1
00:00:34.710 --> 00:00:39.089
Colin Cave, MD: Well, Hello, everyone, welcome and thank you for joining us here today.

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00:00:39.240 --> 00:00:47.130
Colin Cave, MD: I'm Colin Cave, a head and neck surgeon with Kaiser Permanente, and it's an honor to moderate this critical discussion on reducing plastics in medicine.

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00:00:47.400 --> 00:00:53.019
Colin Cave, MD: Plastics are everywhere in healthcare syringes, Iv. Bags, gowns, gloves, packaging.

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00:00:53.130 --> 00:01:03.119
Colin Cave, MD: designed for single use, convenience and infection control. But this widespread reliance comes with serious risks both to human health and to our environment.

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00:01:03.540 --> 00:01:20.840
Colin Cave, MD: First, st let's talk about health plastics used in medical devices and packaging often contain chemicals like phthalates, bisphenols, and pfas, many of which are known endocrine disruptors, carcinogens, or linked to possible future infertility and developmental harm.

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00:01:21.000 --> 00:01:37.829
Colin Cave, MD: These chemicals don't just stay in the plastic. They leach into Iv fluids, medication, packaging, and even the air we breathe. Microplastics are now found in human brains, blood, lungs, and even placentas to the point where fetuses are born prepolluted with plastic.

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00:01:37.940 --> 00:01:48.159
Colin Cave, MD: If plastic is meant to help us heal, why are we exposing our most vulnerable patients, infants, pregnant women, and those in the intensive care units. To these harmful substances.

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00:01:48.550 --> 00:02:10.670
Colin Cave, MD: Then there's the environmental crisis. Healthcare generates vast amounts of plastic waste, most of which is not recyclable. Instead, it's incinerated, releasing toxic air pollutants like dioxins and furins, or it's sent to landfills where it can persist for centuries,

breaking down into more microplastics that contaminate water, soil, and food.

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00:02:10.910 --> 00:02:26.949
Colin Cave, MD: The carbon footprint of plastic production and disposal is staggering. Plastic manufacturing alone accounts for a significant share of global fossil fuel use and contributing to climate change which in turn exacerbates an ongoing public health crisis.

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00:02:27.360 --> 00:02:29.069
Colin Cave, MD: So what can we do

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00:02:29.440 --> 00:02:34.429
Colin Cave, MD: today? We're going to hear from 3 leading physicians tackling this issue from different angles.

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00:02:34.570 --> 00:02:43.960
Colin Cave, MD: Dr. Hillary Ong will share how clinicians can actively work to reduce plastic use in healthcare, and why clinicians can lead the drive to systemic changes.

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00:02:44.110 --> 00:03:06.029
Colin Cave, MD: Dr. Barb Ernie will discuss the power of specialty society collaboration and reducing waste, and how organizations can push for better alternatives. And finally, Dr. Preeti Mehrotra will address one of the biggest challenges the balance between sustainability and infection control and touch on what's being done to safely reuse medical equipment?

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00:03:06.420 --> 00:03:08.490
Colin Cave, MD: The stakes are high.

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00:03:08.650 --> 00:03:22.569
Colin Cave, MD: Plastic has played a crucial role in modern medicine, but we have to ask, are we using it wisely, are there safer alternatives? And how can we build a healthcare system that prioritizes both patient safety and planetary health?

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00:03:22.930 --> 00:03:29.399
Colin Cave, MD: With that as our background? Let's get started with the conversation. I'm going to turn it over 1st to Dr. Ong, Dr. Ong.

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00:03:32.340 --> 00:03:48.029
Hilary Ong, MD, FAAP: Well, thank you so much, Dr. K. For that introduction and special thanks to the National Academy of Medicine for inviting me to speak and lead a discussion with my co-panelists on this very important issue, which is plastics in healthcare and what to do about it.

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00:03:48.650 --> 00:04:05.080
Hilary Ong, MD, FAAP: So, as Dr. Kavin highlighted healthcare uses and disposes of a significant amount of plastics, and we are definitely part of the problem, relying especially heavily on single use plastics. And we need to be a part of the solution.

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00:04:05.380 --> 00:04:06.950
Hilary Ong, MD, FAAP: Next slide, please.

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00:04:08.990 --> 00:04:35.139
Hilary Ong, MD, FAAP: Plastics is polluting at every stage of its life cycle from production to disposal. On the production side, about 98% of plastics are made from fossil fuels. So we're talking about oil, coal and gas and on the waste disposal side plastic waste pollutes the environment through plastic particles like Dr. Cave mentioned microplastics, nanoplastics and leaches, petrochemicals such as Bpa, pfas, phthalates, dhep

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00:04:35.619 --> 00:04:46.170
Hilary Ong, MD, FAAP: just of note plastics never decompose it just degrades into smaller particles. So it's always will be hanging around in our environment.

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00:04:47.170 --> 00:05:07.779
Hilary Ong, MD, FAAP: Looking within our healthcare system from us, healthcare facilities. Approximately 7 million pounds of plastic waste is being disposed of a day, and more than 90% of this plastic waste is not recycled, I think, mostly because it cannot be recycled in the form of soft plastic. So we're talking about

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00:05:07.780 --> 00:05:19.509
Hilary Ong, MD, FAAP: plastic packaging, Iv bag solutions, etc. And of note packaging and textiles are the largest markets for single use plastics in the world.

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00:05:20.370 --> 00:05:31.730
Hilary Ong, MD, FAAP: So we are truly in a poly crisis. So being climate change as it relates to fossil fuels and plastics, production and waste, as it relates to fossil fuels as well.

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00:05:32.030 --> 00:05:33.460
Hilary Ong, MD, FAAP: Next slide, please.

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00:05:36.206 --> 00:05:37.119
Hilary Ong, MD, FAAP: We will

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00:05:37.270 --> 00:05:52.880
Hilary Ong, MD, FAAP: never get rid of plastics, but, like Dr. Cave had mentioned that we really need to look at our judicious use of plastics in healthcare, and especially dramatically reducing our reliance on single use. Plastics in healthcare.

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00:05:53.400 --> 00:06:07.840
Hilary Ong, MD, FAAP: A couple months ago last year 2 friends and colleagues of mine, Dr. Steele and Dr. Singh, published a viewpoints article in Jama. Titled Healthcare Actions for reducing plastic Use and Pollution.

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00:06:08.140 --> 00:06:09.450
Hilary Ong, MD, FAAP: next slide, please.

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00:06:12.750 --> 00:06:36.049
Hilary Ong, MD, FAAP: and the article outlines 7 strategies for reducing plastics use especially single use plastics in healthcare, and I want to walk you through very broadly. These 7 strategies. So going from left to right, top to bottom, so organization and all strategies. So this is conducting at an organization or healthcare system level, a landscape analysis of plastic use.

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00:06:36.050 --> 00:06:46.300
Hilary Ong, MD, FAAP: conducting plastic waste audits and working with the hospital systems, procurement, infection, control clinicians, etc, on

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00:06:46.300 --> 00:06:52.239
Hilary Ong, MD, FAAP: alternatives of single-use plastics, and how we can replace single use plastics where possible.

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00:06:52.350 --> 00:07:06.719
Hilary Ong, MD, FAAP: Next, in clinician engagement, how to involve clinicians in the triaging of single use plastics. So what is needed? What is clinically necessary, what is clinically unnecessary and ideas for replacement

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00:07:07.480 --> 00:07:20.080
Hilary Ong, MD, FAAP: in terms of research and data. We need more studies on the health impacts of plastic exposure. And, of course, over the past couple of years. This is a hot topic, and more research is being done. But we need to continue that line of research.

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00:07:21.150 --> 00:07:31.469
Hilary Ong, MD, FAAP: also needing data on on collecting data, on safety infection control, to guide reusable alternatives

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00:07:32.140 --> 00:07:40.969
Hilary Ong, MD, FAAP: in terms of culture, change shifting, I think, from norms which is use, single use, use and toss culture, and how we can shift away from that

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00:07:41.630 --> 00:07:47.419
Hilary Ong, MD, FAAP: in terms of circular infrastructure, promoting, reuse, recycling, and durable alternatives.

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00:07:47.630 --> 00:08:14.599
Hilary Ong, MD, FAAP: Lastly, is policy reforms. And that's where I think that much attention and advocacy needs to be made in policy changes as we draw from like old playbooks and fighting against the tobacco industry as an example and as a clinician really voicing our concerns on health impacts to policymakers in our healthcare system and our government level.

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00:08:14.800 --> 00:08:39.700
Hilary Ong, MD, FAAP: And, lastly, technology materials, newer bioplastics and new types of materials are being manufactured and developed. But we need to be judicious and careful about adopting these new plastics. As there was a recent study that was published last year, stating that more than 50% of these quote unquote bioplastics are fossil fuel based

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00:08:40.640 --> 00:08:41.799

Hilary Ong, MD, FAAP: next slide, please.

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00:08:44.470 --> 00:09:01.699
Hilary Ong, MD, FAAP: Last thing I just want to walk you through an waste reduction project that I was involved in. And for me it's looking at a laceration, repair Kit in the pediatric emergency department. Can you play that clip, please?

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00:09:02.360 --> 00:09:23.320
Hilary Ong, MD, FAAP: This is me opening up a single use laceration, repair Kit every time I need to perform a laceration repair with sutures, as you can see, it's this kit with layers of packaging, plastic packaging, and out of the 36 items in this kit. I only routinely use 2 of those items next slide, please.

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00:09:25.760 --> 00:09:45.150
Hilary Ong, MD, FAAP: A wonderful medical student. And I got together and looked at this issue and found that my colleagues also have similar practices, in that they only routinely use a couple of instruments, and approximately 75% of the kit is completely untouched, unused, and because it's single use it's tossed in the landfill waste bin.

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00:09:45.270 --> 00:10:10.239
Hilary Ong, MD, FAAP: When we asked my colleagues what are the central instruments that they need, I said 3 things, needle drivers, forceps and scissors. And so when we compare our current practices to our ideal practices, there's an opportunity to reduce our emission footprint by 46% and reduce costs by 36, 7%. So in my book, it's really getting at that triple bottom line, good for people

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00:10:10.240 --> 00:10:17.520
Hilary Ong, MD, FAAP: good for profit and good for the planet. The next step is really working with the hospital to pare down these kits

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00:10:17.650 --> 00:10:19.409
Hilary Ong, MD, FAAP: and my last slide, please.

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00:10:22.694 --> 00:10:29.830
Hilary Ong, MD, FAAP: Well, thank you for your attention, and without further ado, it is my pleasure to pass the baton to Dr. Barbara Henry.

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00:10:35.450 --> 00:10:43.550

Hilary Ong, MD, FAAP: I simply can't believe I just want to say one word to you. Just one word.

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00:10:44.850 --> 00:10:45.670
Hilary Ong, MD, FAAP: Yes, sir.

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00:10:46.070 --> 00:10:49.760
Hilary Ong, MD, FAAP: Are you listening? Yes. Are you plastics?

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00:10:53.020 --> 00:10:54.680
Hilary Ong, MD, FAAP: Exactly. How do you mean?

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00:10:54.830 --> 00:10:56.830
Hilary Ong, MD, FAAP: There's a great future in plastics.

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00:10:57.340 --> 00:10:58.340
Hilary Ong, MD, FAAP: Think about it!

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00:10:58.770 --> 00:11:02.150
Hilary Ong, MD, FAAP: What do you think of that? Yes, I will offset.

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00:11:02.310 --> 00:11:04.820
Hilary Ong, MD, FAAP: That's a deal furious.

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00:11:07.590 --> 00:11:15.669
Barbara C. Erny, MD: Well, the future of plastic is here now, and the cost is high to people the planet and our medical colleagues and practices.

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00:11:15.950 --> 00:11:23.369
Barbara C. Erny, MD: A few years ago some of my ophthalmology colleagues discovered that we produce the most trash of any medical specialty.

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00:11:23.510 --> 00:11:33.660
Barbara C. Erny, MD: A small group of us were mortified that we were such a huge cause of the plastic waste problem. However, we saw this as a triple win opportunity next slide.

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00:11:34.900 --> 00:11:42.200

Barbara C. Erny, MD: Today I'm going to talk about what we did, and also how to engage your specialty in plastic waste reduction. Next slide.

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00:11:43.720 --> 00:12:02.659
Barbara C. Erny, MD: A survey of cataract surgeons and or nurses revealed that 90% were concerned about climate change, and 93% felt our trash was excessive, and also that we should be seeking ways to reduce our waste. The majority also felt that we should find ways to reuse supplies and instruments

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00:12:02.790 --> 00:12:03.869
Barbara C. Erny, MD: next slide.

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00:12:05.040 --> 00:12:14.480
Barbara C. Erny, MD: The study also revealed that most surgeons do not have a high preference for single-use items and patients regarded single-use items as a low priority.

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00:12:14.910 --> 00:12:20.730
Barbara C. Erny, MD: but there was a perceived safety benefit of disposable instruments next slide.

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00:12:21.910 --> 00:12:34.839
Barbara C. Erny, MD: Several of us had spent time in the Aravind eye care system in India, where sustainability is a top priority to provide high value, care to both paying patients and recipients of charitable services.

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00:12:35.070 --> 00:12:44.739
Barbara C. Erny, MD: This slide shows the garbage generated by one cataract operation in the Us. Compared to 93 of the same operations in

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00:12:44.940 --> 00:12:47.110
Barbara C. Erny, MD: in India, at Arrevent.

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00:12:47.570 --> 00:12:58.900
Barbara C. Erny, MD: American ophthalmologists and environmental engineers were involved in peer reviewed studies showing that not only were the visual outcomes equivalent to the Us. And the Uk next.

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00:12:59.480 --> 00:13:03.689

Barbara C. Erny, MD: but the infection rate was actually lower than ours.

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00:13:04.500 --> 00:13:13.709
Barbara C. Erny, MD: Next slide on Earth Day 2022, a small group of us and European cataract surgeons launched Isustain.

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00:13:13.990 --> 00:13:23.599
Barbara C. Erny, MD: which has become a global coalition of societies, organizations, and ophthalmologists dedicated to make eye care and surgery more sustainable. Next.

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00:13:25.190 --> 00:13:43.329
Barbara C. Erny, MD: our mission is to engage network and educate our ophthalmic community about more sustainable practices, to collaborate with industry, to reduce our waste support, research and innovative solutions, provide education about the public health impact of climate change and health harms of medical waste

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00:13:43.860 --> 00:13:48.549
Barbara C. Erny, MD: and participate in advocacy to effect change in regulations.

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00:13:49.280 --> 00:13:55.969
Barbara C. Erny, MD: We now have over 50 societies globally, as members of isustain. Next slide

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00:13:57.560 --> 00:14:08.429
Barbara C. Erny, MD: on our website. We've continued, we have a continually evolving library of literature and links to several topics, including sustainable practices in the Or and clinic

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00:14:08.710 --> 00:14:20.339
Barbara C. Erny, MD: how to reduce drug waste initiatives from low to middle income countries, human and planetary health impacts of medical waste and industry efforts. Next slide.

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00:14:22.200 --> 00:14:26.099
Barbara C. Erny, MD: we highlight what industry is doing and our mutual accomplishments

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00:14:26.200 --> 00:14:41.480

Barbara C. Erny, MD: when collaborating with industry. We need to remember that we are the customers. A few years ago several ophthalmic instrument companies wanted to make every cataract surgery pack contain all disposable plastic instruments.

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00:14:41.600 --> 00:14:50.120
Barbara C. Erny, MD: Ophthalmologists immediately fought back, especially key opinion leaders, and said they would refuse to buy anything from those companies.

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00:14:50.530 --> 00:14:58.730
Barbara C. Erny, MD: Quickly that proposal disappeared thankfully. We are now working together on win-win scenarios next slide.

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00:15:01.190 --> 00:15:12.759
Barbara C. Erny, MD: This surgical pledge was developed to empower doctors, nurses, and staff to make a difference in their operating rooms. Our medical student team has developed a toolkit for each of these goals.

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00:15:14.150 --> 00:15:15.310
Barbara C. Erny, MD: Next slide.

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00:15:16.690 --> 00:15:22.890
Barbara C. Erny, MD: I believe the key to our initial success was having a physician champion with status and connections.

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00:15:23.160 --> 00:15:29.859
Barbara C. Erny, MD: Someone who is well respected in your specialty and has had powerful positions can influence current leadership.

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00:15:30.570 --> 00:15:35.039
Barbara C. Erny, MD: Of course, you also need a team of passionate physicians and other stakeholders.

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00:15:35.690 --> 00:15:46.710
Barbara C. Erny, MD: Our young doctors and medical students have been essential in research projects, social media writing articles contributing to the website and app and speaking at meetings.

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00:15:47.310 --> 00:15:54.369

Barbara C. Erny, MD: advocacy, and changing laws and regulations will ultimately determine much of our success next slide.

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00:15:55.480 --> 00:16:03.079
Barbara C. Erny, MD: So there's no time to waste. Start an initiative committee or project in your own specialty today. Thank you.

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00:16:04.580 --> 00:16:07.930
Barbara C. Erny, MD: Now, I'd like to pass it on to Dr. Merotra.

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00:16:11.190 --> 00:16:20.779
Preeti Mehrotra, MD, MPH: Thanks so much. It's my privilege to be here today as well to talk to you a little bit more about environmental sustainability and the infection control perspective next slide.

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00:16:21.860 --> 00:16:30.690
Preeti Mehrotra, MD, MPH: So I want to 1st start by acknowledging the tension that I think exists between these 2 fields. Infection, prevention and sustainability work.

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00:16:30.810 --> 00:16:47.300
Preeti Mehrotra, MD, MPH: The cornerstones of our work in infection prevention include the use of transmission-based precautions and principles of disinfection and sterilization, and it's true that infection prevention may often support the use of disposable items to decrease transmission risk.

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00:16:47.470 --> 00:16:52.459
Preeti Mehrotra, MD, MPH: And yet we know that health care remains a carbon intensive sector, as we just heard.

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00:16:52.590 --> 00:16:59.030
Preeti Mehrotra, MD, MPH: and that addressing climate impact requires multilateral and multi-sector change next slide.

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00:17:00.490 --> 00:17:09.049
Preeti Mehrotra, MD, MPH: So I'd like to use both medical devices and personal protective equipment as use case scenarios for demonstrating that tension

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Preeti Mehrotra, MD, MPH: for medical devices. In particular, I want to step back and offer this audience an understanding of how infection preventionists and regulators often view medical devices.

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00:17:20.339 --> 00:17:35.380
Preeti Mehrotra, MD, MPH: On the bottom of this slide you see non-critical instruments. These are instruments that come into contact with intact skin or the environment, and for appropriate cleaning and disinfection. They only require the use of a hospital approved disinfectant, or germicidal wipe.

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00:17:35.720 --> 00:17:52.239
Preeti Mehrotra, MD, MPH: Next, we have semicritical instruments. These are those that come into contact with mucous membranes, and they require something called high level disinfection, which refers to a chemical process that kills at least 10 to the 6th amount of microorganisms on those instruments.

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00:17:52.390 --> 00:18:03.620
Preeti Mehrotra, MD, MPH: The most stringent is the critical instrument. These are instruments that come into contact with sterile body tissues, and these require sterilization, so going above and beyond that, 10 to the 6th

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00:18:03.720 --> 00:18:10.400
Preeti Mehrotra, MD, MPH: level that I mentioned, and it also includes sporocidal activity next slide.

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00:18:11.780 --> 00:18:19.530
Preeti Mehrotra, MD, MPH: So I believe there's some seminal events in healthcare that have really shaped. How we interpret and use that Spalding criteria.

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00:18:19.550 --> 00:18:44.189
Preeti Mehrotra, MD, MPH: The first, st of course, is HIV epidemic, which really brought to bear blood-borne, pathogen transmissions, and also the use of universal precautions. The second, which I believe is less discussed outside of the Infection Control community, is a series of outbreaks of multidrug resistant organisms likely linked to incompletely or inappropriately disinfected duodenoscopes.

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00:18:44.250 --> 00:18:52.899

Preeti Mehrotra, MD, MPH: and the 3, rd of course, is the coronavirus pandemic, which has really brought to the forefront the importance of cleaning sterilization and disinfection

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00:18:53.660 --> 00:18:54.670
Preeti Mehrotra, MD, MPH: next slide.

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00:18:55.250 --> 00:19:10.460
Preeti Mehrotra, MD, MPH: So it was all of those experiences within healthcare that really, I think, have brought to bear our current marketplace this idea that out of necessity. There needed to be innovation on the part of manufacturers in creating a market for single use.

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Preeti Mehrotra, MD, MPH: So in November 2019,

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Preeti Mehrotra, MD, MPH: we have the advent of duodenoscopes with single use or disposable parts, and now have completely single use duodenoscopes, and then quickly we follow suit in 2021 with bronchoscopes and in 2022, with the reader scopes as questions were raised around how to reprocess these devices appropriately or effectively

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00:19:35.400 --> 00:19:36.310
Preeti Mehrotra, MD, MPH: next slide.

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00:19:36.990 --> 00:19:38.982
Preeti Mehrotra, MD, MPH: So how do we

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Preeti Mehrotra, MD, MPH: balance this tension. I think that we really have to stratify risk together. So going from thinking about complete 0 harm and 0 waste to absolute opportunities for risk reduction both for the planet and for our patients.

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00:19:54.160 --> 00:20:13.539
Preeti Mehrotra, MD, MPH: So, thinking to ourselves and really studying in the literature, are all medical devices created equally are. There are, in fact, some devices that are higher risk than others, for examples are there higher risk scopes with channels and crevices that might

actually be higher risk for infection than many of the other devices my colleagues outlined.

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00:20:14.070 --> 00:20:38.420
Preeti Mehrotra, MD, MPH: And I think there's also a broader concept we need to consider which Dr. Ong touched on which is the idea of the circular economy going from inception to waste? Are there opportunities in production to think about rethinking, redesigning, and reducing our production and in use and consumption are there opportunities for reuse, repair, remanufacturing, and, of course, for recycling

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00:20:39.260 --> 00:20:40.230
Preeti Mehrotra, MD, MPH: next slide.

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00:20:40.380 --> 00:21:09.509
Preeti Mehrotra, MD, MPH: shifting away from medical devices and moving on to personal protective equipment. Many of you might be familiar with the body of work that's reconsidering the use of contact precautions or gown and gloves for patients who are colonized with Mrsa and vre. So 1st asking ourselves, is the use of this personal protective equipment appropriate and judicious? In the 1st place, and then, if we do need to use something like gowns and gloves. Are there more environmentally friendly opportunities.

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00:21:09.510 --> 00:21:20.259
Preeti Mehrotra, MD, MPH: such as considering reusable gowns versus disposable gowns. In this one study we found Basel and colleagues found that the use of

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00:21:20.410 --> 00:21:28.600
Preeti Mehrotra, MD, MPH: reusable gallons was associated with a 93% reduction in solid waste generation next slide.

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Preeti Mehrotra, MD, MPH: So how do we embrace these challenges together as our colleagues touch? My colleagues touched on really thinking about multidisciplinary dialogue.

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00:21:37.620 --> 00:22:04.200
Preeti Mehrotra, MD, MPH: So environmental sustainability program managers should share their goals their obstacles and their visions, with their colleagues in infection, prevention, control, or Ipc. And they should really to work to establish partnerships such as the ones Dr.

Ernie mentioned, looking at institutional waste and recycling partners. Clinicians need to be involved with their infection prevention control programs and clinical engineering when trialing new equipment

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00:22:04.650 --> 00:22:29.929
Preeti Mehrotra, MD, MPH: procurement and supply chain need to ensure that Ipc and sterile processing departments have reviewed the requirements related to cleaning and disinfection for equipment that is brought into the facility and sterile processing departments play a role in sharing and discussing any operational or regulatory updates or challenges and identifying opportunities for 3rd party reprocessing or other recycling opportunities.

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00:22:30.490 --> 00:22:38.089
Preeti Mehrotra, MD, MPH: I'm in debt, of course. Next slide to my colleagues in my infection prevention team and to my colleagues in environmental sustainability.

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00:22:38.250 --> 00:22:42.080
Preeti Mehrotra, MD, MPH: Thanks so much for having me, and it's my pleasure to hand it over back to Dr. Cave.

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00:22:44.460 --> 00:23:08.899
Colin Cave, MD: Thanks very much in my conversations with our panelists beforehand. I can assure you they can talk about these issues for hours, and they are just such a wealth of information. I'd like to go ahead and ask them each a specific question, and we'll open it up to the viewing audience. Dr. Ong, let's start with you. Go back in order here. You've had firsthand experience in this in a major institution. How can individual healthcare professionals

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00:23:09.050 --> 00:23:15.329
Colin Cave, MD: advocate for sustainable changes in the healthcare setting, especially when you're dealing with cost and regulatory barriers.

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00:23:16.250 --> 00:23:39.630
Hilary Ong, MD, FAAP: Well, thank you for that question, Dr. Cave. I'll give an example of approach to this issue, and speaking really from my experience, and offer some lesson learned. So I felt I started with my lonesome self, like in the Pediatric Emergency department, and I started to find colleagues who want to work on an improvement project

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00:23:39.630 --> 00:23:55.800
Hilary Ong, MD, FAAP: and a patient safety issue with me. And and as it relates to environmental or clinical sustainability, so that's why I picked the laceration repair Kit, the procedural kit. That kind of peeves, like all of us in the emergency department.

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00:23:55.800 --> 00:24:20.439
Hilary Ong, MD, FAAP: So first, st I think, like starting off as individual, like finding like-minded colleagues, or nursing staff or other staff that would work with you on this project and reaching out to sort of broader national organizations like healthcare without harm like this newly formed Psnap group, which is a physician, scientist, and advocating for reduction in plastics.

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00:24:20.450 --> 00:24:42.640
Hilary Ong, MD, FAAP: and then tackling either a clinical operation or a waste reduction project, and I think once we have those players and a project in place, then, I think, making friends across your institution so like in procurement, in office sustainability in the C-suite and leadership.

127
00:24:42.640 --> 00:25:03.759
Hilary Ong, MD, FAAP: And I think before this is one lesson learned, I think, before kind of approaching leadership, needing to make clear of that triple bottom line idea that I mentioned in my presentation. So what is good for profit? So is this a cost reduction, or at least cost equivalent project. Is it good for the planet? Is it safe for our patients?

128
00:25:04.210 --> 00:25:28.980
Hilary Ong, MD, FAAP: I will offer sort of 2 last points that, like Dr. Marotra mentioned, this work is truly interdisciplinary and in reducing our single use plastics in healthcare. And it's not just an environmental issue. But it's also about patient safety financial and operational concern. So I think if we frame it that way, it really aligns with multiple stakeholder

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00:25:29.130 --> 00:25:34.710
Hilary Ong, MD, FAAP: priorities, so happy to to chat more and answer other questions.

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00:25:34.710 --> 00:25:46.039
Colin Cave, MD: Actually, I think we have one timely question that came in as you were talking. What pushback did you get? Probably from somebody

who's thinking about doing this themselves. I mean, it's it's great if everybody's on board, but

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00:25:46.200 --> 00:25:52.319
Colin Cave, MD: not every facility is the same. So what pushback did you get, or what have you heard from your colleagues that have done the same.

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00:25:52.900 --> 00:26:16.539
Hilary Ong, MD, FAAP: Yeah, great, great question. So I think for me just that one project that I was leading, and in particular the laceration repair. So the pushback is one cost. So I knew I needed to do a cost calculation of our current use and waste, and I think a word about that is that

133
00:26:16.540 --> 00:26:40.580
Hilary Ong, MD, FAAP: most of our cost calculations about upfront costs. So the cost of purchasing the material and forgetting to factor in the cost of disposal. The hospital spends a lot of money paying for waste management. So whether or not is landfill or regular medical waste, etc, excuse me so, I think, calculating that cost into that upfront cost

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00:26:40.980 --> 00:27:05.370
Hilary Ong, MD, FAAP: is important. So I think the argument is stronger. We take it up to leadership if it's a cost reduction cost equivalent. And the second issue I've been dealing with. I think someone in the Q. And A. Had mentioned or had asked about sterile processing and autoclaving, and that for us in the Bay Area is very costly, as

135
00:27:05.370 --> 00:27:28.699
Hilary Ong, MD, FAAP: we have felt that everything is costing more these days, and that has not for me some of these engagement project calculations has not proven to be a cost savings. So I think, needing to work slowly with leadership to say if they can put out that upfront cost, and

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00:27:28.710 --> 00:27:30.419
Hilary Ong, MD, FAAP: needing to just

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00:27:30.600 --> 00:27:45.280
Hilary Ong, MD, FAAP: chat about and hopefully persuade them with the other kind of possible value, base or patient safety, base and population, health, like consequences of

138
00:27:45.490 --> 00:28:03.880
Hilary Ong, MD, FAAP: of continuing to use single plastics and the reducing that impact of health harms in downstream and also upstream, and that so really kind of pivoting to more value based argument than a cost savings argument. If that doesn't prove to be true.

139
00:28:05.830 --> 00:28:07.010
Colin Cave, MD: Wonderful. Thank you.

140
00:28:07.140 --> 00:28:29.939
Colin Cave, MD: Dr. Ernie. Let's turn to you. We've talked with Dr. Ong about within a large institution, but you've moved the fight outside of your own institution. So one question real quick, and then I'll have a follow up when you're done. How did you get the word out about Isustain and its mission, because obviously it's a great mission. It does great work, but you've got to spread it out to get people and their buy-in. How did you get the word out.

141
00:28:31.210 --> 00:28:59.520
Barbara C. Erny, MD: Well, thank you. As I mentioned in my talk, we had an announcement at our annual cataract meeting on Earth Day 2022, and the European Cataract Society, who is initially started. This with us, did the same, but after that we've had time at the opening sessions of our meetings for our Cataract Society, and now for the American Academy of Ophthalmology, which is the largest ophthalmology society in the world.

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00:28:59.520 --> 00:29:03.550
Barbara C. Erny, MD: So they've all allowed us to have announcements and us.

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00:29:03.550 --> 00:29:22.320
Barbara C. Erny, MD: maybe panel discussion at the opening session where everybody attends. We have sustainability courses at each of those meetings, and we've got social media. So we've got students and young ophthalmologists who post on social media just little updates. They direct people back to the website.

144
00:29:22.320 --> 00:29:42.342
Barbara C. Erny, MD: We have sometimes, on the floor of meetings. We have a little space where we can. We can show I sustain and show what we're doing, and have some posters up from the medical students, even to just display different ways. We've made progress over the year in sustainability, and we even have

145
00:29:43.200 --> 00:30:08.150
Barbara C. Erny, MD: ophthalmologists writing position papers now that are getting published in major journals on accomplishments we've made through studies we've done on infection control or recommendations to reduce plastic waste that have no negative impact on the patient. So we are getting papers published and position statements supported by our American Academy of Ophthalmology.

146
00:30:08.190 --> 00:30:33.840
Barbara C. Erny, MD: And we've gotten 53 member societies now worldwide, each of which actually talk to their members about being involved in sustainability and and looking at the eye, sustain sites, and even industry has really been our partner in this. I just found out that Alcon actually offers long drapes and short drapes for eye surgery. Now it's

147
00:30:33.840 --> 00:30:59.139
Barbara C. Erny, MD: to us we know it's ridiculous to be covering the feet. I'm sure Dr. Merotra can realize that there's not really an infection that flies from the foot to the eye during surgery, but many surgeons still choose to use a full body drape, but we are really pushing for short drapes, and Alcon has labeled the short drapes in their packs as eye sustain endorsed. So even with industry, there.

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00:30:59.190 --> 00:31:05.599
Barbara C. Erny, MD: they're trying. They don't want to be in the business of selling long drapes. They're they're in a much bigger game. And so

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00:31:06.145 --> 00:31:09.729
Barbara C. Erny, MD: we're just trying to get the word out through all sorts of channels.

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00:31:11.740 --> 00:31:35.770
Colin Cave, MD: Great multifactorial. I love that so just a quick follow up. Besides building the coalition that you did much like the question I asked Dr. Ong, regarding what one person can do in the healthcare setting. A lot of the attendees are interested in what we can do with policy and regulation. So what can one person do in your opinion, to affect change in regulations that would be important to us.

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00:31:36.450 --> 00:31:42.840

Barbara C. Erny, MD: Well, I have a a great example of of one of our ophthalmologists who was, one of the initial

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00:31:43.050 --> 00:32:04.900
Barbara C. Erny, MD: instigators of eye sustained Dr. David Palmer. He's at Chicago. He was really frustrated. And this is what starts a lot of it. As Dr. Hong said, you're you're one physician. You're frustrated with something you see in the hospital that just looks ridiculous, and he was seeing that the topical eye drops. We use to prep pre-OP. Patients were being

153
00:32:05.010 --> 00:32:24.080
Barbara C. Erny, MD: purchased patient had to pay for it, and then they were given one drop and the entire bottle was discarded. They couldn't take it home. They couldn't reuse it on another patient he was frustrated. He himself submitted a resolution to the Chicago and Illinois State medical societies, advocating for patients to take home their medications

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00:32:24.220 --> 00:32:40.710
Barbara C. Erny, MD: after post up use, and it was adopted. A modified resolution was introduced to the Illinois General Assembly. It became State law, and has subsequently been utilized by our Academy of Ophthalmology as a template for 4 other State legislators to date.

155
00:32:40.860 --> 00:32:58.339
Barbara C. Erny, MD: The ama has ultimately adopted a similar policy by adding support for the safe use of multi-dose eye drops on multiple patients. And so with this support of these major societies that resulted in a multi eye society position paper on this issue.

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00:32:58.380 --> 00:33:19.230
Barbara C. Erny, MD: and we've got studies going on right now, showing there's no contamination when this is done properly and drops are administered by professionals. So one person getting frustrated like Dr. Ong has set off a change in State law. Multi position papers, ama on board. So it really, I want everyone to feel like

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00:33:19.230 --> 00:33:29.000
Barbara C. Erny, MD: you can do. One person can start this whole domino effect and change. So try to try to use your frustration for action.

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00:33:31.110 --> 00:33:45.220

Colin Cave, MD: That's awesome. Thank you. All right, let's get back to you. Dr. Morotras, speaking of one person in infectious disease, no waste would be the ideal situation. But it's not really close to reality in healthcare at present

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00:33:45.660 --> 00:33:54.239
Colin Cave, MD: you've talked about the importance of the circular economy. I think many of the people on this conference are aware of it. Some are probably not.

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00:33:54.380 --> 00:34:01.449
Colin Cave, MD: What are the data we need to start making that a practical reality in healthcare to get us closer to the mark we're looking for.

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00:34:05.070 --> 00:34:07.510
Preeti Mehrotra, MD, MPH: Thanks for that question. I think

162
00:34:07.790 --> 00:34:11.439
Preeti Mehrotra, MD, MPH: you know, we talked already in the questions we've heard about.

163
00:34:11.800 --> 00:34:26.229
Preeti Mehrotra, MD, MPH: What are the barriers that we face, and how do we create that change? I think data is actually really important and essential in in creating change. Regardless of who your audience is, but especially including the C-suite, for example. So I think.

164
00:34:26.340 --> 00:34:45.289
Preeti Mehrotra, MD, MPH: really thinking about lifecycle analyses, or what we call cradle to grave analytics, is really essential. So in the case of manufactured products or medical devices that would be thinking about the environmental impacts and the financial impacts from the raw material extraction. What does it take from the cradle

165
00:34:45.290 --> 00:35:01.719
Preeti Mehrotra, MD, MPH: to make this device all the way through that product's manufacturing, that product's distribution, that product's use. And then, importantly, as Dr. Ong mentioned, that product's final disposal or recycling or reuse

166
00:35:01.740 --> 00:35:05.580

Preeti Mehrotra, MD, MPH: all of that should be measured for medical devices.

167
00:35:06.830 --> 00:35:21.330
Preeti Mehrotra, MD, MPH: and we have some of that data. For some devices. We have some single center studies. But I really think we need really large scale Lcas or cradle to grave analytics to understand what is the true environmental impact or footprint.

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00:35:21.550 --> 00:35:28.948
Preeti Mehrotra, MD, MPH: especially when it comes to complex medical devices, those that might be more difficult to create, those that

169
00:35:29.820 --> 00:35:46.789
Preeti Mehrotra, MD, MPH: are complex and have crevices in them, for example, which is when we know there can be an increased infection risk, and those that also have really more taxing and labor intensive components when it comes to the reprocessing steps for those devices.

170
00:35:46.960 --> 00:36:06.340
Preeti Mehrotra, MD, MPH: And then we need to match those Lcas with decision analysis, data and financial data to understand really the large impact of how much does it cost to go into manufacturing and distribution and or recycling, as Dr. Ong mentioned, institutions often spend quite a bit of money to have

171
00:36:06.430 --> 00:36:17.530
Preeti Mehrotra, MD, MPH: partners in the waste stream and recycling piece of this. And so, understanding really, what's part of that partnership is incredibly essential.

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00:36:18.890 --> 00:36:28.699
Colin Cave, MD: Wonderful. And so I'm going to start with you. Take a modify, a viewer question, and start with you. And then if Dr. Ong or Dr. Ernie want to add, they can

173
00:36:28.870 --> 00:36:43.590
Colin Cave, MD: having to do with reprocessing devices. Obviously, as an infectious disease specialist, we all have examples of whether it's a speculum, or a scope, or whatever reusing

174
00:36:43.610 --> 00:37:00.460

Colin Cave, MD: versus reprocessing in the operating rooms. It's not that easy to just collect instruments and send them back, and our purchasers can tell you they have a certain percent they have to purchase that's new, or they're not going to get the the discounts that they need. So

175
00:37:00.460 --> 00:37:15.260
Colin Cave, MD: what are the obstacles that you see in real time to reprocessing. And and what do you think? Maybe 5 years from now it's gonna look like if we figure that out how reprocessing can help to replace some of our just purchasing.

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00:37:16.670 --> 00:37:20.579
Preeti Mehrotra, MD, MPH: Sure I mean I I think that the work of

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00:37:20.730 --> 00:37:30.120
Preeti Mehrotra, MD, MPH: reprocessing and the work of certainly appropriately disinfecting devices. As it

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00:37:30.380 --> 00:37:42.380
Preeti Mehrotra, MD, MPH: as referencing in the instructions for use of the Ifu for that device. That's taxing hard work. Some of the ifus for medical devices can be hundreds of pages.

179
00:37:42.630 --> 00:37:55.850
Preeti Mehrotra, MD, MPH: And so really thinking about who is in your sterile processing department? Do they have the training, the support, the guidance, the technology, the infrastructure that they need to make that the most efficient space

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00:37:55.900 --> 00:38:13.379
Preeti Mehrotra, MD, MPH: that's absolutely essential in trying to, I think, really take advantage fully of reprocessing and reusing devices as we can within our institutions. They are really the heartbeat and play such an important role in trying to get at this question of

181
00:38:14.241 --> 00:38:17.000
Preeti Mehrotra, MD, MPH: reprocessing, certainly complex medical devices.

182
00:38:19.860 --> 00:38:21.990
Colin Cave, MD: Dr. Ong, in your facility.

183
00:38:22.350 --> 00:38:46.509
Hilary Ong, MD, FAAP: Yeah, I'll jump in. So I would say, Uc has an action plan across all our campuses to phase out single use plastics. But it's really focusing on like beverages, plastic bottles, and hasn't moved into medical plastics yet. But I think with that backdrop I want to emphasize that it's so important

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00:38:46.510 --> 00:39:04.550
Hilary Ong, MD, FAAP: to have the institution create an action plan or policy to help guide this, because this is truly multidisciplinary. I don't know the operations as a clinician fully the operations of sterile processing. But I think that we're at this

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00:39:04.550 --> 00:39:29.419
Hilary Ong, MD, FAAP: kind of crisis state of plastic pollution, that we have to do something about it, and I would lean on an approach or a thought that my colleague, Dr. Thiel, had mentioned, which is going back to old school, so can we transition from single use. Plastics, all this plastic packaging, and just one time use and toss in the trash can to back to glass, glass, syringes, glass, Iv. Solution bottles. Is that possible?

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00:39:29.420 --> 00:39:57.939
Hilary Ong, MD, FAAP: That is still a question mark. But that is going to be heavily relying on our sterile processing department, and if the institutions are committed to doing this, it has to invest in this also. I would say that there's no free lunch. Is that sterile processing also has emission footprint related to it, but we can potentially, dramatically reduce our single plastic reliance.

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00:39:59.540 --> 00:40:04.409
Colin Cave, MD: Thank you, Dr. Ernie. I'm going to give you the last question. We've got about a minute and a half for this one.

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00:40:04.570 --> 00:40:17.970
Colin Cave, MD: because of your connection with other businesses as you've been moving in with Isustain. What advice would you give to industry on how to help those of us in the healthcare world that are trying to take this on.

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00:40:19.450 --> 00:40:46.109
Barbara C. Erny, MD: Yeah, thank you. We've realized, working with industry that they're just as frustrated with regulations and policies

and laws that don't make sense as we are, you know. I think doctors. Maybe some of us have had this idea that it's kind of an us against them in this game that they just that's their job. They want to produce as much waste as they can. But they actually don't that we've talked to several very large

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00:40:46.140 --> 00:40:56.590
Barbara C. Erny, MD: industries that work with ophthalmology. Their younger employees are demanding them to be green. They're switching over to solar. They're doing. They're doing things to green their industry

191
00:40:56.780 --> 00:41:12.260
Barbara C. Erny, MD: aside. And then with with us. They really don't want to be in the business, like, I said, of making a long drape. They that's that's not the best use of their manufacturing or their time, or making packaging. So they're really

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00:41:12.890 --> 00:41:29.199
Barbara C. Erny, MD: they really are on board on win-win scenarios. Now. We started with win-win scenarios. You saw my slide of Dr. Chang holding that giant Ifu for an intraocular lens, 20 million of these are sent around the world. It's reams of paper, and we got industry

193
00:41:29.420 --> 00:41:39.369
Barbara C. Erny, MD: to change it to a QR. Code in any country which is most of the world that would would let them. Now that's a win-win. They don't want to be in the paper business. We don't want that.

194
00:41:39.370 --> 00:42:01.690
Barbara C. Erny, MD: It's getting, you know. Now it's getting tougher as we're negotiating. How can we reuse our plastic tubing. How can we reuse the plastic? Because then we get into? They'll they're gonna sell less. Are they gonna be happy? There's got to be a happy medium, charge us more, and let us reuse it. I mean, charge us the same, but let us reuse it so we don't waste the plastic and harm our patients so.

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00:42:01.810 --> 00:42:07.959
Barbara C. Erny, MD: or the community. So it's you know, just for industry. The word is.

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00:42:08.080 --> 00:42:17.589

Barbara C. Erny, MD: young doctors, especially doctors, now care about this. They are looking like when we said, we absolutely will not use disposable instrument packs.

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00:42:17.720 --> 00:42:26.059
Barbara C. Erny, MD: And everybody said that, especially our key opinion leaders, they backed off. So I think they know we're the customer, and if we start to

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00:42:26.340 --> 00:42:41.780
Barbara C. Erny, MD: uniformly like with this, I sustain with 53 I societies around the world, saying, we will not purchase from Company X. If you don't, you know, comply with our requests. I think that's that's pretty huge.

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00:42:42.220 --> 00:43:03.290
Colin Cave, MD: Great wisdom. All right. Well, I thank you to our panelists for an insightful and very thought provoking discussion. I enjoyed myself today we've explored the urgent need to reduce plastic use and waste in healthcare. We've gone over some concrete steps. Clinicians and industry leaders are taking in the ongoing challenges. We must address, particularly when it comes to infection, control, and reusable medical equipment.

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00:43:03.520 --> 00:43:18.449
Colin Cave, MD: The reality is that healthcare cannot afford to continue in its current path, as we've heard. Plastic waste is not just an environmental issue. It's a direct threat to public health and the sustainability of our medical systems. But today's discussion has also shown that solutions exist.

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00:43:18.490 --> 00:43:39.060
Colin Cave, MD: Clinicians are leading change at the bedside. Industry leaders are organizing for collective impact and innovations in sustainable purchasing and sterilization are making a difference. So the question we want to leave you with today is this, what role will you play? Whether you are a healthcare provider, policymaker, researcher, or concerned. Citizen, your voice and actions matter.

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00:43:39.180 --> 00:43:50.219
Colin Cave, MD: advocate for change in your institution, push for purchasing practices that enhance sustainability and safety, and challenge the assumption that single use. Plastics are the only way forward. We need your help.

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00:43:50.340 --> 00:44:13.970
Colin Cave, MD: Please help us continue this conversation beyond today, because a healthier future for both our patients and our planet depends on what we do next. I'd like to thank our amazing panel for their insights and expertise to Nam staff for putting on a valuable and needed Webinar series. And of course you all for taking time for your busy day to listen, learn, and interact with us as we take on these important issues have a great day.

204
00:44:27.540 --> 00:44:29.130
Barbara C. Erny, MD: Thank you. Everyone.