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00:00:00.076 --> 00:00:21.192 Announcer Funding for Yale Cancer answers is provided by Smilow Cancer Hospital. Welcome to Yale Cancer answers with the director of the Yale Cancer Center, Doctor Eric Winer. Yale Cancer Answers features conversations with oncologists and specialists who are on the forefront of the battle to fight cancer. Here's Doctor Winer.

00:00:21.269 --> 00:00:54.346 Eric Winer February is National Cancer Prevention Month, and today we're going to be exploring the shifting landscape of prevention screening and risk stratification. Joining me tonight is Michela Dinan, professor of epidemiology at Yale School of Public Health. She's also the co-leader for cancer prevention and control at Yale Cancer Center. And a leader in our program that focuses on research, training and education.

00:00:54.384 --> 00:01:00.807 Eric Winer So, Michela, thanks so much for being here with us this evening to talk about prevention and more.

00:01:00.884 --> 00:01:02.615 Michaela Dinan Hi, Eric. So happy to be here.

00:01:02.692 --> 00:01:35.153 Eric Winer You know, I usually like to give people a sense of how someone got to where they are and what made you want to become a person who could be with us today talking about cancer prevention? Somebody who does the kind of research you do. And, if I'm not mistaken. You went to a school of public health and received a Ph.D. and would consider yourself an epidemiologist?

00:01:35.230 --> 00:01:59.615 Michaela Dinan Yes. That's correct. And, like many people, I think my path here was a winding one and one that when you look back, you can connect the dots in a way that looks like very intentional, and very straightforward. But I always have to acknowledge that I stand on the shoulders of people who came before me and the opportunities that they gave me, and I'm very appreciative of that.

00:01:59.615 --> 00:02:24.500 Michaela Dinan And all of that led me here today. I've always been really interested in the sciences for as far as I can remember, so I kind of knew that that was a space that I wanted to reside in. For my career, I did my undergraduate degree in biology at the University of Virginia. And, you know, I was toying with the idea of medical school or basic sciences.

00:02:24.576 --> 00:02:51.884 Michaela Dinan I actually got into a pharmacology PhD program and was intending to go to that, but very late in the game, in my senior year of undergraduate school, I started volunteering because I was doing my, my undergraduate degree at the University of Virginia. We were just a hop, skip and a jump away from Washington, DC. And so I started seeing these posters in the library for volunteers, for conferences about like public health or science in the public interest.

00:02:52.115 --> 00:03:05.269 Michaela Dinan So I started volunteering just to get that experience. You could go to the conference for free. I thought it was

really cool. And then as I was doing this literally in the second semester of my senior year, after I've already gotten into this other PhD program, I was like, oh no, this is what I actually want to do.

00:03:05.307 --> 00:03:22.269 Michaela Dinan Like, this is really cool. And so it was really kind of like a very like for me. And you know, this about me, for me, it was a very like last minute, kind of like left turn right away from what I was intending to do. It was too late to get into a PhD program immediately because the deadlines were already pass.

00:03:22.269 --> 00:03:40.230 Michaela Dinan I'd already been admitted into this other one, so I went and worked, with kind of a giant in the field for a year and then, or ended up being a couple of years, and then, applied for a PhD program in public health, at the University of North Carolina in Chapel Hill, and had a fantastic experience for.

00:03:40.307 --> 00:04:09.769 Eric Winer Well, no, I would agree that that's sort of an abrupt decision for you, since I think of you as someone who likes to, measure three times and cat once, and, you know, and I think it's true of so many of our careers that they're not quite as linear as they might seem. I often tell people that I feel at times like I've tumbled through my career, and I managed to stand up and move forward.

00:04:09.846 --> 00:04:49.384 Eric Winer And I think it's that way for many. Cancer, of course, is still a major problem in this country and in this world. And although cancer mortality has been declining in the past several years, there's still over 600,000 Americans who die of cancer each year. And worldwide, the statistics are just staggering 10.4 million deaths in 2023. And it's projected that there could be as many as 18 to 19 million deaths from cancer worldwide in 2050.

00:04:49.461 --> 00:05:19.692 Eric Winer I would like to be more optimistic than that. And by 2050, we're going to be so much better at prevention and early detection and treatment that we won't be there. But of course, this is a huge, problem. So one of the things we've seen recently is in spite of the decline in US, cancer mortality, there's been an increase in early onset breast and colorectal cancers and particularly related to colorectal cancer.

00:05:19.692 --> 00:05:33.346 Eric Winer And there's been more about this in in the news just very recently, that the deaths for young people are going up with colorectal cancer. And what is driving all of this.

00:05:33.423 --> 00:06:02.153 Michaela Dinan That's such an interesting question. And it's such an interesting paradox of our time. Right. So just in January asks like really such an interesting study that showed that, you know, now 7 in 10 people are now surviving five years or more from their initial cancer diagnosis. And yet we know, that there are certain cancers like colorectal cancer, breast cancer and younger women where the incidence of these are rising as well.

00:06:02.307 --> 00:06:31.692 Michaela Dinan So to that second part of their

question, you know, I think this paradox comes from the fact, that trends in obesity, alcohol consumption, diet, possibly environmental exposures have taken us in the opposite direction to a certain extent for certain cancers. To get a little specific about some examples, you know, we know that, the consumption of cured and red meat have been linked to some gastrointestinal cancers and stomach cancer, as well as colorectal cancer.

00:06:31.769 --> 00:06:53.076 Michaela Dinan We know that things like alcohol or excess weight or possible chemical exposures in the environment, such as endocrine disruptors, can be linked to early onset breast cancer. And then, you know, there's been I think you alluded to some recent studies for colorectal cancer that have been linked to, you know, dramatic changes in recent time in our diets, particularly the high consumption of highly processed foods.

00:06:53.153 --> 00:07:08.076 Michaela Dinan You know, however, the reason for, you know, continued research in this space is that we don't fully understand all of the risks and there are likely different individual genetics to explain at least part of some of these reasons. So we have to continue to explore what's happening in these spaces.

00:07:08.076 --> 00:07:15.807 Eric Winer Meaning, when you talk about individual genetics, that the same risk factor could affect one person far more than another.

00:07:15.807 --> 00:07:16.692 Michaela Dinan So exactly.

00:07:16.692 --> 00:07:46.807 Eric Winer Yes, someone may be at risk for getting a colon cancer by some dietary component. Another person may or may not have that at all. And then, you know, there's also been talk about the microbiome, which has of course become a very, popular topic. These days, but popular because it's probably pretty important. And there have been discussions about, antibiotic use in children and how that can change the microbiome.

00:07:46.884 --> 00:07:56.076 Eric Winer The bottom line is we need to do a lot of research here so that we can both understand causes and understand potential ways that we can prevent.

00:07:56.153 --> 00:08:17.269 Michaela Dinan Yeah, that's exactly right. And as you alluded to, these relationships are likely highly complex. Right. It's likely the combination of environmental diet, exposures as well as individual kind of underlying biology or genetics. Right. So there's a probably very highly complex relationships. And there needs to be more work to better understand it.

00:08:17.346 --> 00:08:48.730 Eric Winer And there's something else that creates, a disastrous situation for young people, particularly with colorectal cancer. And that is that I think young people often don't recognize symptoms that they might be having. Doctors don't want to believe that a young person could have cancer. And I think sometimes there's just a delay in diagnosis. And that delay results in people presenting with a more advanced stage cancer.

00:08:48.807 --> 00:09:27.230 Michaela Dinan Yes, absolutely. And this is why, you know, screening is so important, this and this is why sometimes we see shifts in recommendations for screening. Right. Because sometimes the recommendations kind of follow observed trends. When we see that people are being diagnosed with something like colorectal cancer earlier, then the guidelines will shift to reflect this and suggest that people need to start, being screened, even earlier in order to have a better chance of detecting these diseases earlier, because early detection almost always leads to, you know, more treatment options, better outcomes.

00:09:27.307 --> 00:09:57.076 Eric Winer You know? Absolutely. And we've said it on this show multiple times, but I'll just say it again. The revised recommendation for colon cancer screening is screening starting at age 45. It has been reduced from from age 50, and for that matter, for people who have a very strong family history, something they should talk to their individual health care provider about and determine whether perhaps even an earlier age is appropriate just to shift topics a little bit.

00:09:57.076 --> 00:10:20.576 Eric Winer During the pandemic, we were very concerned that people were not getting cancer screenings, and there were data to suggest that there was a stage shift for some time after the pandemic, as a result of people not having mammograms and other tests. Is that something that's still going on? What do we know about that?

00:10:20.653 --> 00:10:42.346 Michaela Dinan Yeah, this is a great topic of discussion. It's actually highly, highly related to what we were just talking about. So yes, at the height of the pandemic, we did see that the rates of routine cancer screening plummeted, and I think understandably so. Right. So for a good portion of 2020, the data show that there were far fewer diagnoses, for screening detected cancers such as breast, prostate and colorectal cancers.

00:10:42.346 --> 00:11:05.807 Michaela Dinan These are the ones that we think of as screening a screening of cancers. And this was because virtually any and all, what would what was considered elective medical procedures were being canceled or postponed while people were trying to avoid, you know, contacting, Covid. And as a result, we can see in the data that we were catching some of these cancers at later stages because people were not getting their routine screening.

00:11:05.807 --> 00:11:33.423 Michaela Dinan More recent data does appear to show that this is mostly resolved for many cancers, such as breast and prostate cancer, and this is probably because the screening is quite efficient in these cases. And there's in most places at most health care systems, there's robust like health care infrastructure to kind of support these screenings. However, we have going back to colorectal cancer, we have seen, that colorectal cancer screening is a little bit of a different story.

00:11:33.500 --> 00:11:56.038 Michaela Dinan And I think that that's probably because routine colonoscopies tend to be a more, invasive type procedure. That

require sedation, that requires prep, right. By the patient. So it appears that it's taken much longer for colorectal cancer screening to normalize. Particularly for those who are getting colonoscopies.

00:11:56.115 --> 00:12:23.269 Eric Winer Cancer screening is often very much viewed as one size fits all. Women have mammograms starting at typically around age 40. That's the recommendation by a number of organizations. And they're typically done annually for some number of years, and then either annually or every other year for some number of years. But the truth is, not everyone is it the same risk?

00:12:23.346 --> 00:12:51.692 Eric Winer It was a very interesting study that was presented at one of our large breast cancer meetings in December that looked at a much more individualized approach to breast cancer screening and looked, at least in a preliminary fashion, to be quite effective. World Cancer Day this year, has a theme of United by unique, suggesting that in fact, we do need a more personalized approach because we're all unique.

00:12:51.692 --> 00:12:52.000 Eric Winer Yeah.

00:12:52.000 --> 00:13:14.076 Michaela Dinan I mean, I think that that's a great point. I think moving towards personalized risk stratification and cancer screening is critical for both targeted early detection for people who have that familial history or other risk factors that make them at increased risk. And then again, screening is critical for detecting early earlier disease. So that that leads to improved outcomes.

00:13:14.076 --> 00:13:38.461 Michaela Dinan As a population scientist, you know, there's other there's other benefits of it because it optimizes kind of resource use by focusing on high risk, folks. And it helps to reduce unnecessary screening for those people who who don't have that increased risk. And there's the potential to also minimize overdiagnosis or overtreatment, which really kind of aligns with this idea behind, you know, precision medicine.

00:13:38.461 --> 00:14:03.346 Michaela Dinan I think it's a great idea. I think we have a lot of data to support it. I think, there probably needs to be more intentional thought behind what exactly this will look like for different cancers. But we are all unique. We all have different backgrounds, we all have different lifestyles. And I think partnering with our health care providers, using evidence based medicine to guide our decisions, is critically important.

00:14:03.346 --> 00:14:10.615 Michaela Dinan And it's, more and more something that we should be looking to as the future of how we care for ourselves and how we care for patients.

00:14:10.807 --> 00:14:38.615 Eric Winer Yeah. And of course, it's going to take both creative research and large clinical trials, but it's really, really important given how many hundreds of thousands and millions of people, undergo cancer screening, or we're going to have to take a brief break. I will return

in just a minute. With our guest tonight, doctor Michaela Dinan, professor of epidemiology at the Yale School of Public Health.

00:14:38.692 --> 00:15:09.192 Announcer Funding for Yale cancer answers comes from Smilow Cancer Hospital using genetic testing to identify cancers before the onset of symptoms, when the disease is most easily treated or cured. More about Smilow Cancers Screening and Prevention Program at Smilow Cancer hospital.org. It's estimated that over 240,000 men in the U.S. will be diagnosed with prostate cancer this year, with over 3000 new cases being identified here in Connecticut.

00:15:09.269 --> 00:15:44.615 Announcer 1 in 8 American men will develop prostate cancer in the course of his lifetime. Major advances in the detection and treatment of prostate cancer have dramatically decreased. The number of men who die from the disease. Screening can be performed quickly and easily in a physician's office using two simple tests, a physical exam and a blood test. Clinical trials are currently underway at federally designated comprehensive cancer centers such as Yale Cancer Center and Smilow Cancer Hospital, where doctors are also using the Artemis machine, which enables targeted biopsies to be performed.

00:15:44.692 --> 00:15:51.500 Announcer More information is available at Yale Cancer Center. Dot org. You're listening to Connecticut Public Radio.

00:15:51.576 --> 00:16:29.692 Eric Winer Good evening again. This is Eric Winer with Yale Cancer Answers. And I'm here tonight with my guest, doctor Michaela Dinan from the Yale School of Public Health. We're talking about cancer prevention and cancer screening. I want to turn now and talk about some of the research that you've done. And maybe we can start with, some of the research that suggests that other causes mortality, meaning non cancer causes, often exceeds cancer mortality when we're particularly talking about older populations.

00:16:29.769 --> 00:16:38.423 Eric Winer And that of course affects how we tailored screening and potentially how we talk to patients about treatments.

00:16:38.500 --> 00:17:11.461 Michaela Dinan So we've been looking at these large databases of long term cancer survivors. So people who have survived at least five years from their initial cancer diagnosis, we have, you know, a cohort of over 600,000 patients, who are long term survivors of breast, prostate or colorectal cancer. In our one of our initial, questions was really to look at the risks of these long term survivors of dying from their originally diagnosed cancers versus other causes.

00:17:11.461 --> 00:17:40.153 Michaela Dinan And what we saw when we looked at these long term survivors was that, those patients who, were diagnosed with their cancer at lower risk for those who were diagnosed with lower stage disease upon their original diagnosis? These patients were actually more likely to die from non-cancer causes like cardiovascular disease or other kind of more aging

related concerns than their cancers.

00:17:40.153 --> 00:18:14.846 Michaela Dinan So really, the kind of emphasis of this work, again, going back to the first part of our discussion, was the need for personalized, risk stratified care, in order to balance obviously the concerns related to their original diagnosis, but also the need for additional primary care for these long term survivors. To address other just as I said, aging related comorbidity related concerns that for people who were low risk disease and survived their cancer, those are actually the bigger problem in the long term.

00:18:15.000 --> 00:18:28.269 Michaela Dinan So I just again, I think that there's this really this need to emphasize that all health care, should be personalized and everyone has different health risks. And so we need to think about how to care for people in the way that makes the most sense for them.

00:18:28.346 --> 00:18:52.384 Eric Winer Yeah. Well, it's often said that hindsight is 2020. And so when we look back at people who were diagnosed and then go on and die of something else, one wonders, did they need that cancer diagnosis that they needed treated now, if no doubt that there are many cases where had that cancer not been diagnosed or treated, they might not have done so well.

00:18:52.461 --> 00:19:09.615 Eric Winer But there are probably other cases where in fact we are over diagnosing. And perhaps a cancer didn't need to have been diagnosed. That, of course, is certainly the case in somebody who loses their life from some other cause within a very short period of time.

00:19:09.653 --> 00:19:31.730 Michaela Dinan I think that that's really a critically important point, and I do think that that happens sometimes. I also think for long term cancer survivors. Right. So once somebody has experienced a cancer diagnosis and has been effectively treated, you know, sometimes the focus will remain entirely on that person's like cancer history. And maybe we lose the forest, you know, through the trees.

00:19:31.884 --> 00:19:50.153 Michaela Dinan And we need to make sure that we're looking at the whole health of that person because, you know, their cancer may be long gone, or maybe it's not long gone. Maybe they are just one of these people who are now living with cancer, with metastatic disease. That's happening more and more as well. But we can't we can't lose sight of their other health care needs.

00:19:50.230 --> 00:20:14.653 Eric Winer I just want to make sure our listeners don't misunderstand me. I'm not suggesting for a second that someone who's diagnosed with cancer should say, I'm not going to get this treated because I could die of something else. But I am saying that we need to do research in this area, because eventually we may come to a point where we say this cancer isn't going to ever affect your life, and you can not worry about it so much.

00:20:14.653 --> 00:20:46.846 Eric Winer And we need to pay attention to other factors. That may be more important. You had a recent study that looked at

late recurrences in older survivors. Oftentimes those patients are no longer seeing their oncologists or surgeons, and they're being followed by their primary care providers. What do primary care doctors need to know? And should there be some way that an oncologist passes the baton to the primary care doctor?

00:20:46.846 --> 00:21:09.192 Michaela Dinan Yes. I mean, so I think the short answer to to that last part is absolutely, to some extent, you know, but our study. So again, this, this, this additional study was really kind of focusing on this population of, people who, have late recurrence of people who have survived their cancer for at least five years and then experience a recurrence of disease.

00:21:09.269 --> 00:21:39.192 Michaela Dinan And once again, this was in breast, colon and rectal cancer is what it demonstrated was the importance of kind of the traditional cancer risk factors in predicting late recurrence, for these patients. So our study actually showed that late recurrence is uncommon. We did not it was not it did not happen at, large rates. But when it did happen, it was more likely to again happen in folks who had been diagnosed with, later stage, more aggressive, disease.

00:21:39.192 --> 00:22:11.846 Michaela Dinan But I do think it's important to acknowledge that it does happen. And so that, for people who have a history of cancer diagnosis that perhaps, once again, we need to consider tailoring their screening based on that previous cancer history. So we know that once somebody has been diagnosed with a cancer, they are at increased risk, however small, but to some extent increased risk of being of having recurrence of their disease or being diagnosed with a second primary malignancy.

00:22:11.846 --> 00:22:31.538 Michaela Dinan You know, I think that that needs to be considered when considering whether or not to continue to screen older adults who may technically have aged out of guidelines for screening. Maybe we need to personalize their risk factors a little bit more, and consider whether or not a woman past the age of 65 should continue. That should just factor in.

00:22:31.538 --> 00:22:36.615 Michaela Dinan I'm not trying to say it should decide one way, definitively or the other, but should factor into that decision.

00:22:36.692 --> 00:23:05.423 Eric Winer You know, I'm sitting here and listening to this and thinking about it and thinking about how much of a workload the primary care doctor has every single day. And they have 15 or 20 minutes, sometimes even 30 minute appointments with patients. They have to worry about so many different aspects of medical care, and at times it feels like they're being squeezed more and more.

00:23:05.500 --> 00:23:23.769 Eric Winer And I can only hope that in our current generation of AI assisted medical care that we will use AI to help that primary care doctor be able to perform his or her job that much more effectively.

00:23:23.846 --> 00:23:50.192 Michaela Dinan Yes, I agree, and we you know, we would be remiss if we didn't acknowledge that, you know, in addition to that primary care, there's, you know, nurse practitioners, there's other allied health

professions who who are helping kind of bear that burden as well. But yes, I think that much like in every other area of human expertise, there are many different ways in which I, can be incorporated or at least explored in modern medicine and including in cancer care.

00:23:50.384 --> 00:24:04.730 Michaela Dinan And so certainly the the hope is that, you know, this new tool because it is a tool, to be used alongside, you know, human expertise, will will help to make to, to offload some of this tremendous burden.

00:24:04.769 --> 00:24:31.269 Eric Winer All I can say is Marcus Welby wouldn't recognize medicine today. And some of our listeners may not even remember Marcus Welby, but this was a TV show of a primary care doctor probably 40 years ago. And health care has just changed so very much. During that time, it's it's really astounding. And will it will undoubtedly, continue to change.

00:24:31.346 --> 00:24:56.846 Eric Winer So other work you've done and some of your colleagues has actually focused on a very different topic, which is out of pocket casts. Not only do people have to worry, of course, about their health insurance and that covering care, but when you come and get cancer care or other medical treatments, it's surprising how many other expenses there are.

00:24:57.000 --> 00:25:01.153 Eric Winer How how do people manage that and what what can we do?

00:25:01.230 --> 00:25:29.115 Michaela Dinan That's a great question, and I'm not sure that I have a great answer to it. Other to other than to say that we we know that economic burdens significantly impact people's screening behavior. And this is exacerbated in like, high risk, populations. So, you know, for those of us who do have insurance, you know, oftentimes we have to pay a deductible or a co-pay when we're seeking care.

00:25:29.269 --> 00:26:05.115 Michaela Dinan And there's a wealth of literature, some of my own, some of my my colleagues, to demonstrate that, you know, the higher these out of pocket costs go, the less likely people are to be accessing care. And, you know, it's one thing to talk about, you know, how this is preventing people from from accessing preventive services like screening, which we know are critically important, but we also know based on the science that it is also out of these, out of pocket costs will also deter people from sometimes accessing their very needed treatments to treat their disease.

00:26:05.192 --> 00:26:17.192 Eric Winer Oh, they don't take medications. I mean, we know that it doesn't take a very high price tag to get people to be less likely to take a given therapy that may be lifesaving.

00:26:17.269 --> 00:26:58.115 Michaela Dinan And then and this financial burden disproportionately affects those, individuals with lower income. And this then exacerbates existing health care disparities. So it it's a really vicious cycle. That happens I think that reducing economic barriers through policies that minimize out-of-pocket costs, you know, are really, really critically necessary and,

you know, will help people to then stay adherent to those therapies which they currently need and then very critically, help them access preventive services like screening to make sure that they, you know, prevent onset or worsening of different conditions as well.

00:26:58.192 --> 00:27:19.807 Eric Winer And to be very clear, neither you nor I are suggesting that there should be any blame associated with not taking a medication because it's expensive. If you're a 35 year old woman with breast cancer, with three kids and you're living on a limited income, are you going to put food on the table for your kids? Are you going to get your medicine?

00:27:19.884 --> 00:27:24.384 Eric Winer And these are just awful choices that people have to make.

00:27:24.500 --> 00:27:42.846 Michaela Dinan These are the impossible choices that unfortunately, many people are faced with day in and day out. I think what I'm suggesting is that people should not have to be faced with these choices. How can we work towards policies that will make it so that this is not a decision somebody is having to make?

00:27:43.000 --> 00:28:08.307 Eric Winer Well, I think this is something that, policymakers need to think about, and epidemiologists and doctors need to lobby for changes. And for that matter, the public needs to as well, because it's just so important. And and the costs of health care continue to rise. And many of our newest and most effective medicines, sadly, are also some of the most expensive ones.

00:28:08.384 --> 00:28:31.576 Michaela Dinan That's true. And then in addition to affording care, there's other barriers as well as just like accessing care, right? So also things like enhancing access to screening programs in areas where maybe there's not easy access. Rural lakes such as rural areas, perhaps through the use of mobile screening units or telehealth services, I think could be, critically important as well.

00:28:31.615 --> 00:28:57.307 Announcer Doctor Michaela Dinan is a professor of epidemiology and chronic diseases at the Yale School of Public Health. If you have questions, the address is Cancer Answers at Yale dot. Edu and past editions of the program are available in audio and written form at Yale Cancer center.org. We hope you'll join us next time to learn more about the fight against cancer funding for Yale Cancer Answers is provided by Smilow Cancer Hospital.