappropriate care,  
NOTE Confidence: 0.949109095555556  
00:47:46.460 --> 00:47:48.284 which is a huge problem in  
NOTE Confidence: 0.949109095555556  
00:47:48.284 --> 00:47:49.500 our country and globally,  
NOTE Confidence: 0.949109095555556  
00:47:49.500 --> 00:47:51.420 but we certainly recognize here in  
NOTE Confidence: 0.949109095555556  
00:47:51.420 --> 00:47:53.121 the United States and moving upstream  
NOTE Confidence: 0.949109095555556  
00:47:53.121 --> 00:47:54.603 to reduce demand for healthcare to  
NOTE Confidence: 0.949109095555556  
00:47:54.603 --> 00:47:56.140 begin with through health promotion,  
NOTE Confidence: 0.949109095555556  
00:47:56.140 --> 00:47:57.784 disease prevention and addressing  
NOTE Confidence: 0.949109095555556

00:47:57.784 --> 00:47:59.839 the social determinants of health.  
NOTE Confidence: 0.949109095555556

00:47:59.840 --> 00:48:01.808 And when we think about value in the  
NOTE Confidence: 0.949109095555556

00:48:01.808 --> 00:48:03.705 triple bottom line of the best care for  
NOTE Confidence: 0.949109095555556

00:48:03.705 --> 00:48:05.400 the most patients at the least cost,  
NOTE Confidence: 0.949109095555556

00:48:05.400 --> 00:48:07.480 least cost isn't just financial,  
NOTE Confidence: 0.949109095555556

00:48:07.480 --> 00:48:09.055 it also means least environmental  
NOTE Confidence: 0.949109095555556

00:48:09.055 --> 00:48:10.000 and social harms.  
NOTE Confidence: 0.949109095555556

00:48:10.000 --> 00:48:13.636 And that's what we mean by high value care.  
NOTE Confidence: 0.949109095555556

00:48:13.640 --> 00:48:16.216 And so there's now a concept of  
NOTE Confidence: 0.949109095555556

00:48:16.216 --> 00:48:18.680 planetary health and there is a  
NOTE Confidence: 0.949109095555556

00:48:18.680 --> 00:48:21.260 an update to the Hippocratic Oath  
NOTE Confidence: 0.949109095555556

00:48:21.352 --> 00:48:24.400 or which has already been updated.  
NOTE Confidence: 0.91766488

00:48:28.670 --> 00:48:31.294 Sorry, I'm. I'm blanking.  
NOTE Confidence: 0.91766488

00:48:31.294 --> 00:48:34.308 On 1948, the Hippocratic Oath was updated  
NOTE Confidence: 0.91766488

00:48:34.308 --> 00:48:36.750 by the World Medical Association,  
NOTE Confidence: 0.91766488

00:48:36.750 --> 00:48:39.766 but it has just undergone a new proposed



NOTE Confidence: 0.91766488

00:48:39.766 --> 00:48:42.788 update to account for planetary health.

NOTE Confidence: 0.91766488

00:48:42.790 --> 00:48:44.548 I encourage everyone to read this,

NOTE Confidence: 0.91766488

00:48:44.550 --> 00:48:46.596 and in fact, I think medical

NOTE Confidence: 0.91766488

00:48:46.596 --> 00:48:48.421 students should recite it during

NOTE Confidence: 0.91766488

00:48:48.421 --> 00:48:50.454 their White Coat Summers ceremonies.

NOTE Confidence: 0.91766488

00:48:50.454 --> 00:48:51.846 And with that,

NOTE Confidence: 0.91766488

00:48:51.846 --> 00:48:54.630 I will pause and take questions.

NOTE Confidence: 0.938097157142857

00:49:00.340 --> 00:49:01.918 Thank you doctor. Sherman let me

NOTE Confidence: 0.938097157142857

00:49:01.918 --> 00:49:04.098 see how we can figure out what the

NOTE Confidence: 0.938097157142857

00:49:04.100 --> 00:49:06.020 how are we going to do this week.

NOTE Confidence: 0.938097157142857

00:49:06.020 --> 00:49:08.400 Karen how do you want to

NOTE Confidence: 0.938097157142857

00:49:08.400 --> 00:49:09.260 set up for questions Karen.

NOTE Confidence: 0.9201268

00:49:12.980 --> 00:49:17.092 OK all right. So we we so that the

NOTE Confidence: 0.9201268

00:49:17.092 --> 00:49:18.740 folks on on there we have nothing

NOTE Confidence: 0.9201268

00:49:18.740 --> 00:49:20.280 on zoom you just have the folks

NOTE Confidence: 0.9201268

00:49:20.280 --> 00:49:21.928 here I'm going to do a little walk

NOTE Confidence: 0.9201268

00:49:21.981 --> 00:49:24.190 in here with this you've got that.

NOTE Confidence: 0.9201268

00:49:24.190 --> 00:49:27.316 OK. So I'm going to take the.

NOTE Confidence: 0.9201268

00:49:27.316 --> 00:49:31.840 Take the first question if I can Jody,

NOTE Confidence: 0.9201268

00:49:31.840 --> 00:49:35.236 we, you know the the specter,

NOTE Confidence: 0.9201268

00:49:35.240 --> 00:49:36.920 the importance of public health,

NOTE Confidence: 0.9201268

00:49:36.920 --> 00:49:38.600 it was raised in in conversations I

NOTE Confidence: 0.9201268

00:49:38.600 --> 00:49:40.614 think that we had prior to this and

NOTE Confidence: 0.9201268

00:49:40.614 --> 00:49:42.160 what's the importance of your work.

NOTE Confidence: 0.9201268

00:49:42.160 --> 00:49:43.756 I guess what I'm trying to,

NOTE Confidence: 0.9201268

00:49:43.760 --> 00:49:45.456 what I'm trying to get around to is

NOTE Confidence: 0.9201268

00:49:45.456 --> 00:49:47.214 it seems to me that to fix this it's

NOTE Confidence: 0.9201268

00:49:47.214 --> 00:49:48.712 got to be a public health solution

NOTE Confidence: 0.9201268

00:49:48.712 --> 00:49:50.437 which is to say that I'm pretty much,

NOTE Confidence: 0.9201268

00:49:50.440 --> 00:49:53.995 I'm pretty much I know that I need the

NOTE Confidence: 0.9201268

00:49:53.995 --> 00:49:56.054 disposable kit for me and everybody

NOTE Confidence: 0.9201268

00:49:56.054 --> 00:49:58.376 else should use the other one.

NOTE Confidence: 0.9201268

00:49:58.380 --> 00:49:59.689 And I think that probably a lot

NOTE Confidence: 0.9201268

00:49:59.689 --> 00:50:00.660 of people feel that way.

NOTE Confidence: 0.9201268

00:50:00.660 --> 00:50:01.656 Do you know what I mean?

NOTE Confidence: 0.9201268

00:50:01.660 --> 00:50:03.940 That that there has to be,

NOTE Confidence: 0.9201268

00:50:03.940 --> 00:50:06.660 I don't want to sound authoritarian

NOTE Confidence: 0.9201268

00:50:06.660 --> 00:50:07.060 about this,

NOTE Confidence: 0.9201268

00:50:07.060 --> 00:50:08.713 but one gets a sense there has to be

NOTE Confidence: 0.9201268

00:50:08.713 --> 00:50:10.046 kind of a higher authority that says, no,

NOTE Confidence: 0.9201268

00:50:10.046 --> 00:50:11.828 this is what we're going to do, right?

NOTE Confidence: 0.9201268

00:50:11.828 --> 00:50:12.980 Because particularly, you know,

NOTE Confidence: 0.9201268

00:50:12.980 --> 00:50:15.380 in a society that's so values

NOTE Confidence: 0.9201268

00:50:15.380 --> 00:50:17.300 individualism so much that to say,

NOTE Confidence: 0.9201268

00:50:17.300 --> 00:50:18.679 well, we're going to do this for

NOTE Confidence: 0.9201268

00:50:18.679 --> 00:50:19.780 the benefit of the planet,

NOTE Confidence: 0.9201268

00:50:19.780 --> 00:50:20.452 that's a hard sell.  
NOTE Confidence: 0.9201268

00:50:20.452 --> 00:50:21.460 We're going to do this for  
NOTE Confidence: 0.9201268

00:50:21.503 --> 00:50:22.418 the benefit of the group.  
NOTE Confidence: 0.9201268

00:50:22.420 --> 00:50:23.778 That's a hard song unless someone's kind  
NOTE Confidence: 0.9201268

00:50:23.778 --> 00:50:25.097 of overseeing the benefit of the group.  
NOTE Confidence: 0.9201268

00:50:25.100 --> 00:50:26.888 But I think everybody's pretty clear  
NOTE Confidence: 0.9201268

00:50:26.888 --> 00:50:28.855 that everybody else ought to cut back  
NOTE Confidence: 0.9201268

00:50:28.855 --> 00:50:30.933 on their emissions except for me.  
NOTE Confidence: 0.9201268

00:50:30.933 --> 00:50:31.384 So.  
NOTE Confidence: 0.9201268

00:50:31.384 --> 00:50:33.955 So is there a strong initiative  
NOTE Confidence: 0.9201268

00:50:33.955 --> 00:50:36.123 on a national level in terms of  
NOTE Confidence: 0.9201268

00:50:36.123 --> 00:50:37.209 public health to make these things  
NOTE Confidence: 0.9201268

00:50:37.209 --> 00:50:37.980 happen in the hospital?  
NOTE Confidence: 0.944898359230769

00:50:38.620 --> 00:50:41.861 Right. Well, I think there's a few  
NOTE Confidence: 0.944898359230769

00:50:41.861 --> 00:50:45.179 issues that you've highlighted and want.  
NOTE Confidence: 0.944898359230769

00:50:45.180 --> 00:50:47.400 We cannot sacrifice individual

NOTE Confidence: 0.944898359230769

00:50:47.400 --> 00:50:50.175 patient safety for public health.

NOTE Confidence: 0.944898359230769

00:50:50.180 --> 00:50:55.008 That is also. A moral issue, right.

NOTE Confidence: 0.944898359230769

00:50:55.008 --> 00:50:58.179 So we cannot do harm to our patients.

NOTE Confidence: 0.944898359230769

00:50:58.180 --> 00:51:00.826 So right now it's about using

NOTE Confidence: 0.944898359230769

00:51:00.826 --> 00:51:02.590 environmental information to be

NOTE Confidence: 0.944898359230769

00:51:02.672 --> 00:51:04.697 part of the decision making.

NOTE Confidence: 0.944898359230769

00:51:04.700 --> 00:51:06.460 Not the first thing or the only thing,

NOTE Confidence: 0.944898359230769

00:51:06.460 --> 00:51:08.080 but part of what goes

NOTE Confidence: 0.944898359230769

00:51:08.080 --> 00:51:09.376 into our decision making.

NOTE Confidence: 0.944898359230769

00:51:09.380 --> 00:51:10.340 And two things.

NOTE Confidence: 0.944898359230769

00:51:10.340 --> 00:51:11.620 Firstly, that requires evidence.

NOTE Confidence: 0.944898359230769

00:51:11.620 --> 00:51:14.338 We need to know what's more or less harmful.

NOTE Confidence: 0.944898359230769

00:51:14.340 --> 00:51:18.260 That requires disclosure by industry.

NOTE Confidence: 0.944898359230769

00:51:18.260 --> 00:51:19.572 That requires.

NOTE Confidence: 0.944898359230769

00:51:19.572 --> 00:51:23.508 Funding for research and that requires

NOTE Confidence: 0.944898359230769

00:51:23.508 --> 00:51:25.915 disclosure standards and we also  
NOTE Confidence: 0.944898359230769

00:51:25.915 --> 00:51:29.124 need guidance of what to do in the  
NOTE Confidence: 0.944898359230769

00:51:29.124 --> 00:51:31.966 absence of information in the terms  
NOTE Confidence: 0.944898359230769

00:51:31.966 --> 00:51:34.258 in in terms of infection control.  
NOTE Confidence: 0.944898359230769

00:51:34.260 --> 00:51:35.730 There are things that we know are  
NOTE Confidence: 0.944898359230769

00:51:35.730 --> 00:51:37.670 safe to do and then there's a lot of  
NOTE Confidence: 0.944898359230769

00:51:37.670 --> 00:51:39.418 stuff that we have no information on.  
NOTE Confidence: 0.944898359230769

00:51:39.420 --> 00:51:41.580 But the default is let's just  
NOTE Confidence: 0.944898359230769

00:51:41.580 --> 00:51:43.590 throw everything away and just  
NOTE Confidence: 0.944898359230769

00:51:43.590 --> 00:51:45.915 like it's our responsibility to  
NOTE Confidence: 0.944898359230769

00:51:45.915 --> 00:51:48.211 not prescribe antibiotics for a  
NOTE Confidence: 0.944898359230769

00:51:48.211 --> 00:51:49.855 probable viral ear infection.  
NOTE Confidence: 0.944898359230769

00:51:49.860 --> 00:51:52.852 And we also have to be mindful of  
NOTE Confidence: 0.944898359230769

00:51:52.852 --> 00:51:55.140 inappropriate use of disposable goods.  
NOTE Confidence: 0.944898359230769

00:51:55.140 --> 00:51:59.196 And I also hear you suggesting  
NOTE Confidence: 0.944898359230769

00:51:59.196 --> 00:52:01.900 the need for regulation.

NOTE Confidence: 0.944898359230769  
00:52:01.900 --> 00:52:05.257 And I would say that's true because in fact,  
NOTE Confidence: 0.944898359230769  
00:52:05.260 --> 00:52:05.546 nationally,  
NOTE Confidence: 0.944898359230769  
00:52:05.546 --> 00:52:06.976 you asked what's happening nationally,  
NOTE Confidence: 0.944898359230769  
00:52:06.980 --> 00:52:07.940 the White House has a a  
NOTE Confidence: 0.930983438333333  
00:52:10.140 --> 00:52:13.552 pledge to decarbonize healthcare.  
NOTE Confidence: 0.930983438333333  
00:52:13.552 --> 00:52:16.817 They've had about over 100.  
NOTE Confidence: 0.930983438333333  
00:52:16.817 --> 00:52:19.412 Corporations and health organizations have  
NOTE Confidence: 0.930983438333333  
00:52:19.412 --> 00:52:22.716 since signed on to this White House pledge,  
NOTE Confidence: 0.930983438333333  
00:52:22.720 --> 00:52:24.790 which is to have emissions by  
NOTE Confidence: 0.930983438333333  
00:52:24.790 --> 00:52:26.999 20-30 get to net 0 by 2050,  
NOTE Confidence: 0.930983438333333  
00:52:27.000 --> 00:52:29.080 which is the international  
NOTE Confidence: 0.930983438333333  
00:52:29.080 --> 00:52:31.826 scientific mandate and is  
NOTE Confidence: 0.930983438333333  
00:52:31.826 --> 00:52:35.238 possible and requires commitment.  
NOTE Confidence: 0.930983438333333  
00:52:35.240 --> 00:52:35.994 But unfortunately,  
NOTE Confidence: 0.930983438333333  
00:52:35.994 --> 00:52:37.879 voluntary pledges are not enough.  
NOTE Confidence: 0.930983438333333

00:52:37.880 --> 00:52:40.092 So I have published on and I've  
NOTE Confidence: 0.9309834383333333

00:52:40.092 --> 00:52:42.208 in fact testified in front of  
NOTE Confidence: 0.9309834383333333

00:52:42.208 --> 00:52:44.043 Congress that we need mandatory  
NOTE Confidence: 0.9309834383333333

00:52:44.043 --> 00:52:45.560 reporting and mitigation.  
NOTE Confidence: 0.941437529411765

00:52:46.680 --> 00:52:47.900 Thank you. You know,  
NOTE Confidence: 0.941437529411765

00:52:47.900 --> 00:52:49.425 your analogy to antibiotics with  
NOTE Confidence: 0.941437529411765

00:52:49.425 --> 00:52:51.236 viruses is of course a very good one.  
NOTE Confidence: 0.941437529411765

00:52:51.240 --> 00:52:52.092 Antibiotics for viruses,  
NOTE Confidence: 0.941437529411765

00:52:52.092 --> 00:52:53.796 we should we cut that out?  
NOTE Confidence: 0.941437529411765

00:52:53.800 --> 00:52:54.560 That'll cut out some waste.  
NOTE Confidence: 0.941437529411765

00:52:54.560 --> 00:52:55.616 But I was, I thought you were going  
NOTE Confidence: 0.941437529411765

00:52:55.616 --> 00:52:56.718 to go in a different direction,  
NOTE Confidence: 0.941437529411765

00:52:56.720 --> 00:52:59.480 which is that even though for my patient,  
NOTE Confidence: 0.941437529411765

00:52:59.480 --> 00:53:02.392 I think you know what a third generation  
NOTE Confidence: 0.941437529411765

00:53:02.392 --> 00:53:04.596 Cephalosporin will really do the job here,  
NOTE Confidence: 0.941437529411765

00:53:04.600 --> 00:53:06.664 that nevertheless I feel a responsibility



NOTE Confidence: 0.941437529411765  
00:53:06.664 --> 00:53:08.431 because of the overall concern  
NOTE Confidence: 0.941437529411765  
00:53:08.431 --> 00:53:10.096 of antibiotic resistance not to  
NOTE Confidence: 0.941437529411765  
00:53:10.096 --> 00:53:12.257 go directly perhaps to that third  
NOTE Confidence: 0.941437529411765  
00:53:12.257 --> 00:53:14.177 generation Cephalosporin to the latest.  
NOTE Confidence: 0.941437529411765  
00:53:14.180 --> 00:53:15.158 And greatest antibiotics,  
NOTE Confidence: 0.941437529411765  
00:53:15.158 --> 00:53:17.114 but to use something that's simple  
NOTE Confidence: 0.941437529411765  
00:53:17.114 --> 00:53:18.898 because we worry so much about  
NOTE Confidence: 0.941437529411765  
00:53:18.898 --> 00:53:20.026 creating resistance strengths to  
NOTE Confidence: 0.941437529411765  
00:53:20.026 --> 00:53:21.658 the more developed antibiotics.  
NOTE Confidence: 0.941437529411765  
00:53:21.660 --> 00:53:22.696 So it's the same sort of thing.  
NOTE Confidence: 0.941437529411765  
00:53:22.700 --> 00:53:24.230 So I think within the medical  
NOTE Confidence: 0.941437529411765  
00:53:24.230 --> 00:53:27.179 culture we've had some upbringing  
NOTE Confidence: 0.941437529411765  
00:53:27.180 --> 00:53:28.180 in the idea that well,  
NOTE Confidence: 0.941437529411765  
00:53:28.180 --> 00:53:30.098 it may be fine for this patient,  
NOTE Confidence: 0.941437529411765  
00:53:30.100 --> 00:53:31.752 but in fact in the long run  
NOTE Confidence: 0.941437529411765

00:53:31.752 --> 00:53:32.979 it's going to do harm.  
NOTE Confidence: 0.941437529411765

00:53:32.980 --> 00:53:33.260 Well,  
NOTE Confidence: 0.949198844444444

00:53:33.260 --> 00:53:34.745 and that's also the virtue  
NOTE Confidence: 0.949198844444444

00:53:34.745 --> 00:53:35.933 of decision support tools,  
NOTE Confidence: 0.949198844444444

00:53:35.940 --> 00:53:38.000 including nudges in our  
NOTE Confidence: 0.949198844444444

00:53:38.000 --> 00:53:40.060 electronic health record that  
NOTE Confidence: 0.949198844444444

00:53:40.060 --> 00:53:42.708 point us to better first choices.  
NOTE Confidence: 0.949198844444444

00:53:42.708 --> 00:53:45.576 Point us, don't restrict us, but point us.  
NOTE Confidence: 0.949198844444444

00:53:45.580 --> 00:53:47.602 And that's also why we need  
NOTE Confidence: 0.949198844444444

00:53:47.602 --> 00:53:48.613 decision support tools,  
NOTE Confidence: 0.949198844444444

00:53:48.620 --> 00:53:50.700 why the work of care signature is really,  
NOTE Confidence: 0.949198844444444

00:53:50.700 --> 00:53:52.580 I think a shining star of our organization.  
NOTE Confidence: 0.93270605

00:53:54.240 --> 00:53:56.399 Thank you, I I've always had the  
NOTE Confidence: 0.93270605

00:53:56.399 --> 00:53:57.994 sense it's a psychological thing  
NOTE Confidence: 0.93270605

00:53:57.994 --> 00:54:00.678 and and I may be off based on this.  
NOTE Confidence: 0.93270605

00:54:00.680 --> 00:54:01.960 I wonder what you're thinking.

NOTE Confidence: 0.93270605

00:54:01.960 --> 00:54:03.736 But sometimes when I do things

NOTE Confidence: 0.93270605

00:54:03.736 --> 00:54:05.878 or when I see things I have,

NOTE Confidence: 0.93270605

00:54:05.878 --> 00:54:07.790 I fall back and it was somebody must

NOTE Confidence: 0.93270605

00:54:07.853 --> 00:54:09.757 have the right this the first time.

NOTE Confidence: 0.93270605

00:54:09.760 --> 00:54:11.296 I used the whole freaking kit

NOTE Confidence: 0.93270605

00:54:11.296 --> 00:54:12.625 for one quick procedure and

NOTE Confidence: 0.93270605

00:54:12.625 --> 00:54:14.119 then threw the whole thing away.

NOTE Confidence: 0.93270605

00:54:14.120 --> 00:54:15.482 Except the sharps I threw away

NOTE Confidence: 0.93270605

00:54:15.482 --> 00:54:16.640 over here and everything else.

NOTE Confidence: 0.93270605

00:54:16.640 --> 00:54:17.668 I thought, well, someone,

NOTE Confidence: 0.93270605

00:54:17.668 --> 00:54:18.953 somebody who knows more than

NOTE Confidence: 0.93270605

00:54:18.953 --> 00:54:20.180 me and authority has figured

NOTE Confidence: 0.93270605

00:54:20.180 --> 00:54:21.790 out that this is the best way.

NOTE Confidence: 0.93270605

00:54:21.790 --> 00:54:22.350 For us to do this,

NOTE Confidence: 0.93270605

00:54:22.350 --> 00:54:23.876 which is to throw away all this

NOTE Confidence: 0.93270605

00:54:23.876 --> 00:54:25.349 stuff every time we do a procedure  
NOTE Confidence: 0.93270605

00:54:25.350 --> 00:54:27.094 and and or when you use you know  
NOTE Confidence: 0.93270605

00:54:27.094 --> 00:54:28.507 a complicated device to administer  
NOTE Confidence: 0.93270605

00:54:28.507 --> 00:54:30.663 medication and throw the whole designs away,  
NOTE Confidence: 0.93270605

00:54:30.670 --> 00:54:31.602 the disposable, the Ringoscopes.  
NOTE Confidence: 0.93270605

00:54:31.602 --> 00:54:33.390 I I couldn't believe it when I saw it.  
NOTE Confidence: 0.93270605

00:54:33.390 --> 00:54:34.566 I said well really this is the  
NOTE Confidence: 0.93270605

00:54:34.566 --> 00:54:35.070 best thing overall,  
NOTE Confidence: 0.93270605

00:54:35.070 --> 00:54:35.790 all right.  
NOTE Confidence: 0.93270605

00:54:35.790 --> 00:54:37.590 There's the sense that somebody  
NOTE Confidence: 0.93270605

00:54:37.590 --> 00:54:39.466 in authority overseeing this as a  
NOTE Confidence: 0.93270605

00:54:39.466 --> 00:54:41.181 side of this is really what's best.  
NOTE Confidence: 0.93270605

00:54:41.190 --> 00:54:42.806 And my fear is and I don't mean  
NOTE Confidence: 0.93270605

00:54:42.806 --> 00:54:43.710 to be cynical,  
NOTE Confidence: 0.93270605

00:54:43.710 --> 00:54:45.586 actually don't my fear is that they  
NOTE Confidence: 0.93270605

00:54:45.586 --> 00:54:47.399 figured out this is what's best in

NOTE Confidence: 0.93270605

00:54:47.399 --> 00:54:49.140 the short run for the bottom line.

NOTE Confidence: 0.93270605

00:54:49.140 --> 00:54:50.898 And perhaps also for infection prevention.

NOTE Confidence: 0.93270605

00:54:50.900 --> 00:54:52.076 I think a lot of this is that

NOTE Confidence: 0.93270605

00:54:52.076 --> 00:54:52.819 in the short run,

NOTE Confidence: 0.93270605

00:54:52.820 --> 00:54:54.220 this is what's best for the bottom line.

NOTE Confidence: 0.93270605

00:54:54.220 --> 00:54:55.750 And that's we're all about the

NOTE Confidence: 0.93270605

00:54:55.750 --> 00:54:57.589 short run and we're all about the

NOTE Confidence: 0.93270605

00:54:57.589 --> 00:54:59.364 bottom line because some of the

NOTE Confidence: 0.93270605

00:54:59.364 --> 00:55:01.730 stuff that we throw away in the

NOTE Confidence: 0.93270605

00:55:01.730 --> 00:55:04.094 practice of medicine is just amazing.

NOTE Confidence: 0.93270605

00:55:04.100 --> 00:55:04.697 It amazes me.

NOTE Confidence: 0.93270605

00:55:04.697 --> 00:55:05.891 So I always thought that somebody's

NOTE Confidence: 0.93270605

00:55:05.891 --> 00:55:07.180 figured out that this is the best way,

NOTE Confidence: 0.93270605

00:55:07.180 --> 00:55:08.820 but not so well.

NOTE Confidence: 0.895132644

00:55:08.940 --> 00:55:09.900 I don't believe somebody's

NOTE Confidence: 0.895132644

00:55:09.900 --> 00:55:11.340 figured out it's the best way.  
NOTE Confidence: 0.895132644

00:55:11.340 --> 00:55:15.260 I think much of it is manufactured  
NOTE Confidence: 0.895132644

00:55:15.260 --> 00:55:17.678 obsolescence by industry.  
NOTE Confidence: 0.895132644

00:55:17.678 --> 00:55:19.290 Regulatory loopholes,  
NOTE Confidence: 0.895132644

00:55:19.290 --> 00:55:26.010 lobbying to obfuscate and preventing,  
NOTE Confidence: 0.895132644

00:55:26.010 --> 00:55:29.290 not putting forth accurate information,  
NOTE Confidence: 0.895132644

00:55:29.290 --> 00:55:30.154 misleading information.  
NOTE Confidence: 0.895132644

00:55:30.154 --> 00:55:32.314 And then of course there  
NOTE Confidence: 0.895132644

00:55:32.314 --> 00:55:33.610 you're absolutely right.  
NOTE Confidence: 0.895132644

00:55:33.610 --> 00:55:35.650 It's a lot of it is about convenience.  
NOTE Confidence: 0.895132644

00:55:35.650 --> 00:55:38.970 But if you actually do the analytics now,  
NOTE Confidence: 0.895132644

00:55:38.970 --> 00:55:41.802 when when we first made this switch to  
NOTE Confidence: 0.895132644

00:55:41.802 --> 00:55:43.618 disposable lingoscopes in our department.  
NOTE Confidence: 0.895132644

00:55:43.620 --> 00:55:45.230 I went to our para operative manager  
NOTE Confidence: 0.895132644

00:55:45.230 --> 00:55:46.629 and he started touting about how  
NOTE Confidence: 0.895132644

00:55:46.629 --> 00:55:48.472 much money it was going to save and

NOTE Confidence: 0.895132644

00:55:48.472 --> 00:55:49.978 how was better for the environment.

NOTE Confidence: 0.895132644

00:55:49.980 --> 00:55:51.457 And I said show me the data.

NOTE Confidence: 0.895132644

00:55:51.460 --> 00:55:53.378 And I actually I didn't believe it.

NOTE Confidence: 0.895132644

00:55:53.380 --> 00:55:55.140 So that's why we did our own study.

NOTE Confidence: 0.895132644

00:55:55.140 --> 00:55:58.094 He was presenting data presented by industry.

NOTE Confidence: 0.895132644

00:55:58.100 --> 00:56:01.540 Now of course we do have our own

NOTE Confidence: 0.895132644

00:56:01.540 --> 00:56:03.860 internal value analytics teams,

NOTE Confidence: 0.895132644

00:56:03.860 --> 00:56:06.770 but I will say this that.

NOTE Confidence: 0.895132644

00:56:06.770 --> 00:56:09.528 If it doesn't pass the sniff test,

NOTE Confidence: 0.895132644

00:56:09.530 --> 00:56:11.520 I I I personally investigate

NOTE Confidence: 0.895132644

00:56:11.520 --> 00:56:14.593 and I would say it's not always

NOTE Confidence: 0.895132644

00:56:14.593 --> 00:56:17.088 true that reusables are cheaper.

NOTE Confidence: 0.895132644

00:56:17.090 --> 00:56:18.890 It's not always true that

NOTE Confidence: 0.895132644

00:56:18.890 --> 00:56:19.970 reusables are safer.

NOTE Confidence: 0.895132644

00:56:19.970 --> 00:56:21.956 It's not always true that reusables

NOTE Confidence: 0.895132644

00:56:21.956 --> 00:56:24.080 are better for the environment.

NOTE Confidence: 0.895132644

00:56:24.080 --> 00:56:25.524 But by and large,

NOTE Confidence: 0.895132644

00:56:25.524 --> 00:56:27.690 all the research that has been

NOTE Confidence: 0.895132644

00:56:27.775 --> 00:56:30.092 done has shown that to be true

NOTE Confidence: 0.895132644

00:56:30.092 --> 00:56:32.796 and we really cannot sit back and

NOTE Confidence: 0.895132644

00:56:32.796 --> 00:56:35.238 just let this trend go unfettered.

NOTE Confidence: 0.895132644

00:56:35.240 --> 00:56:37.900 It really has to be looked at

NOTE Confidence: 0.895132644

00:56:37.900 --> 00:56:40.499 critically and in fact there is so much

NOTE Confidence: 0.895132644

00:56:40.499 --> 00:56:42.280 money and opportunity to be saved,

NOTE Confidence: 0.895132644

00:56:42.280 --> 00:56:43.792 but we have to look for it

NOTE Confidence: 0.895132644

00:56:43.792 --> 00:56:45.160 and instead the easy way out,

NOTE Confidence: 0.895132644

00:56:45.160 --> 00:56:47.465 just like it's easy to to take our

NOTE Confidence: 0.895132644

00:56:47.465 --> 00:56:49.781 buyer to go coffee and throw the cup

NOTE Confidence: 0.895132644

00:56:49.781 --> 00:56:52.028 away versus carrying our cup with us.

NOTE Confidence: 0.895132644

00:56:52.030 --> 00:56:53.710 It's just more convenient.

NOTE Confidence: 0.895132644

00:56:53.710 --> 00:56:55.390 It takes less time,



NOTE Confidence: 0.895132644

00:56:55.390 --> 00:56:56.586 takes less human resource.

NOTE Confidence: 0.895132644

00:56:56.586 --> 00:56:58.081 That doesn't mean it's better

NOTE Confidence: 0.895132644

00:56:58.081 --> 00:56:59.230 for our bottom line.

NOTE Confidence: 0.895132644

00:56:59.230 --> 00:56:59.884 In fact,

NOTE Confidence: 0.895132644

00:56:59.884 --> 00:57:02.173 creating more jobs in our local community

NOTE Confidence: 0.895132644

00:57:02.173 --> 00:57:03.545 supports the social determinants

NOTE Confidence: 0.895132644

00:57:03.545 --> 00:57:05.507 of health and and prevents harm

NOTE Confidence: 0.895132644

00:57:05.507 --> 00:57:07.510 and need for healthcare services.

NOTE Confidence: 0.895132644

00:57:07.510 --> 00:57:10.390 So really have to look broader

NOTE Confidence: 0.895132644

00:57:10.390 --> 00:57:11.750 than what's most immediate.

NOTE Confidence: 0.94276945

00:57:12.230 --> 00:57:13.250 Thank you. We have,

NOTE Confidence: 0.94276945

00:57:13.250 --> 00:57:14.270 there's a question back,

NOTE Confidence: 0.94276945

00:57:14.270 --> 00:57:15.310 we got a few questions in the house.

NOTE Confidence: 0.94276945

00:57:15.310 --> 00:57:17.235 So I'm going to run with the

NOTE Confidence: 0.94276945

00:57:17.235 --> 00:57:18.150 microphone so that the folks

NOTE Confidence: 0.94276945

00:57:18.150 --> 00:57:19.350 on Zoom can hear you as well.  
NOTE Confidence: 0.947994676923077

00:57:22.190 --> 00:57:24.170 I think this is critically important  
NOTE Confidence: 0.947994676923077

00:57:24.170 --> 00:57:26.669 and I'll trump your cynicism with mine.  
NOTE Confidence: 0.947994676923077

00:57:26.670 --> 00:57:28.550 You mentioned the bottom line.  
NOTE Confidence: 0.947994676923077

00:57:28.550 --> 00:57:30.230 My question is better for the bottom line.  
NOTE Confidence: 0.947994676923077

00:57:30.230 --> 00:57:32.630 The question is whose bottom line?  
NOTE Confidence: 0.947994676923077

00:57:32.630 --> 00:57:36.000 And my frustration is that it's politics  
NOTE Confidence: 0.947994676923077

00:57:36.000 --> 00:57:38.310 and profit that really rule today,  
NOTE Confidence: 0.947994676923077

00:57:38.310 --> 00:57:40.694 and I don't know how science that  
NOTE Confidence: 0.947994676923077

00:57:40.694 --> 00:57:42.710 we in science can overcome that.  
NOTE Confidence: 0.937737683333334

00:57:44.360 --> 00:57:46.390 Well, I I will tell you that  
NOTE Confidence: 0.937737683333334

00:57:46.390 --> 00:57:48.280 there are some shining stars,  
NOTE Confidence: 0.937737683333334

00:57:48.280 --> 00:57:51.080 some healthcare organizations shining stars.  
NOTE Confidence: 0.937737683333334

00:57:51.080 --> 00:57:52.108 And we're actually different  
NOTE Confidence: 0.937737683333334

00:57:52.108 --> 00:57:52.879 than other industries.  
NOTE Confidence: 0.937737683333334

00:57:52.880 --> 00:57:54.806 Other industries are really motivated in

NOTE Confidence: 0.937737683333334  
00:57:54.806 --> 00:57:57.319 this space and many are already do carbon,  
NOTE Confidence: 0.937737683333334  
00:57:57.320 --> 00:57:58.840 carbon accounting and mitigation,  
NOTE Confidence: 0.937737683333334  
00:57:58.840 --> 00:58:00.740 looking for greener solutions for  
NOTE Confidence: 0.937737683333334  
00:58:00.740 --> 00:58:03.684 real because they have reputational  
NOTE Confidence: 0.937737683333334  
00:58:03.684 --> 00:58:06.889 risks because there are many  
NOTE Confidence: 0.937737683333334  
00:58:06.889 --> 00:58:09.447 studies now that show that.  
NOTE Confidence: 0.937737683333334  
00:58:09.450 --> 00:58:12.010 Potential employees want this and  
NOTE Confidence: 0.937737683333334  
00:58:12.010 --> 00:58:14.570 they will absolutely choose between  
NOTE Confidence: 0.937737683333334  
00:58:14.570 --> 00:58:16.850 job opportunities based on the  
NOTE Confidence: 0.937737683333334  
00:58:16.850 --> 00:58:18.815 corporate responsibility profile  
NOTE Confidence: 0.937737683333334  
00:58:18.815 --> 00:58:23.002 of a of a particular industry,  
NOTE Confidence: 0.937737683333334  
00:58:23.002 --> 00:58:25.738 a particular organization.  
NOTE Confidence: 0.937737683333334  
00:58:25.738 --> 00:58:28.648 So, but there are some shining stars  
NOTE Confidence: 0.937737683333334  
00:58:28.648 --> 00:58:30.670 and organizations and I will tell  
NOTE Confidence: 0.937737683333334  
00:58:30.670 --> 00:58:32.536 you that those that are shining  
NOTE Confidence: 0.937737683333334

00:58:32.536 --> 00:58:34.818 stars either have a religious  
NOTE Confidence: 0.937737683333334

00:58:34.818 --> 00:58:37.278 mission where they understand that.  
NOTE Confidence: 0.937737683333334

00:58:37.280 --> 00:58:38.204 Protecting planetary health  
NOTE Confidence: 0.937737683333334

00:58:38.204 --> 00:58:40.360 is a matter is a moral issue,  
NOTE Confidence: 0.937737683333334

00:58:40.360 --> 00:58:41.272 a matter of ethics,  
NOTE Confidence: 0.937737683333334

00:58:41.272 --> 00:58:42.640 and we're part of the environment.  
NOTE Confidence: 0.937737683333334

00:58:42.640 --> 00:58:45.240 It shouldn't have to be a moral stretch.  
NOTE Confidence: 0.937737683333334

00:58:45.240 --> 00:58:47.295 We cannot survive unless that  
NOTE Confidence: 0.937737683333334

00:58:47.295 --> 00:58:49.170 the environment is thriving.  
NOTE Confidence: 0.937737683333334

00:58:49.170 --> 00:58:52.480 But those who recognize it as a  
NOTE Confidence: 0.937737683333334

00:58:52.480 --> 00:58:54.860 moral issue tend to be those that  
NOTE Confidence: 0.937737683333334

00:58:54.860 --> 00:58:57.720 are religious based organizations.  
NOTE Confidence: 0.937737683333334

00:58:57.720 --> 00:59:00.595 The other shining stars are  
NOTE Confidence: 0.937737683333334

00:59:00.595 --> 00:59:02.895 those that have tied.  
NOTE Confidence: 0.937737683333334

00:59:02.900 --> 00:59:07.260 Executive pay to environmental performance  
NOTE Confidence: 0.823221166666667

00:59:12.860 --> 00:59:14.180 can you you

NOTE Confidence: 0.95836772

00:59:14.180 --> 00:59:16.940 you presented some wonderful data

NOTE Confidence: 0.95836772

00:59:16.940 --> 00:59:20.432 and I'm interested in what the the

NOTE Confidence: 0.95836772

00:59:20.432 --> 00:59:24.051 status is of you the you of your

NOTE Confidence: 0.95836772

00:59:24.051 --> 00:59:26.270 ability to use this data to persuade

NOTE Confidence: 0.95836772

00:59:26.338 --> 00:59:28.240 health institutions, hospitals,

NOTE Confidence: 0.95836772

00:59:28.240 --> 00:59:32.300 health systems to make the changes that.

NOTE Confidence: 0.95836772

00:59:32.300 --> 00:59:36.535 Seem to be pretty obvious and available.

NOTE Confidence: 0.95836772

00:59:36.540 --> 00:59:41.870 Do Do the institutions respond #1, #2?

NOTE Confidence: 0.95836772

00:59:41.870 --> 00:59:44.790 Are there enough of you that are making

NOTE Confidence: 0.95836772

00:59:44.877 --> 00:59:47.804 the case to the institutions that they need

NOTE Confidence: 0.95836772

00:59:47.804 --> 00:59:50.797 to be changing and that there are ways

NOTE Confidence: 0.95836772

00:59:50.797 --> 00:59:53.258 to change that are readily accomplishable?

NOTE Confidence: 0.95836772

00:59:53.258 --> 00:59:57.031 Where where do things stand just in

NOTE Confidence: 0.95836772

00:59:57.031 --> 01:00:00.147 terms of moving health institutions?

NOTE Confidence: 0.95836772

01:00:00.150 --> 01:00:02.430 In the directions that you'd like to see,

NOTE Confidence: 0.950317

01:00:02.630 --> 01:00:04.910 Yeah, thanks for that question.  
NOTE Confidence: 0.950317

01:00:04.910 --> 01:00:06.995 There are not enough professionals  
NOTE Confidence: 0.950317

01:00:06.995 --> 01:00:09.910 in that being paid in the space.  
NOTE Confidence: 0.950317

01:00:09.910 --> 01:00:12.709 I will say that most of the work is  
NOTE Confidence: 0.950317

01:00:12.709 --> 01:00:15.067 being done on a voluntary basis,  
NOTE Confidence: 0.950317

01:00:15.070 --> 01:00:17.947 which isn't going to go far enough,  
NOTE Confidence: 0.950317

01:00:17.950 --> 01:00:20.310 as I like to say, a merry band of volunteers.  
NOTE Confidence: 0.950317

01:00:20.310 --> 01:00:21.888 You can't, can't get it done  
NOTE Confidence: 0.950317

01:00:21.888 --> 01:00:23.809 with a merry band of volunteers.  
NOTE Confidence: 0.950317

01:00:23.810 --> 01:00:26.234 So the Agency for Healthcare Research  
NOTE Confidence: 0.950317

01:00:26.234 --> 01:00:28.974 and Quality has put forth a primer  
NOTE Confidence: 0.950317

01:00:28.974 --> 01:00:31.410 on how to measure and get started.  
NOTE Confidence: 0.950317

01:00:31.410 --> 01:00:34.170 I was one of the authors on that.  
NOTE Confidence: 0.950317

01:00:34.170 --> 01:00:37.026 This goes along with a brand new Office  
NOTE Confidence: 0.950317

01:00:37.026 --> 01:00:39.528 of Climate Change and HealthEquity,  
NOTE Confidence: 0.950317

01:00:39.530 --> 01:00:41.462 which is also collaborated with the

NOTE Confidence: 0.950317

01:00:41.462 --> 01:00:43.928 White House and the White House pledge.

NOTE Confidence: 0.950317

01:00:43.930 --> 01:00:46.850 And I will say that.

NOTE Confidence: 0.950317

01:00:46.850 --> 01:00:47.048 Organization.

NOTE Confidence: 0.950317

01:00:47.048 --> 01:00:48.830 So I I told you 2 main ways to

NOTE Confidence: 0.950317

01:00:48.879 --> 01:00:50.313 reduce emissions is number one is

NOTE Confidence: 0.950317

01:00:50.313 --> 01:00:51.810 to reduce waste and efficiency.

NOTE Confidence: 0.950317

01:00:51.810 --> 01:00:52.810 Whichever 1 can get behind,

NOTE Confidence: 0.950317

01:00:52.810 --> 01:00:55.008 you're going to save money doing that.

NOTE Confidence: 0.950317

01:00:55.010 --> 01:00:56.130 And then there's sort of a question,

NOTE Confidence: 0.950317

01:00:56.130 --> 01:00:58.026 why haven't when we've been able

NOTE Confidence: 0.950317

01:00:58.026 --> 01:00:59.290 to get it done.

NOTE Confidence: 0.950317

01:00:59.290 --> 01:01:02.010 I think that it's a very complex issue.

NOTE Confidence: 0.950317

01:01:02.010 --> 01:01:04.701 A part of it is what motivates us as

NOTE Confidence: 0.950317

01:01:04.701 --> 01:01:06.938 individuals providing the care, right.

NOTE Confidence: 0.950317

01:01:06.938 --> 01:01:10.396 So if so, I, for instance,

NOTE Confidence: 0.950317

01:01:10.396 --> 01:01:11.808 have a fixed salary,  
NOTE Confidence: 0.950317

01:01:11.810 --> 01:01:13.982 the organization makes or loses money  
NOTE Confidence: 0.950317

01:01:13.982 --> 01:01:16.848 based on my behaviors doesn't really affect.  
NOTE Confidence: 0.950317

01:01:16.850 --> 01:01:19.685 Me in a way that is is felt so.  
NOTE Confidence: 0.950317

01:01:19.690 --> 01:01:20.728 I mean I care about it,  
NOTE Confidence: 0.950317

01:01:20.730 --> 01:01:22.930 but I would say most providers don't care  
NOTE Confidence: 0.950317

01:01:22.930 --> 01:01:25.526 about care about that as a motivation.  
NOTE Confidence: 0.950317

01:01:25.530 --> 01:01:25.882 However,  
NOTE Confidence: 0.950317

01:01:25.882 --> 01:01:27.994 if you start presenting their pollution  
NOTE Confidence: 0.950317

01:01:27.994 --> 01:01:30.264 data to them and start educating them  
NOTE Confidence: 0.950317

01:01:30.264 --> 01:01:32.809 on the fact that they are causing harm,  
NOTE Confidence: 0.950317

01:01:32.810 --> 01:01:34.070 I guarantee you they will  
NOTE Confidence: 0.950317

01:01:34.070 --> 01:01:35.330 be motivated to waste less.  
NOTE Confidence: 0.950317

01:01:35.330 --> 01:01:39.125 So one is simply getting enough  
NOTE Confidence: 0.950317

01:01:39.125 --> 01:01:41.700 awareness and and education around  
NOTE Confidence: 0.950317

01:01:41.700 --> 01:01:44.989 why it's important to prevent waste.



NOTE Confidence: 0.950317  
01:01:44.990 --> 01:01:47.614 The other on environmentally  
NOTE Confidence: 0.950317  
01:01:47.614 --> 01:01:49.290 preferable drugs and devices,  
NOTE Confidence: 0.950317  
01:01:49.290 --> 01:01:52.549 part of it is that there is are limited  
NOTE Confidence: 0.950317  
01:01:52.549 --> 01:01:55.741 things that are known to us as clinicians.  
NOTE Confidence: 0.950317  
01:01:55.750 --> 01:01:58.600 There's a lot of information being  
NOTE Confidence: 0.950317  
01:01:58.600 --> 01:02:01.454 put forth by suppliers now and it's  
NOTE Confidence: 0.950317  
01:02:01.454 --> 01:02:03.990 really hard to sort through all that.  
NOTE Confidence: 0.950317  
01:02:03.990 --> 01:02:07.721 But importantly is to start by doing  
NOTE Confidence: 0.950317  
01:02:07.721 --> 01:02:09.590 organizational missions, measurement.  
NOTE Confidence: 0.950317  
01:02:09.590 --> 01:02:12.790 This is pretty straightforward.  
NOTE Confidence: 0.950317  
01:02:12.790 --> 01:02:14.386 And with that information,  
NOTE Confidence: 0.950317  
01:02:14.386 --> 01:02:16.780 any organization can make a strategic  
NOTE Confidence: 0.950317  
01:02:16.843 --> 01:02:18.673 plan based on where their hot  
NOTE Confidence: 0.950317  
01:02:18.673 --> 01:02:21.188 spots are and based on what's most  
NOTE Confidence: 0.950317  
01:02:21.188 --> 01:02:22.824 feasible for that organization.  
NOTE Confidence: 0.950317

01:02:22.830 --> 01:02:24.110 And it's kind of,  
NOTE Confidence: 0.950317

01:02:24.110 --> 01:02:25.390 there are some similarities,  
NOTE Confidence: 0.950317

01:02:25.390 --> 01:02:26.662 Inhale, anesthetics, meter,  
NOTE Confidence: 0.950317

01:02:26.662 --> 01:02:28.934 dose inhalers, those are hot spots.  
NOTE Confidence: 0.950317

01:02:28.934 --> 01:02:31.070 But every organization has to start  
NOTE Confidence: 0.950317

01:02:31.135 --> 01:02:33.167 with benchmarking its emissions.  
NOTE Confidence: 0.950317

01:02:33.170 --> 01:02:34.742 And I guarantee you once they  
NOTE Confidence: 0.950317

01:02:34.742 --> 01:02:36.408 start saying it's not hard to do,  
NOTE Confidence: 0.950317

01:02:36.410 --> 01:02:37.424 they'll identify hotspots,  
NOTE Confidence: 0.950317

01:02:37.424 --> 01:02:39.790 which by the way are hotspots that  
NOTE Confidence: 0.950317

01:02:39.854 --> 01:02:41.984 they're probably already thinking about  
NOTE Confidence: 0.950317

01:02:41.984 --> 01:02:43.630 anyway and there are opportunities for  
NOTE Confidence: 0.950317

01:02:43.630 --> 01:02:45.489 them to save money and those things.  
NOTE Confidence: 0.938995675

01:02:46.290 --> 01:02:47.930 So I have a couple of online questions,  
NOTE Confidence: 0.938995675

01:02:47.930 --> 01:02:50.690 then we're going to get to yours also.  
NOTE Confidence: 0.938995675

01:02:50.690 --> 01:02:52.160 One is something I was actually

NOTE Confidence: 0.938995675

01:02:52.160 --> 01:02:53.370 thinking about Jennifer Miller's work,

NOTE Confidence: 0.938995675

01:02:53.370 --> 01:02:54.486 but I say she's already chanted.

NOTE Confidence: 0.938995675

01:02:54.490 --> 01:02:56.250 We'll get to her in a couple minutes.

NOTE Confidence: 0.938995675

01:02:56.250 --> 01:02:58.298 One is a question is who are the

NOTE Confidence: 0.938995675

01:02:58.298 --> 01:02:59.530 best stakeholders to be asking?

NOTE Confidence: 0.938995675

01:02:59.530 --> 01:03:02.234 Show me the data to encourage the suppliers.

NOTE Confidence: 0.938995675

01:03:02.240 --> 01:03:04.132 To design for improve

NOTE Confidence: 0.938995675

01:03:04.132 --> 01:03:05.078 environmental performance,

NOTE Confidence: 0.938995675

01:03:05.080 --> 01:03:06.304 who should be asking for these

NOTE Confidence: 0.938995675

01:03:06.304 --> 01:03:07.120 data that the physicians,

NOTE Confidence: 0.938995675

01:03:07.120 --> 01:03:08.638 for example, is it the consumers?

NOTE Confidence: 0.940253541111111

01:03:09.880 --> 01:03:11.104 Yeah, well, it's actually,

NOTE Confidence: 0.940253541111111

01:03:11.104 --> 01:03:13.771 it starts with the SEC, that's for sure.

NOTE Confidence: 0.940253541111111

01:03:13.771 --> 01:03:16.410 So there are proposed rules by the

NOTE Confidence: 0.940253541111111

01:03:16.485 --> 01:03:18.360 SEC to mandate on this reporting.

NOTE Confidence: 0.940253541111111

01:03:18.360 --> 01:03:19.760 It's already happening in Europe.  
NOTE Confidence: 0.9402535411111111

01:03:19.760 --> 01:03:21.622 So we're behind the times and a  
NOTE Confidence: 0.9402535411111111

01:03:21.622 --> 01:03:23.820 lot of the corporations we work.  
NOTE Confidence: 0.9402535411111111

01:03:23.820 --> 01:03:25.516 With our global entities,  
NOTE Confidence: 0.9402535411111111

01:03:25.516 --> 01:03:28.060 so even if the SEC doesn't  
NOTE Confidence: 0.9402535411111111

01:03:28.145 --> 01:03:29.937 come on board quickly,  
NOTE Confidence: 0.9402535411111111

01:03:29.940 --> 01:03:31.495 the the global corporations are  
NOTE Confidence: 0.9402535411111111

01:03:31.495 --> 01:03:33.050 being pressured in this direction  
NOTE Confidence: 0.9402535411111111

01:03:33.100 --> 01:03:35.012 and that is that they need to measure  
NOTE Confidence: 0.9402535411111111

01:03:35.012 --> 01:03:36.499 and mitigate their own emissions.  
NOTE Confidence: 0.9402535411111111

01:03:36.500 --> 01:03:37.920 That's part of it.  
NOTE Confidence: 0.9402535411111111

01:03:37.920 --> 01:03:39.695 Because if they decarbonize or  
NOTE Confidence: 0.9402535411111111

01:03:39.695 --> 01:03:41.757 is 1 expression what's embodied  
NOTE Confidence: 0.9402535411111111

01:03:41.757 --> 01:03:44.211 in the stuff that they provide,  
NOTE Confidence: 0.9402535411111111

01:03:44.220 --> 01:03:46.212 that's going to help everyone and  
NOTE Confidence: 0.9402535411111111

01:03:46.212 --> 01:03:48.448 also create a knowledge base that

NOTE Confidence: 0.9402535411111111  
01:03:48.448 --> 01:03:50.148 that other organizations like  
NOTE Confidence: 0.9402535411111111  
01:03:50.148 --> 01:03:51.848 healthcare organizations can use.  
NOTE Confidence: 0.9402535411111111  
01:03:51.850 --> 01:03:53.642 The other part of that is that there  
NOTE Confidence: 0.9402535411111111  
01:03:53.642 --> 01:03:55.717 has to be mandated reporting on the  
NOTE Confidence: 0.9402535411111111  
01:03:55.717 --> 01:03:57.970 level of products and standards around that.  
NOTE Confidence: 0.9402535411111111  
01:03:57.970 --> 01:04:00.650 Just like we have food and nutrition labels,  
NOTE Confidence: 0.9402535411111111  
01:04:00.650 --> 01:04:02.442 there needs to be similar labels at  
NOTE Confidence: 0.9402535411111111  
01:04:02.442 --> 01:04:04.520 the level of the product and then  
NOTE Confidence: 0.9402535411111111  
01:04:04.520 --> 01:04:06.530 also has to come from regulators.  
NOTE Confidence: 0.9452854166666667  
01:04:07.290 --> 01:04:10.426 Thank you. Ask your question next, please.  
NOTE Confidence: 0.9452854166666667  
01:04:10.426 --> 01:04:11.610 Thanks for the presentation.  
NOTE Confidence: 0.9452854166666667  
01:04:11.610 --> 01:04:13.930 Doctor Jody and Doctor Sherman,  
NOTE Confidence: 0.9452854166666667  
01:04:13.930 --> 01:04:16.485 I guess I'm thinking about in the  
NOTE Confidence: 0.9452854166666667  
01:04:16.485 --> 01:04:18.714 context of a lifecycle analysis  
NOTE Confidence: 0.9452854166666667  
01:04:18.714 --> 01:04:22.648 when you have, you know 2.  
NOTE Confidence: 0.9452854166666667

01:04:22.650 --> 01:04:25.086 Two procedures that have clinical equipoise,  
NOTE Confidence: 0.945285416666667

01:04:25.090 --> 01:04:27.022 but you have clinicians that are  
NOTE Confidence: 0.945285416666667

01:04:27.022 --> 01:04:29.177 trained or who have been fed this  
NOTE Confidence: 0.945285416666667

01:04:29.177 --> 01:04:31.475 idea that you know we need to be  
NOTE Confidence: 0.945285416666667

01:04:31.475 --> 01:04:33.305 able to reduce hospital acquired  
NOTE Confidence: 0.945285416666667

01:04:33.305 --> 01:04:36.441 infections And you know there's a very  
NOTE Confidence: 0.945285416666667

01:04:36.441 --> 01:04:39.226 compelling argument that a singleuse  
NOTE Confidence: 0.945285416666667

01:04:39.226 --> 01:04:41.784 device leads to like lower risks.  
NOTE Confidence: 0.945285416666667

01:04:41.784 --> 01:04:43.719 I'm wondering to what extent  
NOTE Confidence: 0.945285416666667

01:04:43.719 --> 01:04:47.690 there needs to be like research  
NOTE Confidence: 0.945285416666667

01:04:47.690 --> 01:04:49.940 paired with this LC Air like.  
NOTE Confidence: 0.945285416666667

01:04:49.940 --> 01:04:53.300 How how can you convince A clinician  
NOTE Confidence: 0.945285416666667

01:04:53.300 --> 01:04:56.305 beyond showing them the lowered  
NOTE Confidence: 0.945285416666667

01:04:56.305 --> 01:04:59.310 ecological impact of a reasonable  
NOTE Confidence: 0.945285416666667

01:04:59.411 --> 01:05:01.858 outcome to believe like I don't know  
NOTE Confidence: 0.945285416666667

01:05:01.860 --> 01:05:03.785 that clinically it would be like equal

NOTE Confidence: 0.945285416666667  
01:05:03.785 --> 01:05:05.610 and when they have so much almost  
NOTE Confidence: 0.945285416666667  
01:05:05.610 --> 01:05:07.860 marketing that goes against that narrative,  
NOTE Confidence: 0.87827062  
01:05:08.300 --> 01:05:11.140 Sure, that's a great question.  
NOTE Confidence: 0.87827062  
01:05:11.140 --> 01:05:12.660 Part of the challenge with  
NOTE Confidence: 0.87827062  
01:05:12.660 --> 01:05:14.160 healthcare acquired infections  
NOTE Confidence: 0.87827062  
01:05:14.160 --> 01:05:16.660 is that they are multifactorial.  
NOTE Confidence: 0.87827062  
01:05:16.660 --> 01:05:18.988 You would literally need.  
NOTE Confidence: 0.87827062  
01:05:18.990 --> 01:05:20.748 I forget it has been estimated,  
NOTE Confidence: 0.87827062  
01:05:20.750 --> 01:05:24.362 but you know something like millions of  
NOTE Confidence: 0.87827062  
01:05:24.362 --> 01:05:27.269 cases to prove one infection related  
NOTE Confidence: 0.87827062  
01:05:27.269 --> 01:05:29.987 to a particular device outside of,  
NOTE Confidence: 0.87827062  
01:05:29.990 --> 01:05:33.030 you know, obvious things like  
NOTE Confidence: 0.87827062  
01:05:33.030 --> 01:05:35.510 central line infections for example.  
NOTE Confidence: 0.87827062  
01:05:35.510 --> 01:05:38.562 So it it makes it very difficult  
NOTE Confidence: 0.87827062  
01:05:38.562 --> 01:05:39.870 if not impossible.  
NOTE Confidence: 0.87827062

01:05:39.870 --> 01:05:42.240 And so we are actually calling  
NOTE Confidence: 0.87827062

01:05:42.240 --> 01:05:44.480 for creating standards on on how  
NOTE Confidence: 0.87827062

01:05:44.480 --> 01:05:46.698 we define and how a report risks.  
NOTE Confidence: 0.87827062

01:05:46.698 --> 01:05:48.570 Related to we can't.  
NOTE Confidence: 0.87827062

01:05:48.570 --> 01:05:49.770 We can't report the infection,  
NOTE Confidence: 0.87827062

01:05:49.770 --> 01:05:52.008 but we can report realist risks.  
NOTE Confidence: 0.87827062

01:05:52.010 --> 01:05:53.606 I mean, we can report infections,  
NOTE Confidence: 0.87827062

01:05:53.610 --> 01:05:55.690 but in terms of causality,  
NOTE Confidence: 0.87827062

01:05:55.690 --> 01:05:57.770 we we can't always identify what it is.  
NOTE Confidence: 0.87827062

01:05:57.770 --> 01:06:00.176 So we're now calling for experts  
NOTE Confidence: 0.87827062

01:06:00.176 --> 01:06:02.312 to come together and develop  
NOTE Confidence: 0.87827062

01:06:02.312 --> 01:06:05.036 a system of reporting risks to  
NOTE Confidence: 0.87827062

01:06:05.036 --> 01:06:06.930 better identify those cases.  
NOTE Confidence: 0.87827062

01:06:06.930 --> 01:06:09.450 But there's also a rational approach.  
NOTE Confidence: 0.87827062

01:06:09.450 --> 01:06:12.124 If you're not doing a sterile procedure,  
NOTE Confidence: 0.87827062

01:06:12.130 --> 01:06:15.136 you do not need sterile devices.



NOTE Confidence: 0.87827062

01:06:15.140 --> 01:06:17.180 That's a pretty simple thing.

NOTE Confidence: 0.87827062

01:06:17.180 --> 01:06:19.016 There are situations where we know,

NOTE Confidence: 0.87827062

01:06:19.020 --> 01:06:20.268 for example,

NOTE Confidence: 0.87827062

01:06:20.268 --> 01:06:23.006 longer drapes prevent central line

NOTE Confidence: 0.87827062

01:06:23.006 --> 01:06:24.738 infections versus shorter drapes.

NOTE Confidence: 0.87827062

01:06:24.740 --> 01:06:26.300 There are some things that we know about,

NOTE Confidence: 0.87827062

01:06:26.300 --> 01:06:29.108 but we also have to use our judgment

NOTE Confidence: 0.87827062

01:06:29.108 --> 01:06:32.099 and we have to be better stewards,

NOTE Confidence: 0.87827062

01:06:32.100 --> 01:06:33.984 stewards of our resources.

NOTE Confidence: 0.87827062

01:06:33.984 --> 01:06:36.966 And there's this concept of de adoption

NOTE Confidence: 0.87827062

01:06:36.966 --> 01:06:39.157 de adopting old ways of doing things

NOTE Confidence: 0.87827062

01:06:39.157 --> 01:06:41.299 that are not supported by evidence.

NOTE Confidence: 0.87827062

01:06:41.300 --> 01:06:42.500 That requires education,

NOTE Confidence: 0.87827062

01:06:42.500 --> 01:06:44.100 both at the undergraduate,

NOTE Confidence: 0.87827062

01:06:44.100 --> 01:06:45.780 graduate, postgraduate level.

NOTE Confidence: 0.87827062

01:06:45.780 --> 01:06:48.020 That requires culture change.

NOTE Confidence: 0.87827062

01:06:48.020 --> 01:06:51.124 That requires everyone recognizing

NOTE Confidence: 0.87827062

01:06:51.124 --> 01:06:54.812 that excessive use of things

NOTE Confidence: 0.87827062

01:06:54.812 --> 01:06:58.452 has its own risk involved.

NOTE Confidence: 0.947441857142857

01:07:00.740 --> 01:07:03.260 So another question from the Zoom world.

NOTE Confidence: 0.947441857142857

01:07:03.260 --> 01:07:07.216 But before I get to that question,

NOTE Confidence: 0.947441857142857

01:07:07.220 --> 01:07:09.166 which is from Jen Miller, who works

NOTE Confidence: 0.947441857142857

01:07:09.166 --> 01:07:11.524 at has developed a pharma scorecard.

NOTE Confidence: 0.947441857142857

01:07:11.530 --> 01:07:13.364 And she's one of our faculty here,

NOTE Confidence: 0.947441857142857

01:07:13.370 --> 01:07:15.026 essentially has to do with ethical

NOTE Confidence: 0.947441857142857

01:07:15.026 --> 01:07:16.130 principles and bioethical practices.

NOTE Confidence: 0.947441857142857

01:07:16.130 --> 01:07:18.162 Or essentially a company

NOTE Confidence: 0.947441857142857

01:07:18.162 --> 01:07:20.458 receives a a a scorecard,

NOTE Confidence: 0.947441857142857

01:07:20.458 --> 01:07:22.618 an ethical scorecard, if you will.

NOTE Confidence: 0.947441857142857

01:07:22.618 --> 01:07:24.874 And then they have their incentivized

NOTE Confidence: 0.947441857142857

01:07:24.874 --> 01:07:27.250 then to improve the ethical practices

NOTE Confidence: 0.947441857142857  
01:07:27.310 --> 01:07:29.170 of that pharmaceutical company.  
NOTE Confidence: 0.947441857142857  
01:07:29.170 --> 01:07:30.402 And I wonder if there's an analogy  
NOTE Confidence: 0.947441857142857  
01:07:30.402 --> 01:07:32.050 to be drawn, which is to say,  
NOTE Confidence: 0.947441857142857  
01:07:32.050 --> 01:07:33.450 could we have a scorecard?  
NOTE Confidence: 0.947441857142857  
01:07:33.450 --> 01:07:35.346 You mentioned this about having like  
NOTE Confidence: 0.947441857142857  
01:07:35.346 --> 01:07:37.641 we have warnings on here's how many  
NOTE Confidence: 0.947441857142857  
01:07:37.641 --> 01:07:39.895 calories this particular drink has in it.  
NOTE Confidence: 0.947441857142857  
01:07:39.900 --> 01:07:42.714 If we have similar things on the  
NOTE Confidence: 0.947441857142857  
01:07:42.714 --> 01:07:44.888 label about exactly how much impact  
NOTE Confidence: 0.947441857142857  
01:07:44.888 --> 01:07:46.496 this has had on the environment,  
NOTE Confidence: 0.947441857142857  
01:07:46.500 --> 01:07:48.100 about the whether it's the  
NOTE Confidence: 0.947441857142857  
01:07:48.100 --> 01:07:49.401 greenhouse gas emissions, etcetera,  
NOTE Confidence: 0.947441857142857  
01:07:49.401 --> 01:07:49.742 etcetera,  
NOTE Confidence: 0.947441857142857  
01:07:49.742 --> 01:07:52.129 it said to have us an analogous  
NOTE Confidence: 0.947441857142857  
01:07:52.129 --> 01:07:53.876 scorecard for the pharma companies  
NOTE Confidence: 0.947441857142857

01:07:53.876 --> 01:07:55.220 or for other companies.  
NOTE Confidence: 0.947441857142857

01:07:55.220 --> 01:07:56.648 But then I want to get to  
NOTE Confidence: 0.947441857142857

01:07:56.648 --> 01:07:57.580 Jen's question also after,  
NOTE Confidence: 0.935940714285714

01:07:57.580 --> 01:07:59.540 yeah, well, there is such a thing.  
NOTE Confidence: 0.935940714285714

01:07:59.540 --> 01:08:00.938 It's called ESG,  
NOTE Confidence: 0.935940714285714

01:08:00.938 --> 01:08:02.336 environmental social governance.  
NOTE Confidence: 0.935940714285714

01:08:02.340 --> 01:08:05.400 This is what the SEC is working on and would  
NOTE Confidence: 0.935940714285714

01:08:05.470 --> 01:08:08.460 apply to large pharmaceutical corporations.  
NOTE Confidence: 0.935940714285714

01:08:08.460 --> 01:08:11.974 In that there is a standardized method  
NOTE Confidence: 0.935940714285714

01:08:11.974 --> 01:08:15.500 of measuring and required transparency  
NOTE Confidence: 0.935940714285714

01:08:15.500 --> 01:08:16.700 on environmental performance,  
NOTE Confidence: 0.935940714285714

01:08:16.700 --> 01:08:18.636 meaning, you know, in part,  
NOTE Confidence: 0.935940714285714

01:08:18.636 --> 01:08:19.740 greenhouse gas emissions,  
NOTE Confidence: 0.935940714285714

01:08:19.740 --> 01:08:21.008 social performance,  
NOTE Confidence: 0.935940714285714

01:08:21.008 --> 01:08:25.770 meaning what harm we're doing in.  
NOTE Confidence: 0.935940714285714

01:08:25.770 --> 01:08:28.130 Harm we're doing in the world and also

NOTE Confidence: 0.935940714285714  
01:08:28.130 --> 01:08:29.874 our responsibility to diversity, equity,  
NOTE Confidence: 0.935940714285714  
01:08:29.874 --> 01:08:32.851 inclusion and fair pay and also governance,  
NOTE Confidence: 0.935940714285714  
01:08:32.851 --> 01:08:34.559 meaning what governance structures  
NOTE Confidence: 0.935940714285714  
01:08:34.559 --> 01:08:37.254 do we have to moderate and systems  
NOTE Confidence: 0.935940714285714  
01:08:37.254 --> 01:08:39.909 in place to oversee that and to  
NOTE Confidence: 0.935940714285714  
01:08:39.909 --> 01:08:41.607 oversee performance improvement.  
NOTE Confidence: 0.935940714285714  
01:08:41.610 --> 01:08:43.342 There is a standardized,  
NOTE Confidence: 0.935940714285714  
01:08:43.342 --> 01:08:45.074 standardized method of measuring  
NOTE Confidence: 0.935940714285714  
01:08:45.074 --> 01:08:46.745 that and transparent reporting  
NOTE Confidence: 0.935940714285714  
01:08:46.745 --> 01:08:49.681 and that is what the SEC is doing.  
NOTE Confidence: 0.935940714285714  
01:08:49.690 --> 01:08:51.650 That's what ESG reporting is all about.  
NOTE Confidence: 0.926909345  
01:08:53.630 --> 01:08:54.986 The next question please from Zoom,  
NOTE Confidence: 0.926909345  
01:08:54.990 --> 01:08:57.230 which is great talk is the first comment.  
NOTE Confidence: 0.926909345  
01:08:57.230 --> 01:08:59.420 If the 25 largest pharma companies  
NOTE Confidence: 0.926909345  
01:08:59.420 --> 01:09:02.128 by market cap asked you to identify  
NOTE Confidence: 0.926909345

01:09:02.128 --> 01:09:04.480 your top three to five recommendations  
NOTE Confidence: 0.926909345

01:09:04.480 --> 01:09:07.395 for how they could reduce their  
NOTE Confidence: 0.926909345

01:09:07.395 --> 01:09:08.865 negative environmental impact,  
NOTE Confidence: 0.926909345

01:09:08.870 --> 01:09:10.466 what would you say? And within that,  
NOTE Confidence: 0.926909345

01:09:10.470 --> 01:09:12.234 so that your three to five recommendations  
NOTE Confidence: 0.926909345

01:09:12.234 --> 01:09:13.829 for the big pharma companies,  
NOTE Confidence: 0.926909345

01:09:13.830 --> 01:09:16.116 but also is there a shining star or a  
NOTE Confidence: 0.926909345

01:09:16.116 --> 01:09:18.468 shining practice in the pharmaceutical sect?  
NOTE Confidence: 0.937378232857143

01:09:21.850 --> 01:09:25.618 Well, there is a new group called SMI,  
NOTE Confidence: 0.937378232857143

01:09:25.618 --> 01:09:28.210 the Sustainable Medications Initiative,  
NOTE Confidence: 0.937378232857143

01:09:28.210 --> 01:09:31.695 which is a collaboration amongst  
NOTE Confidence: 0.937378232857143

01:09:31.695 --> 01:09:35.346 pharmaceutical companies to develop a methods  
NOTE Confidence: 0.937378232857143

01:09:35.346 --> 01:09:38.166 of measuring and reporting emissions.  
NOTE Confidence: 0.937378232857143

01:09:38.170 --> 01:09:41.810 So I'd say that that is a a positive thing.  
NOTE Confidence: 0.937378232857143

01:09:41.810 --> 01:09:45.884 I do continue to worry about greenwashing.  
NOTE Confidence: 0.937378232857143

01:09:45.890 --> 01:09:47.874 So in terms of top, top practices,

NOTE Confidence: 0.937378232857143  
01:09:47.874 --> 01:09:50.946 there's a challenge because of course.  
NOTE Confidence: 0.937378232857143  
01:09:50.950 --> 01:09:53.535 These are forprofit corporations who  
NOTE Confidence: 0.937378232857143  
01:09:53.535 --> 01:09:56.670 are incentivized to sell more stuff.  
NOTE Confidence: 0.937378232857143  
01:09:56.670 --> 01:09:57.728 Everybody benefits,  
NOTE Confidence: 0.937378232857143  
01:09:57.728 --> 01:10:00.373 even pharmaceutical companies from lean  
NOTE Confidence: 0.937378232857143  
01:10:00.373 --> 01:10:03.230 practices reducing waste and inefficiencies.  
NOTE Confidence: 0.937378232857143  
01:10:03.230 --> 01:10:06.350 So that that is something that that benefits.  
NOTE Confidence: 0.937378232857143  
01:10:06.350 --> 01:10:08.590 We need to move toward greener design.  
NOTE Confidence: 0.937378232857143  
01:10:08.590 --> 01:10:11.188 That means green chemistry as well.  
NOTE Confidence: 0.937378232857143  
01:10:11.190 --> 01:10:13.353 So there's a whole movement happening in  
NOTE Confidence: 0.937378232857143  
01:10:13.353 --> 01:10:15.939 that regard and that's great to move away  
NOTE Confidence: 0.937378232857143  
01:10:15.939 --> 01:10:18.150 from forever chemicals to design things to.  
NOTE Confidence: 0.937378232857143  
01:10:18.150 --> 01:10:20.182 To have a function but to also break  
NOTE Confidence: 0.937378232857143  
01:10:20.182 --> 01:10:22.303 down as part of what green chemistry  
NOTE Confidence: 0.937378232857143  
01:10:22.303 --> 01:10:24.270 and green pharmacy is all about.  
NOTE Confidence: 0.937378232857143

01:10:24.270 --> 01:10:25.621 But I would say one thing that  
NOTE Confidence: 0.937378232857143

01:10:25.621 --> 01:10:27.494 really has to well, two things.  
NOTE Confidence: 0.937378232857143

01:10:27.494 --> 01:10:30.430 I would say the list could go on,  
NOTE Confidence: 0.937378232857143

01:10:30.430 --> 01:10:32.678 but one of the things that we struggle  
NOTE Confidence: 0.937378232857143

01:10:32.678 --> 01:10:34.910 with is that package sizes are much  
NOTE Confidence: 0.937378232857143

01:10:34.910 --> 01:10:38.722 bigger than we need and as a result  
NOTE Confidence: 0.937378232857143

01:10:38.722 --> 01:10:41.445 we cannot split packages between  
NOTE Confidence: 0.937378232857143

01:10:41.445 --> 01:10:43.870 patients in the hospital environment.  
NOTE Confidence: 0.937378232857143

01:10:43.870 --> 01:10:46.840 There are either infection concerns.  
NOTE Confidence: 0.937378232857143

01:10:46.840 --> 01:10:48.984 Or regular regulatory concerns.  
NOTE Confidence: 0.937378232857143

01:10:48.984 --> 01:10:50.084 If, for example,  
NOTE Confidence: 0.937378232857143

01:10:50.084 --> 01:10:51.494 one patient's insurance has paid  
NOTE Confidence: 0.937378232857143

01:10:51.494 --> 01:10:52.847 for something and they've only  
NOTE Confidence: 0.937378232857143

01:10:52.847 --> 01:10:53.997 used a fraction for it,  
NOTE Confidence: 0.937378232857143

01:10:54.000 --> 01:10:55.477 we are forced to throw it away,  
NOTE Confidence: 0.937378232857143

01:10:55.480 --> 01:10:57.664 which is obscene.



NOTE Confidence: 0.937378232857143  
01:10:57.664 --> 01:11:01.304 So pharmaceutical companies really need  
NOTE Confidence: 0.937378232857143  
01:11:01.304 --> 01:11:05.232 to make things and packages that are  
NOTE Confidence: 0.937378232857143  
01:11:05.232 --> 01:11:10.040 the right size and need to be priced.  
NOTE Confidence: 0.937378232857143  
01:11:10.040 --> 01:11:10.710 Appropriately,  
NOTE Confidence: 0.937378232857143  
01:11:10.710 --> 01:11:13.230 sometimes they they they price things.  
NOTE Confidence: 0.937378232857143  
01:11:13.230 --> 01:11:14.960 Even larger packages can be  
NOTE Confidence: 0.937378232857143  
01:11:14.960 --> 01:11:16.344 cheaper than smaller ones.  
NOTE Confidence: 0.937378232857143  
01:11:16.350 --> 01:11:18.348 There's a lot of gaming in the system there.  
NOTE Confidence: 0.937378232857143  
01:11:18.350 --> 01:11:20.486 They really need to package things  
NOTE Confidence: 0.937378232857143  
01:11:20.486 --> 01:11:21.910 appropriate in appropriate size.  
NOTE Confidence: 0.937378232857143  
01:11:21.910 --> 01:11:24.510 The other is that we need to address  
NOTE Confidence: 0.937378232857143  
01:11:24.510 --> 01:11:27.870 Best Buy dates or expiration dates.  
NOTE Confidence: 0.937378232857143  
01:11:27.870 --> 01:11:31.626 They're somewhat arbitrary in the  
NOTE Confidence: 0.937378232857143  
01:11:31.626 --> 01:11:34.630 sense that they there's out to a.  
NOTE Confidence: 0.937378232857143  
01:11:34.630 --> 01:11:37.310 Particular period of time where  
NOTE Confidence: 0.937378232857143

01:11:37.310 --> 01:11:40.516 medications are proven to be stable  
NOTE Confidence: 0.937378232857143

01:11:40.516 --> 01:11:43.146 and lack any bacterial growth  
NOTE Confidence: 0.937378232857143

01:11:43.146 --> 01:11:47.108 or or viral or or fungal growth,  
NOTE Confidence: 0.937378232857143

01:11:47.110 --> 01:11:48.770 but they don't necessarily take  
NOTE Confidence: 0.937378232857143

01:11:48.770 --> 01:11:51.974 it out to the the end point and  
NOTE Confidence: 0.937378232857143

01:11:51.974 --> 01:11:56.614 so addressing Best Buy dates is  
NOTE Confidence: 0.937378232857143

01:11:56.614 --> 01:11:58.390 another important strategy.  
NOTE Confidence: 0.937378232857143

01:11:58.390 --> 01:11:59.798 I will say that I don't think any  
NOTE Confidence: 0.937378232857143

01:11:59.798 --> 01:12:01.541 of these are going to come from  
NOTE Confidence: 0.937378232857143

01:12:01.541 --> 01:12:02.345 the Pharmaceutical industry.  
NOTE Confidence: 0.937378232857143

01:12:02.350 --> 01:12:03.666 I think it has to be regulated.  
NOTE Confidence: 0.944726222222222

01:12:05.320 --> 01:12:07.612 Thank you. Other questions from inside  
NOTE Confidence: 0.944726222222222

01:12:07.612 --> 01:12:10.008 the Do you have a question, Karen?  
NOTE Confidence: 0.944726222222222

01:12:10.008 --> 01:12:13.160 No, Yes, this gentleman here  
NOTE Confidence: 0.939046488888889

01:12:17.600 --> 01:12:19.064 thanks Doctor Sherman,  
NOTE Confidence: 0.939046488888889

01:12:19.064 --> 01:12:21.992 not to spark a polemic discussion,

NOTE Confidence: 0.939046488888889

01:12:22.000 --> 01:12:24.838 but how has Yale New Haven,

NOTE Confidence: 0.939046488888889

01:12:24.840 --> 01:12:27.516 our own institution responded to a

NOTE Confidence: 0.939046488888889

01:12:27.520 --> 01:12:29.536 lot of research topics or anything and

NOTE Confidence: 0.939046488888889

01:12:29.536 --> 01:12:31.079 have they implemented any policies?

NOTE Confidence: 0.957026038333333

01:12:33.700 --> 01:12:35.578 Regarding, I mean any sustainable practice,

NOTE Confidence: 0.923580511818182

01:12:37.580 --> 01:12:40.856 what we do, the Yale New Haven Health System

NOTE Confidence: 0.923580511818182

01:12:40.856 --> 01:12:43.096 has a Center for sustainable healthcare.

NOTE Confidence: 0.923580511818182

01:12:43.096 --> 01:12:45.670 We do have a systemwide executive

NOTE Confidence: 0.923580511818182

01:12:45.737 --> 01:12:47.921 committee and each delivery network has

NOTE Confidence: 0.923580511818182

01:12:47.921 --> 01:12:51.420 a green team that meets regularly to

NOTE Confidence: 0.923580511818182

01:12:51.420 --> 01:12:55.020 discuss how to implement these changes.

NOTE Confidence: 0.923580511818182

01:12:55.020 --> 01:12:57.911 We were the first healthcare organization in

NOTE Confidence: 0.923580511818182

01:12:57.911 --> 01:13:01.287 the world to get rid of deaths rain, which

NOTE Confidence: 0.923580511818182

01:13:01.287 --> 01:13:03.609 is the worst offending inhale anesthetics.

NOTE Confidence: 0.923580511818182

01:13:03.610 --> 01:13:05.728 We did that back in 2013,

NOTE Confidence: 0.923580511818182

01:13:05.730 --> 01:13:08.330 saved our organization \$1.2 million  
NOTE Confidence: 0.923580511818182

01:13:08.330 --> 01:13:10.568 that year, just this hospital alone.  
NOTE Confidence: 0.923580511818182

01:13:10.570 --> 01:13:13.125 Yale, New Haven at York Street campus,  
NOTE Confidence: 0.923580511818182

01:13:13.130 --> 01:13:15.098 save the equivalent of 360 cars  
NOTE Confidence: 0.923580511818182

01:13:15.098 --> 01:13:16.410 off the road annually.  
NOTE Confidence: 0.923580511818182

01:13:16.410 --> 01:13:18.486 By getting rid of that drug.  
NOTE Confidence: 0.923580511818182

01:13:18.490 --> 01:13:20.806 We actually started a global movement.  
NOTE Confidence: 0.923580511818182

01:13:20.810 --> 01:13:21.394 Dust, dust,  
NOTE Confidence: 0.923580511818182

01:13:21.394 --> 01:13:23.730 rain is now banned in Scotland this year,  
NOTE Confidence: 0.923580511818182

01:13:23.730 --> 01:13:25.434 as of next year and England  
NOTE Confidence: 0.923580511818182

01:13:25.434 --> 01:13:26.570 it will be banned.  
NOTE Confidence: 0.923580511818182

01:13:26.570 --> 01:13:29.690 By 2026 it will be banned in Europe.  
NOTE Confidence: 0.923580511818182

01:13:29.690 --> 01:13:32.570 So that's one shining accomplishment.  
NOTE Confidence: 0.923580511818182

01:13:32.570 --> 01:13:36.890 We have are doing a lot of green  
NOTE Confidence: 0.923580511818182

01:13:36.890 --> 01:13:39.618 energy planning for our new  
NOTE Confidence: 0.923580511818182

01:13:39.618 --> 01:13:40.644 construction and retrofitting.

NOTE Confidence: 0.923580511818182  
01:13:40.650 --> 01:13:42.575 So those are a couple of the  
NOTE Confidence: 0.923580511818182  
01:13:42.575 --> 01:13:43.570 examples of what we've done.  
NOTE Confidence: 0.88227564  
01:13:46.800 --> 01:13:48.520 Yeah. So somewhat related questions.  
NOTE Confidence: 0.88227564  
01:13:48.520 --> 01:13:51.796 So if a department like emergency medicine,  
NOTE Confidence: 0.88227564  
01:13:51.800 --> 01:13:53.335 you know, I I don't see that  
NOTE Confidence: 0.88227564  
01:13:53.335 --> 01:13:54.392 we're doing anything right now.  
NOTE Confidence: 0.88227564  
01:13:54.392 --> 01:13:57.816 So if a department wanted to start  
NOTE Confidence: 0.88227564  
01:13:57.816 --> 01:14:00.200 doing something other than getting our  
NOTE Confidence: 0.88227564  
01:14:00.200 --> 01:14:02.044 married group together or something,  
NOTE Confidence: 0.88227564  
01:14:02.044 --> 01:14:04.568 what would be the best way of  
NOTE Confidence: 0.88227564  
01:14:04.568 --> 01:14:07.799 starting to make some changes in a in,  
NOTE Confidence: 0.88227564  
01:14:07.799 --> 01:14:09.720 in a way that could be actionable,  
NOTE Confidence: 0.88227564  
01:14:09.720 --> 01:14:12.740 measurable things like that?  
NOTE Confidence: 0.88227564  
01:14:12.740 --> 01:14:17.180 Well, I will say that we don't have  
NOTE Confidence: 0.88227564  
01:14:17.180 --> 01:14:19.917 resource to give project managers to all  
NOTE Confidence: 0.88227564

01:14:19.917 --> 01:14:21.939 departments to implement these things.

NOTE Confidence: 0.88227564

01:14:21.940 --> 01:14:23.977 So really I'd say every department needs

NOTE Confidence: 0.88227564

01:14:23.977 --> 01:14:26.351 to start its own green team and not in

NOTE Confidence: 0.88227564

01:14:26.351 --> 01:14:28.418 the sense of merry band of volunteers,

NOTE Confidence: 0.88227564

01:14:28.420 --> 01:14:31.552 but to identify those projects that

NOTE Confidence: 0.88227564

01:14:31.552 --> 01:14:35.379 are obvious to you as professionals.

NOTE Confidence: 0.88227564

01:14:35.380 --> 01:14:37.090 That are opportunity for reducing

NOTE Confidence: 0.88227564

01:14:37.090 --> 01:14:39.723 waste and if there is information on

NOTE Confidence: 0.88227564

01:14:39.723 --> 01:14:41.858 how to reduce embodied emissions,

NOTE Confidence: 0.88227564

01:14:41.860 --> 01:14:42.808 that's great too.

NOTE Confidence: 0.88227564

01:14:42.808 --> 01:14:45.020 But you know kind of like the

NOTE Confidence: 0.88227564

01:14:45.089 --> 01:14:47.404 Choosing Wisely campaign is really

NOTE Confidence: 0.88227564

01:14:47.404 --> 01:14:49.780 dependent on specialties to OfferUp

NOTE Confidence: 0.88227564

01:14:49.780 --> 01:14:51.860 what the solutions are.

NOTE Confidence: 0.88227564

01:14:51.860 --> 01:14:53.806 I think that's true in our own

NOTE Confidence: 0.88227564

01:14:53.806 --> 01:14:54.988 organization we don't have

NOTE Confidence: 0.88227564

01:14:54.988 --> 01:14:56.752 project managers to give to each

NOTE Confidence: 0.88227564

01:14:56.752 --> 01:14:58.489 department has to come from from.

NOTE Confidence: 0.88227564

01:14:58.490 --> 01:15:01.194 From you all and then you have to

NOTE Confidence: 0.88227564

01:15:01.194 --> 01:15:05.050 propose what needs to be done and I

NOTE Confidence: 0.88227564

01:15:05.050 --> 01:15:08.689 would encourage emailing the Center

NOTE Confidence: 0.88227564

01:15:08.689 --> 01:15:10.894 for Sustainable Healthcare to put

NOTE Confidence: 0.88227564

01:15:10.894 --> 01:15:12.588 forth ideas and and what what it

NOTE Confidence: 0.88227564

01:15:12.588 --> 01:15:14.404 would take to implement them or at

NOTE Confidence: 0.88227564

01:15:14.404 --> 01:15:16.170 least to start the conversation.

NOTE Confidence: 0.93421556

01:15:19.120 --> 01:15:21.520 Thank you so much for that wonderful

NOTE Confidence: 0.93421556

01:15:21.520 --> 01:15:23.280 presentation. I wanted to ask you

NOTE Confidence: 0.936340055555556

01:15:23.280 --> 01:15:24.390 if perhaps you could speak a

NOTE Confidence: 0.936340055555556

01:15:24.390 --> 01:15:25.511 little bit more on a topic

NOTE Confidence: 0.936340055555556

01:15:25.511 --> 01:15:26.866 that's near and dear to my heart,

NOTE Confidence: 0.936340055555556

01:15:26.866 --> 01:15:31.000 which is whole food plant based nutrition.

NOTE Confidence: 0.936340055555556

01:15:31.000 --> 01:15:33.292 You know Full disclosure as a  
NOTE Confidence: 0.936340055555556

01:15:33.292 --> 01:15:34.692 cardiologist you know that the  
NOTE Confidence: 0.936340055555556

01:15:34.692 --> 01:15:36.010 evidence continues to mount that  
NOTE Confidence: 0.936340055555556

01:15:36.010 --> 01:15:37.565 you know in terms of cardiovascular  
NOTE Confidence: 0.936340055555556

01:15:37.565 --> 01:15:38.980 health and also cancer prevention.  
NOTE Confidence: 0.936340055555556

01:15:38.980 --> 01:15:41.426 You know we we know that a plant  
NOTE Confidence: 0.936340055555556

01:15:41.426 --> 01:15:42.691 forward at least a predominantly  
NOTE Confidence: 0.936340055555556

01:15:42.691 --> 01:15:44.388 whole food plant based diet has a  
NOTE Confidence: 0.936340055555556

01:15:44.388 --> 01:15:46.300 lot of different health benefits.  
NOTE Confidence: 0.936340055555556

01:15:46.300 --> 01:15:48.962 And we also know that you know that  
NOTE Confidence: 0.936340055555556

01:15:48.962 --> 01:15:51.076 like even though The Who has said that  
NOTE Confidence: 0.936340055555556

01:15:51.076 --> 01:15:52.600 processed meat is a carcinogen and  
NOTE Confidence: 0.936340055555556

01:15:52.648 --> 01:15:54.660 red meat is a probable carcinogen and  
NOTE Confidence: 0.936340055555556

01:15:54.660 --> 01:15:56.858 we know that that just beef alone,  
NOTE Confidence: 0.936340055555556

01:15:56.860 --> 01:15:59.260 taking aside all the other dietary  
NOTE Confidence: 0.936340055555556

01:15:59.260 --> 01:16:01.270 elements is responsible for way more



NOTE Confidence: 0.936340055555556  
01:16:01.270 --> 01:16:02.980 carbon emissions than other foods.  
NOTE Confidence: 0.936340055555556  
01:16:02.980 --> 01:16:05.455 So it's sort of is baffling that  
NOTE Confidence: 0.936340055555556  
01:16:05.455 --> 01:16:07.772 something that that foods that are  
NOTE Confidence: 0.936340055555556  
01:16:07.772 --> 01:16:09.340 carcinogens are probable carcinogens  
NOTE Confidence: 0.936340055555556  
01:16:09.340 --> 01:16:13.566 and major carbon major carbon emitters.  
NOTE Confidence: 0.936340055555556  
01:16:13.566 --> 01:16:15.479 Are still featured very prominently  
NOTE Confidence: 0.936340055555556  
01:16:15.479 --> 01:16:16.298 in in the  
NOTE Confidence: 0.938017228888889  
01:16:16.300 --> 01:16:17.420 food that we serve.  
NOTE Confidence: 0.938017228888889  
01:16:17.420 --> 01:16:19.440 So perhaps you can talk about more  
NOTE Confidence: 0.938017228888889  
01:16:19.440 --> 01:16:21.620 about what their impact is and  
NOTE Confidence: 0.897875835384615  
01:16:21.660 --> 01:16:23.662 how how what you think is the  
NOTE Confidence: 0.897875835384615  
01:16:23.662 --> 01:16:25.540 path forward to having not only  
NOTE Confidence: 0.897875835384615  
01:16:25.540 --> 01:16:27.739 healthier offerings that support  
NOTE Confidence: 0.897875835384615  
01:16:27.739 --> 01:16:30.330 our mission of beneficence and non  
NOTE Confidence: 0.897875835384615  
01:16:30.330 --> 01:16:31.980 maleficence on an individual level  
NOTE Confidence: 0.897875835384615

01:16:31.980 --> 01:16:35.420 but also on a on a planetary level.  
NOTE Confidence: 0.947297876

01:16:35.420 --> 01:16:36.940 Yeah, thanks for that.  
NOTE Confidence: 0.947297876

01:16:36.940 --> 01:16:39.551 So actually beef alone accounts for 1%  
NOTE Confidence: 0.947297876

01:16:39.551 --> 01:16:41.537 of our National Health sector emissions.  
NOTE Confidence: 0.947297876

01:16:41.540 --> 01:16:43.214 And it's not just what we feed our patients,  
NOTE Confidence: 0.947297876

01:16:43.220 --> 01:16:45.056 it's what we feed our staff.  
NOTE Confidence: 0.947297876

01:16:45.060 --> 01:16:47.220 And so there is a lot that can happen.  
NOTE Confidence: 0.947297876

01:16:47.220 --> 01:16:48.080 There's actually a lot  
NOTE Confidence: 0.947297876

01:16:48.080 --> 01:16:48.940 that has already happened.  
NOTE Confidence: 0.947297876

01:16:48.940 --> 01:16:49.972 I don't know how long you've  
NOTE Confidence: 0.947297876

01:16:49.972 --> 01:16:50.660 been with the organization,  
NOTE Confidence: 0.947297876

01:16:50.660 --> 01:16:52.610 but there's a lot that has  
NOTE Confidence: 0.947297876

01:16:52.610 --> 01:16:54.427 already happened to reduce the  
NOTE Confidence: 0.947297876

01:16:54.427 --> 01:16:56.761 amount of meat that is offered  
NOTE Confidence: 0.947297876

01:16:56.761 --> 01:16:59.379 both the patients and the staff.  
NOTE Confidence: 0.947297876

01:16:59.380 --> 01:17:00.940 I'm also particularly concerned of

NOTE Confidence: 0.947297876

01:17:00.940 --> 01:17:02.500 all the single use disposables.

NOTE Confidence: 0.947297876

01:17:02.500 --> 01:17:04.648 That's another issue.

NOTE Confidence: 0.947297876

01:17:04.650 --> 01:17:06.538 How to improve it I think is is

NOTE Confidence: 0.947297876

01:17:06.538 --> 01:17:08.381 to get involved and and become

NOTE Confidence: 0.947297876

01:17:08.381 --> 01:17:10.006 a leader in that space.

NOTE Confidence: 0.947297876

01:17:10.010 --> 01:17:12.666 I will say that we did have another

NOTE Confidence: 0.947297876

01:17:12.666 --> 01:17:14.364 passionate person on this topic

NOTE Confidence: 0.947297876

01:17:14.364 --> 01:17:15.969 several years ago who decided

NOTE Confidence: 0.947297876

01:17:15.969 --> 01:17:18.690 to really clean up our patient

NOTE Confidence: 0.947297876

01:17:18.690 --> 01:17:21.442 menus and it failed pretty quickly

NOTE Confidence: 0.947297876

01:17:21.442 --> 01:17:23.682 because patients didn't enjoy it.

NOTE Confidence: 0.947297876

01:17:23.690 --> 01:17:25.587 Particularly give you an example of that

NOTE Confidence: 0.947297876

01:17:25.587 --> 01:17:27.249 kids when they're not feeling well,

NOTE Confidence: 0.947297876

01:17:27.250 --> 01:17:29.364 they want their their fish to another

NOTE Confidence: 0.947297876

01:17:29.364 --> 01:17:31.968 fish to they want their chicken fingers,

NOTE Confidence: 0.947297876

01:17:31.970 --> 01:17:34.220 they want their French fries.  
NOTE Confidence: 0.947297876

01:17:34.220 --> 01:17:36.008 Whatever can't can bring them comfort  
NOTE Confidence: 0.947297876

01:17:36.008 --> 01:17:38.103 and get some some calories and then  
NOTE Confidence: 0.947297876

01:17:38.103 --> 01:17:40.620 really matters So and I think that you know,  
NOTE Confidence: 0.947297876

01:17:40.620 --> 01:17:42.573 there's some truth to that in adults as well.  
NOTE Confidence: 0.947297876

01:17:42.580 --> 01:17:45.516 Obviously we don't want to be causing harm,  
NOTE Confidence: 0.947297876

01:17:45.516 --> 01:17:48.256 but there is something about  
NOTE Confidence: 0.947297876

01:17:48.260 --> 01:17:50.480 patient comfort that matters.  
NOTE Confidence: 0.947297876

01:17:50.480 --> 01:17:54.420 And so there are health systems that  
NOTE Confidence: 0.947297876

01:17:54.420 --> 01:17:57.534 have been very successful by having  
NOTE Confidence: 0.947297876

01:17:57.540 --> 01:18:01.890 really outstanding chefs preparing meals.  
NOTE Confidence: 0.947297876

01:18:01.890 --> 01:18:03.390 There's a problem if we're outsourcing  
NOTE Confidence: 0.947297876

01:18:03.390 --> 01:18:05.164 a lot of that to company that  
NOTE Confidence: 0.947297876

01:18:05.164 --> 01:18:06.124 provides it for us,  
NOTE Confidence: 0.947297876

01:18:06.130 --> 01:18:09.290 but then also is a cost mitigation strategy.  
NOTE Confidence: 0.947297876

01:18:09.290 --> 01:18:13.210 So it's it's an area that needs improvement,

NOTE Confidence: 0.947297876

01:18:13.210 --> 01:18:15.250 but also not a simple one.

NOTE Confidence: 0.947297876

01:18:15.250 --> 01:18:16.870 It's not a simple saying let's

NOTE Confidence: 0.947297876

01:18:16.870 --> 01:18:19.007 just get rid of all the red meat,

NOTE Confidence: 0.947297876

01:18:19.010 --> 01:18:19.130 right.

NOTE Confidence: 0.83893516

01:18:20.370 --> 01:18:21.762 Thank you, Dr. Sherman.

NOTE Confidence: 0.83893516

01:18:21.762 --> 01:18:23.850 Next question away from the Zoom,

NOTE Confidence: 0.83893516

01:18:23.850 --> 01:18:26.490 you mentioned CDSS, please say more

NOTE Confidence: 0.83893516

01:18:26.490 --> 01:18:28.850 about developments and decision support.

NOTE Confidence: 0.83893516

01:18:28.850 --> 01:18:32.084 Is there enough data to make recommendations?

NOTE Confidence: 0.83893516

01:18:32.090 --> 01:18:34.610 What work is going on to create such systems?

NOTE Confidence: 0.83893516

01:18:34.610 --> 01:18:36.128 How do you envision there being?

NOTE Confidence: 0.83893516

01:18:36.130 --> 01:18:37.426 There's a lot of questions in

NOTE Confidence: 0.83893516

01:18:37.426 --> 01:18:38.570 wrapping this one question scene.

NOTE Confidence: 0.83893516

01:18:38.570 --> 01:18:39.848 So how do you We'll go,

NOTE Confidence: 0.83893516

01:18:39.850 --> 01:18:40.935 I'll go through them all and then

NOTE Confidence: 0.83893516

01:18:40.935 --> 01:18:42.090 we can take a little bit of it.  
NOTE Confidence: 0.83893516

01:18:42.090 --> 01:18:43.956 How do you envision they're being  
NOTE Confidence: 0.83893516

01:18:43.956 --> 01:18:45.582 implemented and used, for example,  
NOTE Confidence: 0.83893516

01:18:45.582 --> 01:18:47.884 as part of the health record,  
NOTE Confidence: 0.83893516

01:18:47.884 --> 01:18:50.169 as part of treatment recommendations,  
NOTE Confidence: 0.83893516

01:18:50.170 --> 01:18:50.701 etcetera?  
NOTE Confidence: 0.83893516

01:18:50.701 --> 01:18:53.887 Are there CDSS for selecting devices  
NOTE Confidence: 0.83893516

01:18:53.887 --> 01:18:57.768 or are such systems being developed?  
NOTE Confidence: 0.83893516

01:18:57.770 --> 01:18:58.930 These questions don't need  
NOTE Confidence: 0.83893516

01:18:58.930 --> 01:19:00.090 to each be addressed,  
NOTE Confidence: 0.83893516

01:19:00.090 --> 01:19:01.836 but I'm hoping for more comments  
NOTE Confidence: 0.83893516

01:19:01.836 --> 01:19:03.335 about what's going on and  
NOTE Confidence: 0.83893516

01:19:03.335 --> 01:19:04.725 what's needed in this area,  
NOTE Confidence: 0.83893516

01:19:04.730 --> 01:19:06.065 specifically the CD Hasso you  
NOTE Confidence: 0.83893516

01:19:06.065 --> 01:19:07.610 explain to us what that is.  
NOTE Confidence: 0.9444466833333333

01:19:08.010 --> 01:19:10.370 So a clinical decision support

NOTE Confidence: 0.9444466833333333  
01:19:10.370 --> 01:19:13.810 system is I think what they meant.  
NOTE Confidence: 0.9444466833333333  
01:19:13.810 --> 01:19:15.954 So I said, you know there are actually  
NOTE Confidence: 0.9444466833333333  
01:19:15.954 --> 01:19:18.692 a few things that we know are more or  
NOTE Confidence: 0.9444466833333333  
01:19:18.692 --> 01:19:20.767 less polluting and in terms of drugs,  
NOTE Confidence: 0.9444466833333333  
01:19:20.770 --> 01:19:23.722 you know it's one thing if you have you  
NOTE Confidence: 0.9444466833333333  
01:19:23.722 --> 01:19:26.958 know there you have clinical equity poised.  
NOTE Confidence: 0.9444466833333333  
01:19:26.960 --> 01:19:29.000 But you still need those options.  
NOTE Confidence: 0.9444466833333333  
01:19:29.000 --> 01:19:30.108 And so for example,  
NOTE Confidence: 0.9444466833333333  
01:19:30.108 --> 01:19:32.360 in the case of metered dose inhalers,  
NOTE Confidence: 0.9444466833333333  
01:19:32.360 --> 01:19:34.610 we're working on a clinical decision  
NOTE Confidence: 0.9444466833333333  
01:19:34.610 --> 01:19:36.585 support tool that nudges providers  
NOTE Confidence: 0.9444466833333333  
01:19:36.585 --> 01:19:39.057 to select other types of inhalers  
NOTE Confidence: 0.9444466833333333  
01:19:39.057 --> 01:19:40.600 before prescribing that one.  
NOTE Confidence: 0.9444466833333333  
01:19:40.600 --> 01:19:41.960 So that's an example.  
NOTE Confidence: 0.9452853  
01:19:44.310 --> 01:19:47.586 In the case of inhaled anesthetics,  
NOTE Confidence: 0.9452853

01:19:47.590 --> 01:19:51.710 not exactly it's it is a point of care tool.  
NOTE Confidence: 0.9452853

01:19:51.710 --> 01:19:54.006 We have fresh gas alerts that tell us  
NOTE Confidence: 0.9452853

01:19:54.006 --> 01:19:56.073 when we're using excessive flows of  
NOTE Confidence: 0.9452853

01:19:56.073 --> 01:19:58.221 gas more than the patients require.  
NOTE Confidence: 0.9452853

01:19:58.230 --> 01:19:59.442 That's another example.  
NOTE Confidence: 0.9452853

01:19:59.442 --> 01:20:02.270 In terms of choosing between medical devices,  
NOTE Confidence: 0.9452853

01:20:02.270 --> 01:20:04.214 there would not be a decision  
NOTE Confidence: 0.9452853

01:20:04.214 --> 01:20:06.324 supports tool in that regard that  
NOTE Confidence: 0.9452853

01:20:06.324 --> 01:20:08.184 really is not for clinicians,  
NOTE Confidence: 0.9452853

01:20:08.190 --> 01:20:10.440 it's the kind of thing that.  
NOTE Confidence: 0.9452853

01:20:10.440 --> 01:20:12.375 Procurement officers require that data  
NOTE Confidence: 0.9452853

01:20:12.375 --> 01:20:15.440 to help them choose who to contract with,  
NOTE Confidence: 0.9452853

01:20:15.440 --> 01:20:16.800 who not to contract with,  
NOTE Confidence: 0.9452853

01:20:16.800 --> 01:20:18.760 and it's just one factor of many  
NOTE Confidence: 0.9452853

01:20:18.760 --> 01:20:20.920 that goes into that decision making.  
NOTE Confidence: 0.9452853

01:20:20.920 --> 01:20:24.005 So I don't know so much that it is a



NOTE Confidence: 0.9452853

01:20:24.005 --> 01:20:27.290 a tool so much as it is an algorithm.

NOTE Confidence: 0.9452853

01:20:27.290 --> 01:20:29.314 But one thing I do think that really

NOTE Confidence: 0.9452853

01:20:29.314 --> 01:20:31.592 needs to happen is that we need a

NOTE Confidence: 0.9452853

01:20:31.592 --> 01:20:33.735 better means of accounting of all the

NOTE Confidence: 0.9452853

01:20:33.735 --> 01:20:35.607 stuff that we're prescribing and using.

NOTE Confidence: 0.9452853

01:20:35.610 --> 01:20:38.138 Some of that is captured in the

NOTE Confidence: 0.9452853

01:20:38.138 --> 01:20:40.090 patient record, some of it is not.

NOTE Confidence: 0.9452853

01:20:40.090 --> 01:20:41.777 But of the things that are captured

NOTE Confidence: 0.9452853

01:20:41.777 --> 01:20:42.890 in the patient record,

NOTE Confidence: 0.9452853

01:20:42.890 --> 01:20:45.548 we can use electronic health systems

NOTE Confidence: 0.9452853

01:20:45.548 --> 01:20:49.112 to allow us to assess variation

NOTE Confidence: 0.9452853

01:20:49.112 --> 01:20:50.808 between practitioners,

NOTE Confidence: 0.9452853

01:20:50.810 --> 01:20:52.686 accounting for differences in

NOTE Confidence: 0.9452853

01:20:52.686 --> 01:20:55.031 patients and differences in clinical

NOTE Confidence: 0.9452853

01:20:55.031 --> 01:20:56.930 outcomes to identify outlying.

NOTE Confidence: 0.9452853

01:20:56.930 --> 01:21:00.650 Providers that have more excessive OR,

NOTE Confidence: 0.9452853

01:21:00.650 --> 01:21:04.208 or, or not doing best practices.

NOTE Confidence: 0.9452853

01:21:04.210 --> 01:21:07.660 An example has to do with number of

NOTE Confidence: 0.9452853

01:21:07.660 --> 01:21:10.330 surgical trays that are used for.

NOTE Confidence: 0.9452853

01:21:10.330 --> 01:21:11.604 I'm going to give an example of

NOTE Confidence: 0.9452853

01:21:11.604 --> 01:21:12.690 a total knee replacement,

NOTE Confidence: 0.9452853

01:21:12.690 --> 01:21:14.490 which is something we've discussed

NOTE Confidence: 0.9452853

01:21:14.490 --> 01:21:16.290 with the orthopedic surgery team.

NOTE Confidence: 0.9452853

01:21:16.290 --> 01:21:20.112 So that's a way that electronic health

NOTE Confidence: 0.9452853

01:21:20.112 --> 01:21:22.289 records can be used to track information,

NOTE Confidence: 0.9452853

01:21:22.290 --> 01:21:24.372 identify best practices,

NOTE Confidence: 0.9452853

01:21:24.372 --> 01:21:25.760 identify outliers.

NOTE Confidence: 0.9452853

01:21:25.760 --> 01:21:29.880 Who can then be shown data to reflect

NOTE Confidence: 0.9452853

01:21:29.880 --> 01:21:32.556 as one means of behavior modification?

NOTE Confidence: 0.950316928888889

01:21:33.520 --> 01:21:35.062 Thank you. There's one last question

NOTE Confidence: 0.950316928888889

01:21:35.062 --> 01:21:36.496 which I'll answer, which is,

NOTE Confidence: 0.950316928888889  
01:21:36.496 --> 01:21:39.120 are the recording and slides available to us?  
NOTE Confidence: 0.950316928888889  
01:21:39.120 --> 01:21:40.256 The recording will be,  
NOTE Confidence: 0.950316928888889  
01:21:40.256 --> 01:21:42.480 there'll be a recording of the of the  
NOTE Confidence: 0.950316928888889  
01:21:42.480 --> 01:21:43.780 presentation which will be available  
NOTE Confidence: 0.950316928888889  
01:21:43.780 --> 01:21:45.336 on our website in a few days.  
NOTE Confidence: 0.950316928888889  
01:21:45.336 --> 01:21:46.931 And I think in the chat you saw  
NOTE Confidence: 0.950316928888889  
01:21:46.931 --> 01:21:48.720 the CME information was presumably  
NOTE Confidence: 0.950316928888889  
01:21:48.720 --> 01:21:50.320 everyone could see this.  
NOTE Confidence: 0.950316928888889  
01:21:50.320 --> 01:21:52.399 You want me to go ahead and say it?  
NOTE Confidence: 0.950316928888889  
01:21:52.400 --> 01:21:53.640 That's what all that pointing the stuff is.  
NOTE Confidence: 0.950316928888889  
01:21:53.640 --> 01:21:54.560 Go ahead and say it.  
NOTE Confidence: 0.950316928888889  
01:21:54.560 --> 01:21:55.480 All right, here we go.  
NOTE Confidence: 0.950316928888889  
01:21:55.480 --> 01:21:56.572 So for today,  
NOTE Confidence: 0.950316928888889  
01:21:56.572 --> 01:21:59.638 the number you would you would text is 2 O  
NOTE Confidence: 0.84652092375  
01:22:02.560 --> 01:22:03.880 34429435. That's the same  
NOTE Confidence: 0.84652092375

01:22:03.880 --> 01:22:05.560 for all the Yale CME2 O  
NOTE Confidence: 0.941371755555556

01:22:07.840 --> 01:22:09.615 34429435. And then the code  
NOTE Confidence: 0.941371755555556

01:22:09.615 --> 01:22:11.035 for today's section is  
NOTE Confidence: 0.9402536

01:22:13.480 --> 01:22:14.803 36153. Joey's going to see if she  
NOTE Confidence: 0.9402536

01:22:14.803 --> 01:22:16.670 can get to some CME credit for this  
NOTE Confidence: 0.9402536

01:22:16.670 --> 01:22:17.920 excellent talk she just attended.  
NOTE Confidence: 0.9402536

01:22:17.920 --> 01:22:19.999 Let me just grab this real quick.  
NOTE Confidence: 0.9402536

01:22:20.000 --> 01:22:22.420 Thank you very much.  
NOTE Confidence: 0.9402536

01:22:22.420 --> 01:22:25.790 Doctor Sherman, this was a really,  
NOTE Confidence: 0.9402536

01:22:25.790 --> 01:22:27.950 really depressing a presentation.  
NOTE Confidence: 0.9402536

01:22:27.950 --> 01:22:29.310 It was also a really,  
NOTE Confidence: 0.9402536

01:22:29.310 --> 01:22:31.450 really necessary presentation and and  
NOTE Confidence: 0.9402536

01:22:31.450 --> 01:22:33.666 beautifully I beautifully got a line for so.  
NOTE Confidence: 0.9402536

01:22:33.670 --> 01:22:34.910 So thank you very much.  
NOTE Confidence: 0.9402536

01:22:34.910 --> 01:22:36.345 A lot of work to be done.  
NOTE Confidence: 0.9402536

01:22:36.350 --> 01:22:38.228 A small token of our appreciation.

NOTE Confidence: 0.9402536

01:22:38.230 --> 01:22:39.150 Please join me on connecting.

NOTE Confidence: 0.82779488

01:22:43.590 --> 01:22:44.590 OK, so we're all set.

NOTE Confidence: 0.82779488

01:22:44.590 --> 01:22:45.922 We're all set for this academic

NOTE Confidence: 0.82779488

01:22:45.922 --> 01:22:47.490 year in fact. We'll be back.

NOTE Confidence: 0.82779488

01:22:47.490 --> 01:22:48.690 First week in September,

NOTE Confidence: 0.82779488

01:22:48.690 --> 01:22:50.244 so you'll be getting emails about that.

NOTE Confidence: 0.82779488

01:22:50.250 --> 01:22:51.846 And keep an eye on our website.

NOTE Confidence: 0.82779488

01:22:51.850 --> 01:22:52.810 Thank you all very much.

NOTE Confidence: 0.82779488

01:22:52.810 --> 01:22:54.014 And with that we can go ahead

NOTE Confidence: 0.82779488

01:22:54.014 --> 01:22:55.117 and end the webinar and

NOTE Confidence: 0.82779488

01:22:55.117 --> 01:22:56.205 end tonight's session here.

NOTE Confidence: 0.82779488

01:22:56.210 --> 01:22:57.000 Thanks everybody.