

Villanova COPE Webinar
Healthy Aging: The Role of Diet and Other Lifestyle Factors in the Maintenance of Brain Health

Presented by Thomas M. Holland, MD, MS
3/15/23

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00:00:04.480 --> 00:00:21.220

Lisa Diewald MS, RDN, LDN: Good afternoon. Welcome to our April, 2023 COPE Feeding the Need Developing Solutions webinar. My name is Lisa Diewald, and I am the program manager for the MacDonald's Center for Obesity Prevention and Education at Villanova University's Fitzpatrick College of Nursing.

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00:00:21.220 --> 00:00:24.700

I have the pleasure of being the moderator for today's webinar.

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00:00:24.970 --> 00:00:42.530

Lisa Diewald MS, RDN, LDN: As always, we're really grateful you decided to spend the next hour with us, and are excited to begin a discussion on sustainability. And how we, as health providers, can learn more and incorporate what we learn in our patient education, in our counseling, and in our advocacy work.

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00:00:42.980 --> 00:00:54.470

Lisa Diewald MS, RDN, LDN: Today's presentation is entitled Promoting Sustainability Diets for Human and Planetary Health, and we're thrilled to welcome Becky Ramsing a registered dietitian from the Center for a Livable Future.

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00:00:54.930 --> 00:01:11.680

Lisa Diewald MS, RDN, LDN: As health professionals, we're naturally wired to focus on dietary and lifestyle changes that lead to positive outcomes in our patients. But we're not necessarily as familiar with addressing diet and lifestyle changes that can also improve the health of our planet.

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00:01:11.840 --> 00:01:26.780

Lisa Diewald MS, RDN, LDN: So today's presentation allows us to have the opportunity to actually do both. So, we extend a hardy welcome to you whether it's your first COPE webinar or you regularly attend our monthly webinars we're just so glad that you're here.

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00:01:27.980 --> 00:01:39.160

Lisa Diewald MS, RDN, LDN: Before we begin the presentation, I would just like to remind you that PDFs of today's PowerPoint slides are posted on the COPE website at Villanova.edu/COPE.

8

00:01:39.160 --> 00:01:48.650

Lisa Diewald MS, RDN, LDN: After going to COPE's website, look for Webinar on the menu bar and just follow it to this month's webinar, which is presented by Becky Ramsing, MPH, RDN.

9

00:01:48.860 --> 00:02:08.479

Lisa Diewald MS, RDN, LDN: The Q & A box will be open throughout the presentation for you to ask a question. We'll address as many questions as possible depending on the amount of time we have at the end of the presentation. The expected length of the webinar is 1 hour, and the session, along with the transcript will be recorded and placed on the COPE website within the next week.

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00:02:09.410 --> 00:02:25.540

Lisa Diewald MS, RDN, LDN: If you used your phone to call into the webinar today and want CE credit for attending, please just take a moment afterwards to email us at COPE@Villanova.edu, and provide your name so that we can send you an evaluation and you can receive a CE certificate.

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00:02:26.910 --> 00:02:37.280

Lisa Diewald MS, RDN, LDN: Villanova University Fitzpatrick College of Nursing is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center

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00:02:37.680 --> 00:02:52.190

Lisa Diewald MS, RDN, LDN: Commission on Accreditation. Villanova University, College of Nursing, Continuing Education, COPE is also a continuing professional education CPE accredited provider with the Commission on Dietetic Registration.

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00:02:52.310 --> 00:03:05.080

Lisa Diewald MS, RDN, LDN: Credited status does not imply endorsement by Villanova University, COPE, or the American Nurses Credentialing Center of any commercial products or medical and nutrition advice displayed in conjunction with this activity.

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00:03:06.650 --> 00:03:13.640

Lisa Diewald MS, RDN, LDN: Our webinar this month awards one contact hour for nurses and one CPEU for Dietitians and DTRs.

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00:03:13.660 --> 00:03:21.050

The suggested CDR performance indicators are listed on the slide, and the CDR level of this webinar is 2.

16

00:03:21.060 --> 00:03:34.630

Lisa Diewald MS, RDN, LDN: Remember, you must attend the entire webinar presentation to receive continuing education credits. While everyone is encouraged to complete a post program evaluation, to receive contact hours all nurses must complete the evaluation.

17

00:03:36.560 --> 00:03:56.360

Lisa Diewald MS, RDN, LDN: And now I have the privilege of introducing today's speaker. I'm thrilled that she's joined us today. Becky Ramsey, MPH, RDN is the senior program officer for the Center for a Livable Future at Johns Hopkins Bloomberg School of Public Health where she oversees research, communication,

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00:03:56.360 --> 00:04:04.580

Lisa Diewald MS, RDN, LDN: evaluation, and programming that facilitates a shift to sustainable healthy diets that are plant centric and lower in meat.

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00:04:04.830 --> 00:04:20.760

Lisa Diewald MS, RDN, LDN: prior to joining the CLF, Becky worked with the University of Maryland as technical advisor for nutrition and food security for projects in Afghanistan and Ethiopia. Helping women produce and utilize food for family consumption and income generation.

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00:04:20.820 --> 00:04:32.120

Lisa Diewald MS, RDN, LDN: She also worked as a nutrition consultant for community worksite and school based programs developing and implementing health and nutrition curricula with clients such as Head Start,

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00:04:32.560 --> 00:04:47.110

Lisa Diewald MS, RDN, LDN: the Howard County Public school System, and other businesses and community partners. Becky is active as a board chair of Aids Orphan Education Trust, which supports an Ugandan organizations serving orphans and vulnerable families.

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00:04:48.660 --> 00:05:05.360

Lisa Diewald MS, RDN, LDN: There are no relevant financial relationships with ineligible companies for those involved today with the ability to control the content of this activity. The planners will review participant feedback to evaluate for real or commercial bias in any activity today.

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00:05:05.630 --> 00:05:15.720

Lisa Diewald MS, RDN, LDN: So I just wanted to welcome Becky. Thank you, Becky so much for being here. We're so excited you're here. I'm going to go ahead and stop sharing my screen so that she can share hers.

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00:05:16.530 --> 00:05:24.170

Becky Ramsing, MPH, RDN: Thank you. Let me get it all set up here and hopefully it'll work as well as it did in our practice. Okay.

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00:05:25.890 --> 00:05:27.400

Becky Ramsing, MPH, RDN: Let's start the show.

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00:05:28.210 --> 00:05:28.790

Okay.

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00:05:31.580 --> 00:05:50.970

Becky Ramsing, MPH, RDN: You can just go over, and yeah, there we go. There we are. All right. Thanks. Really happy to be here. Thanks for the introduction. As Lisa mentioned, I work at the Center for a Livable Future. We are an academic center within the Johns Hopkins Bloomberg School of Public Health.

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00:05:50.970 --> 00:06:00.030

Becky Ramsing, MPH, RDN: We've been in existence for about 25 years little over 25 years, and we work at the intersection of food systems and public health. Working on

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00:06:00.110 --> 00:06:05.360

Becky Ramsing, MPH, RDN: issues on the research, communication, policy work, and education

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00:06:05.360 --> 00:06:32.140

Becky Ramsing, MPH, RDN: in the areas of how we produce and consume food in its impact on our on human health in the environment. So it's been a great place for me to work for the last 7 years. I've come, as you know, as Lisa mentioned, I've come from a background of a lot of nutrition work, and throughout my career have really evolved more into understanding the broader impact of the food system. And I really enjoyed that work and what I've learned through it, and hoping I could share some of that with you today.

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00:06:32.270 --> 00:06:56.860

Becky Ramsing, MPH, RDN: So I'm gonna go at it and move forward and trying to get everything, and we'll definitely have time for questions at the end. So here's our learning objectives that you probably saw when you signed up for the webinar. We're just gonna describe how components of the food system interact and shape our daily lives and how the food system faces constant pressures from resource depletion, lack of equity, population, growth, and climate disruption.

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00:06:56.900 --> 00:07:11.290

Becky Ramsing, MPH, RDN: We'll describe the environmental health and climate impacts of the food we eat to to some extent, and then we'll really talk about what a sustainable diet is or might be, and how, and I'll hopefully provide a few guidelines for helping you make people make choices.

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00:07:11.300 --> 00:07:13.290

Becky Ramsing, MPH, RDN: Sustainable, healthy food choices.

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00:07:14.520 --> 00:07:22.700

Becky Ramsing, MPH, RDN: And just to start out and frame our talk and sustainability is a word we use a lot. I like to think about it as a really as a process not necessary prescription.

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00:07:22.740 --> 00:07:39.720

Becky Ramsing, MPH, RDN: It's even like a more of a moving target that may change but it continues. One definition describes it as the capacity of being maintained over the long term in order to meet the needs of the present without jeopardizing the ability of the future generations to meet their needs.

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00:07:39.970 --> 00:07:54.270

Becky Ramsing, MPH, RDN: Another definition is the sustainable and resilient food system conserves and renews natural resources, advances social justice, and animal welfare, builds community wealth, and fulfills the food and nutrition needs of eaters now and in the future.

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00:07:55.620 --> 00:08:10.430

Becky Ramsing, MPH, RDN: As depicted in this framework from the academy and nutrition and dietetics where you may have seen this before. Sustainable food systems are complex and multifactorial. They encompass nutrition, health, the economy, human capital, social cultural issues and the important interaction with the environment.

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00:08:10.840 --> 00:08:21.330

Becky Ramsing, MPH, RDN: In a sustainable, resilient, and healthy food system all individuals have equitable access to a safe and secure supply of food and water that supports optimal health both now and in the future.

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00:08:21.420 --> 00:08:39.720

Becky Ramsing, MPH, RDN: The 4 domains of these sustainable food systems are actually interconnected and overlapping. Health and nutrition professionals such as us can use this framework to convey the multitude of factors that should be considered when implementing measures to promote nutritious sustainable food systems, and identify

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00:08:40.039 --> 00:08:42.520

Becky Ramsing, MPH, RDN: potential co- benefits and trade outs.

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00:08:42.780 --> 00:09:03.160

Becky Ramsing, MPH, RDN: This is one of many diagrams I could show you. We use a lot of different ones, but it's another one that I use often has multiple connections and feedback points diagram within it. This helps us remember that there's no single solution, but many complex, interconnected actions that work toward a better solutions.

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00:09:04.280 --> 00:09:13.140

Becky Ramsing, MPH, RDN: Sorry. As mentioned, achieving sustainable diets is complex, and requires balancing climate, water, and other environmental factors with health and resilience.

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00:09:13.190 --> 00:09:21.660

The ideal food system ensures healthy, nutritious foods, but also protects biodiversity, our land and environment, and ensures adequate livelihoods for people in the communities.

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00:09:21.780 --> 00:09:40.570

Becky Ramsing, MPH, RDN: So we have to keep all these things in mind. It's not just a matter of producing and eating the right food. We could use some of these concepts to evaluate the food decisions or the guidance that we give in our work. Our is the food that we recommend nutritionally viable, ecologically sound? Is it affordable? Is it culturally acceptable?

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00:09:40.570 --> 00:09:42.390

Becky Ramsing, MPH, RDN: Is it fair and equitable?

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00:09:44.180 --> 00:09:56.690

Becky Ramsing, MPH, RDN: Our diet interacts with climate in many ways: of climate change, greenhouse gas emissions, to soil, water, air, biodiversity, animal welfare, community welfare,

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00:09:56.870 --> 00:10:06.070

Becky Ramsing, MPH, RDN: and food and environmental and social justice. I'll talk about some of these, but not all of these today. Sadly, because we only have an hour.

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00:10:07.010 --> 00:10:24.920

Becky Ramsing, MPH, RDN: I'll spend a little bit of time talking about climate first. The impacts of climate change are already apparent, and are predicted become much more severe in the years ahead. These include more frequent and extreme weather events leading to decreased food and water security. Increase heat related mortality and the spread of vector waterborne diseases. All these factors

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00:10:24.920 --> 00:10:31.000

Becky Ramsing, MPH, RDN: impact health, food access, hunger, nutrition, and add in the measurable burden of vulnerability,

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00:10:31.040 --> 00:10:32.790

Becky Ramsing, MPH, RDN: morbidity, and mortality.

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00:10:34.100 --> 00:10:50.900

Becky Ramsing, MPH, RDN: So to kick off our conversation about our diet and climate, this figure here depicts greenhouse gas emissions from all sectors. I think this is from 2010. The purple circle is emissions from transport, the green circles is emissions from our agriculture land use changes.

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00:10:50.900 --> 00:11:09.410

Becky Ramsing, MPH, RDN: The pie in the middle is greenhouse gas emissions from livestock only. From various sources that could be from fermentation, which is, you know, cow burps, manure, feed crops, pasture and energy uses. All in all, livestock contributes 14 and a half percent of humans greenhouse gas emissions.

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00:11:09.410 --> 00:11:14.870

This is slightly more actually than the transport sector. So it's a big contribution.

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00:11:15.750 --> 00:11:21.370

Becky Ramsing, MPH, RDN: In fact, this diagram here demonstrates how food production and consumption plays such an important role more clearly.

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00:11:21.470 --> 00:11:35.560

Becky Ramsing, MPH, RDN: On the left you see the emissions from 2010. The dark orange down below is agricultural emissions that come from agriculture growing and producing our food and the lighter oranges everything else, industry, transport buildings, energy, etc.,

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00:11:35.790 --> 00:11:52.040

Becky Ramsing, MPH, RDN: On the right now, you see agriculture emissions with business as usual, and 2050. That's as if we don't change anything and how we produce and consume our global how global diets are changing. Here is the line the experts have set as keeping where we need to keep emissions, to

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00:11:53.570 --> 00:12:21.220

Becky Ramsing, MPH, RDN: to decrease the possibility of basically climate catastrophe and all the things that you saw in the slide earlier. So you see, there's a bit of a problem there. If we were not to change anything in how we grow and produce and consume food, we'd have to squish everything. All our technology, solar solar panels, electric cars, everything in this tiny little space. And as you know, that's probably not likely. So we have to do something about how we grow and produce food.

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00:12:21.220 --> 00:12:40.950

Becky Ramsing, MPH, RDN: So some of the studies and projections and models have shown that if we can consume 75% less meat and dairy globally and decrease our food waste by about 50%, we can get to a place where we can possibly, you know, make that target, you know, with all the other technologies. It takes all solutions all together.

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00:12:41.130 --> 00:12:49.250

Becky Ramsing, MPH, RDN: But, as you can see, one thing we'll see in this coming slides is that animal foods particularly play an outsized role in this greenhouse gas and climate change.

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00:12:50.300 --> 00:13:06.280

Becky Ramsing, MPH, RDN: So let's take a little bit deeper in the greenhouse gas intensity of different foods. The y-axis here is the greenhouse gas footprint of each food group measured as kilograms per carbon dioxide equivalence per serving of the food groups which are listed along the x-axis.

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00:13:06.290 --> 00:13:21.090

Becky Ramsing, MPH, RDN: This is a standard measure of greenhouse gas emissions. The serving size of food groups are based on the standard US serving sizes. This may be slightly different from the other diagrams you've seen that are based on maybe kilos or protein. But this is really what we want. We thought it would be great to look at, you know.

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00:13:21.180 --> 00:13:23.970

Becky Ramsing, MPH, RDN: Helpful look at what the serving what we eat.

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00:13:24.460 --> 00:13:43.520

Becky Ramsing, MPH, RDN: In general, animal foods, mostly on the right, have been founded being orders of magnitude more greenhouse gas intensive to produce than plant foods on the left. Bovine meat, for example, beef, is the highest, followed by sheep, goat meat. These are your roommates. Pork and poultry, or lower as our mini fish and seafood, as well as everyone favorite insects.

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00:13:43.690 --> 00:13:47.840

Becky Ramsing, MPH, RDN: So and then now look to the left. The plant-based foods barely register on the chart.

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00:13:48.020 --> 00:14:04.550

Becky Ramsing, MPH, RDN: Interestingly, this is one of the few studies that actually breaks down seafoods and types and production methods. There's huge variation, as you can see across aquatic animals with some actually having higher greenhouse gas emissions than poultry, a pork, and this is largely due to how they are farmed, fed, or caught.

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00:14:05.990 --> 00:14:09.640

Becky Ramsing, MPH, RDN: It's important to understand how our planet itself is utilized for food.

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00:14:09.680 --> 00:14:29.260

Becky Ramsing, MPH, RDN: This diagram from our world and data shows just how our land use for food production. Of the earth service, about 29% of it is land. Of that 29%, about 71% of that we call habitable land that that's minus the glaciers and barren land. 50% of our habitable land is used for agriculture,

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00:14:29.260 --> 00:14:38.520

Becky Ramsing, MPH, RDN: 37% their forest, shrubs, trees, some freshwater lakes, and only we only live on about 1% of that land.

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00:14:38.520 --> 00:14:53.790

Becky Ramsing, MPH, RDN: Of the agriculture land, you see there that green 50% about 3/4 of that is used for livestock, meat, and dairy production includes actually grow the food for animals as well as the animals itself. And 23% is really for crops that is what we eat.

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00:14:53.790 --> 00:15:15.230

Becky Ramsing, MPH, RDN: But what is interesting of that 3 quarters, the 77%, it only produces about 18% of our global calories and about 37% of our global protein supply. So it's really it's an inequal or inefficient way of getting protein and calories from animal food.

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00:15:15.230 --> 00:15:17.500

Becky Ramsing, MPH, RDN: Not that they're not important, as you'll see later.

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00:15:18.640 --> 00:15:29.190

Becky Ramsing, MPH, RDN: The exponential growth of agriculture in the US in the twentieth century has had a huge impact on the environment. This circle here represents the habitable line like you've seen before, minus the glaciers in beam land, etc.

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00:15:29.280 --> 00:15:39.550

Becky Ramsing, MPH, RDN: If livestock takes up 70% of that 40% of the earth surface suitable for growing food, this means a livestock alone uses about 30% of total land and earth.

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00:15:39.600 --> 00:15:49.140

Becky Ramsing, MPH, RDN: Grazing animals can make good use of land to hilly, too rocky for crop production, but the use of productive soils to produce feed for animals represents a net drain.

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00:15:49.240 --> 00:16:15.860

Becky Ramsing, MPH, RDN: Sorry I went. Represents a nature in a food supply, slicing the pie a little differently. A third of arable land is used for animal feed production. Even more concerning 12% of the increase in world cropland area there's been a 12% increase in world crop and area in 4 decades and a 700% increase in global fertilizer use and a 70% increase in irrigated crop land area.

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00:16:15.950 --> 00:16:26.260

Becky Ramsing, MPH, RDN: So the demand for land has led to use of valuable rainforest and the triple impact of land degradation, loss of carbon sequestering forest, and loss of diversity. As we'll see.

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00:16:27.470 --> 00:16:40.670

Becky Ramsing, MPH, RDN: Soil is vital to growing nutrient-rich foods and producing protecting livelihoods of farmers and communities. Healthy soil is key to resiliency, carbon sequestration, nutrients and crops and reduced erosion.

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00:16:40.860 --> 00:16:56.280

Becky Ramsing, MPH, RDN: With the growing demand for food, currently 40% of crop plants are experiencing soil erosion, reduced fertility, over grazing. Much of this is connected to the livestock and farming practices that prioritize production over sustainability and the demand for affordable plentiful animal food sources.

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00:16:57.550 --> 00:17:10.290

Becky Ramsing, MPH, RDN: So preserving biodiversity is essential to food system sustainability and resilience. It's a prerequisite for ecosystem services that we rely on for producing food from pollinating plants to controlling pests, to healthy soil.

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00:17:10.730 --> 00:17:28.590

Becky Ramsing, MPH, RDN: With the loss of biodiversity, food systems become less resilient to climate change and extreme weather and crops become more vulnerable to pest and diseases.

Growing and eating patterns are primary drivers of biodiversity loss, particularly the use of mono crops and intensive systems for animal feeds, and even alter processed foods that we eat.

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00:17:30.350 --> 00:17:43.180

Becky Ramsing, MPH, RDN: Dietary species richness, or dietary diversity, is a measure of food biodiversity, and reflects the nutritional quality of diets in many cases. Dietary species richness has declined dramatically in the past 100 years or so.

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00:17:43.340 --> 00:17:53.170

Becky Ramsing, MPH, RDN: Today only 12 plant plants provide 75% of the world's food. Just rice, maize, and wheat contribute 60% of all calories consumed from plants.

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00:17:53.200 --> 00:18:04.430

Becky Ramsing, MPH, RDN: And in some of these countries, meat intake is very low. So the overall biodiversity of the diet is poor leading to nutritional deficiencies, especially for women and children.

84

00:18:04.840 --> 00:18:12.170

Becky Ramsing, MPH, RDN: Once they connected the diversity of diets to the nutritional adequacy in several countries the more diverse the healthier the diet was.

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00:18:14.090 --> 00:18:24.890

Becky Ramsing, MPH, RDN: Agriculture sector is the largest water user accounting for 70% of all fresh water withdrawn globally. In US, 80% of fresh water is used for crop production, and much of this is for animal feed.

86

00:18:25.470 --> 00:18:39.150

Becky Ramsing, MPH, RDN: Ogallala High plains aquifer is located in the United States is one of the largest freshwater aquifers in the world, and is threatened now by continued decline in water levels into deteriorating water quality.

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00:18:39.350 --> 00:18:48.340

Becky Ramsing, MPH, RDN: About 27% of the irrigated land in the United States overlies this aquifer which yields about 30% of the nation's groundwater used for irrigation of crops.

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00:18:48.560 --> 00:18:58.390

Becky Ramsing, MPH, RDN: More than 90% of this water is pumped for irrigation. In addition, the aquifer provides drinking water to 82% of the 2.3 million people who live within the boundary of the aquifer.

89

00:18:58.790 --> 00:19:18.550

Becky Ramsing, MPH, RDN: This aquifer has been significantly impacted by human activities. Groundwater withdrawals from the aquifer exceeds now recharge in many areas resulting a

substantial decline to ground water level and water quality. So, as you can see from this picture, the orange and yellow are the areas that are actually withdrawing faster than it's refilling so it's a

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00:19:18.550 --> 00:19:21.920

Becky Ramsing, MPH, RDN: sobering picture.

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00:19:22.950 --> 00:19:29.710

Becky Ramsing, MPH, RDN: Our food choices impact water use. This slide demonstrates the difference in the amount of water it takes to produce a pound of various foods.

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00:19:29.730 --> 00:19:39.430

Becky Ramsing, MPH, RDN: One pound of vegetables takes on an average of 39 gallons of water, but beef, a pound of beef requires over 1,800 gallons, about 46 times more than a vegetable.

93

00:19:39.570 --> 00:19:56.810

Becky Ramsing, MPH, RDN: As you can see, animal based foods use more water than most plant based foods. Water is used in all stages of meat production, including producing the feed, drinking water, caring for the animals and processing, As economic growth and individual wealth are shifting global diets to a greater amount of animal, more water is needed.

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00:19:58.580 --> 00:20:06.850

Becky Ramsing, MPH, RDN: There are many problems with how we raise animals to meet this demand. This demand is growing global demand for animal food. When productive productivity is the priority.

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00:20:06.870 --> 00:20:25.060

Becky Ramsing, MPH, RDN: We use the term industrial farm animal production in our center. This concentrated way of producing animals place a heavy toil on workers and farms requiring more manure management, chemicals, fertilized and antibiotics, and a higher risk because of zoonotic or animal-based diseases. I could spend a lot more time here but

96

00:20:25.060 --> 00:20:33.430

Becky Ramsing, MPH, RDN: I'm going to move on here. This picture demonstrates simply one of the vast problems of raising animals and current high capacity and manure.

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00:20:33.550 --> 00:20:45.760

Becky Ramsing, MPH, RDN: As you can see from this slide, animals produce many more pounds of waste than humans. A single cow in particular produces 50 times the amount of waste as a human. Another difference is that human waste is treated, and animal waste is not.

98

00:20:45.970 --> 00:20:59.840

Becky Ramsing, MPH, RDN: There is a lot of manure to manage. It is stored temporarily in lagoon pits, and it eventually spread on fields. But there's a lot that can and does go wrong along this process.

99

00:21:02.130 --> 00:21:10.610

Becky Ramsing, MPH, RDN: This diagram of a concentrated farm color codes outputs from the large amount of manure produced from having so many animals in one place.

100

00:21:10.640 --> 00:21:21.680

Becky Ramsing, MPH, RDN: Resistant bacteria gases and particulates, and even psychosocial outcomes for the people working on these farms and living in the surrounding communities.

101

00:21:22.410 --> 00:21:32.360

Becky Ramsing, MPH, RDN: Here you see the spread of these factors into water nearby, homes, workers and their families, and to insects even that carry harmful agents further.

102

00:21:34.460 --> 00:21:47.440

Becky Ramsing, MPH, RDN: So that's been a really like a run through some of the environmental diet and environmental connections. I'm going to take a little pivot here and talk about the health implications of a diet that also reflects sustainable production.

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00:21:47.710 --> 00:22:05.670

Becky Ramsing, MPH, RDN: A summary of current research supports evidence that diets low in red and processed meat replaced by different foods, lower the risk of diabetes, heart disease, and total mortality. On the other side, studies provide compelling evidence of consuming a diet rich in fruits, vegetables, and dietary fiber promotes health and prevents chronic diseases.

104

00:22:05.670 --> 00:22:16.240

Becky Ramsing, MPH, RDN: This includes links to gut health, healthy weights, and other chronic conditions. Those its hard to draw a line directly to meat, it's clear that meat plays a major role, particularly within a healthy pattern.

105

00:22:17.090 --> 00:22:30.670

Becky Ramsing, MPH, RDN: A 2020 study published in JAMA, the Journal of America Medical Association found significant associations of 2 servings versus 0 servings of process and unprocessed red meat with incident cardiovascular disease.

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00:22:30.760 --> 00:22:38.240

Becky Ramsing, MPH, RDN: These persisted especially with process meat intake when adjusted for demographic factors, lifestyle factors, and other dietary components.

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00:22:38.500 --> 00:22:50.180

Becky Ramsing, MPH, RDN: Not picture here, there's another slide that shows these calculations for all cause mortalities, and the results were similar, particularly for processed meat.

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00:22:51.940 --> 00:23:08.410

Becky Ramsing, MPH, RDN: Replacement is important, particularly when we think about solutions. A 2016 study demonstrated that small shift, replacing only 3% of calories of animal protein, particularly process red meat with plant protein reduce all cost mortality, cardiovascular disease, and cancer deaths.

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00:23:09.120 --> 00:23:13.950

Becky Ramsing, MPH, RDN: This slide summarizes the effect of replacing red meat with different proteins.

110

00:23:13.960 --> 00:23:31.840

Becky Ramsing, MPH, RDN: So for example, lower risk of diabetes when you replace red meat with nuts, low, fat, dairy, whole grains, poultry and fish. Heart disease replaced with red meat, nuts, beans, poultry, and fish. And total mortality, when you replace red meat with nuts, beans, low fat dairy, whole grains, poultry, and fish as well.

111

00:23:32.810 --> 00:23:49.540

Becky Ramsing, MPH, RDN: It's important to highlight process meat in particular. There's strong evidence that process meat which is mostly sourced from beef and pork, also from poultry, like turkey and chicken, is linked to cardiovascular disease and mortality, and it has the clearest link to cancer of any meat or animal product.

112

00:23:49.540 --> 00:24:02.270

Becky Ramsing, MPH, RDN: In the US, even as consumption of red meat has come down. Process meat has largely remained stable over the past 20 years, according to a national survey. This is likely because lunch and deli meats are quick, convenient, and usually cheap and affordable.

113

00:24:04.080 --> 00:24:18.670

Becky Ramsing, MPH, RDN: Eating patterns that are more plant forward such as Mediterranean, pescatarian, vegetarian have established health benefits. They also tend to results in significantly lower greenhouse gas footprints compared to current typical meat heavy American diets.

114

00:24:18.700 --> 00:24:33.580

Becky Ramsing, MPH, RDN: The Mediterranean diet centers on vegetables, fruits, and that's olive oils and greens, dairy and small amounts of meats and poultry. The pescatarian includes seafood, eggs, and dairy, but no terrestrial meats. And the vegetarian diet includes dairy, eggs, but no red meat or poultry.

115

00:24:33.700 --> 00:24:44.890

Becky Ramsing, MPH, RDN: In addition to being healthier eating patterns, all 3 of these diets would result in lower greenhouse gas emissions in 2050, compared to what they would be if diets continue their current trajectory of higher meat consumption globally.

116

00:24:45.190 --> 00:25:04.500

Becky Ramsing, MPH, RDN: In this diagram you can see the Omnivore diet which reflects typical dietary patterns in the United States. The paleo and keto there are diets that are higher in animal

products and fat and lower in carbohydrates. These 3 patterns have lower healthy eating scores as well as higher greenhouse gas emissions per 1,000 calories.

117

00:25:05.360 --> 00:25:18.440

Becky Ramsing, MPH, RDN: So here's a little complicated slide, but I like it. It breaks it down by food groups. In a recent study authors looked at data related to specific food groups and associate health and environmental impacts.

118

00:25:18.570 --> 00:25:29.870

Becky Ramsing, MPH, RDN: The left side of the circular diagram shows health outcomes. The right shows environmental impacts. The outer ring reflects a higher score of 15, and inner ring reflects a lower score of 1.

119

00:25:30.300 --> 00:25:36.030

Becky Ramsing, MPH, RDN: Displayed here are radar plots of the health and environmental impacts per serving of food groups consume per day.

120

00:25:36.200 --> 00:25:51.340

Becky Ramsing, MPH, RDN: Data are plotted on schedule, such as the figure of the lowest mean impact for a given health or environment and indicator lower is better, has a value of one, and the food group with the highest mean impact, for given indicator has a value of 15. So it's on the outermost circle.

121

00:25:51.340 --> 00:26:01.150

Becky Ramsing, MPH, RDN: A food group with a low mean impact for all 10 outcomes would have a smaller circular radar plot, and the one the higher impact of the 10 outcomes would have a larger circle there.

122

00:26:01.530 --> 00:26:07.520

Becky Ramsing, MPH, RDN: Whole grains, fruits, vegetables, nuts and legumes, as you can see, those green ones kind of on top

123

00:26:08.420 --> 00:26:22.650

Becky Ramsing, MPH, RDN: score fairly well both their environmental and health impacts as does does olive oil down at the bottom of the image. Next to it sugar sweetened beverages which do okay for an environment, but no news anyone, they did not score very high on the health measures.

124

00:26:22.730 --> 00:26:32.670

Becky Ramsing, MPH, RDN: Some food categories are mixed. Dairy, and to some extent seafood, have high environmental impacts, but also many health benefits. Eggs and chicken are also that bit of a mixed bag.

125

00:26:32.800 --> 00:26:44.090

Becky Ramsing, MPH, RDN: Now take a look at red and process meat to the bottom portion of the image. On every measure, they're in the outermost a part of the circle, meaning they scored poorly for every single health and environmental impact measured.

126

00:26:44.270 --> 00:26:55.140

Becky Ramsing, MPH, RDN: Total mortality, coronary heart disease, colorectal cancers, diabetes, stroke, water use, and pollutionary eutification, land use, and greenhouse gas emissions.

127

00:26:57.200 --> 00:27:13.460

Becky Ramsing, MPH, RDN: So pulling it all together. This concept is called planetary boundaries, and it's used to determine solutions for human and planetary health. Defined by the Stockholm Resilience Center 9 planetary boundaries, we need to keep in the safe zone.

128

00:27:13.730 --> 00:27:32.340

Becky Ramsing, MPH, RDN: And this diagram shows where we are now. We're in the danger zones. The orange and the yellow for nitrogen, phosphorus flows us due to high fertilizer use. Biosphere integrity, which reflects our biodiversity and extinctions, and we're nearing the danger for land use change and climate change.

129

00:27:33.610 --> 00:27:54.610

Becky Ramsing, MPH, RDN: In a recent paper, researchers calculated that almost half of current global food production depends on transgressing those planetary boundaries you saw. If these boundaries were strictly respected instead, we could only produce food for about, or a balanced diet for about 3.4 billion people, which, as you know, are fewer people than we have on the planet now.

130

00:27:54.800 --> 00:28:19.470

Becky Ramsing, MPH, RDN: The authors then demonstrated that transformation toward a more sustainable production and consumption patterns could support 10.2 billion people within the planetary boundaries. Key prerequisites for spatially redistributing crop land, improving water and nutrient management, food waste reduction, and dietary changes. But they concluded that it will require a social and ecological U turn that requires adopting radically different ways of farming and eating.

131

00:28:21.420 --> 00:28:36.980

Becky Ramsing, MPH, RDN: And finally, this figure from a paper that we did at our center in 2019 depict is the greenhouse gas footprints of these increasingly plant forward dietary patterns in the US. We model them, actually model them for 150 different countries, but this is US only.

132

00:28:36.980 --> 00:28:50.250

Becky Ramsing, MPH, RDN: The different colors and the columns represent food groups with red being beef and blue dairy. The black line here represents the 2050 target that's a threshold for food system greenhouse gas emissions as recommended by the Atlantic Commission.

133

00:28:50.310 --> 00:29:00.890

Becky Ramsing, MPH, RDN: Only the 2 of the diets, you can see, were below that line, the Vegan Diet, and what we call the low food chain diet that includes only insects, and bivalves, such as oysters, as for animal foods.

134

00:29:00.910 --> 00:29:12.170

Becky Ramsing, MPH, RDN: For the vegan diet scaling up the plant foods to replace meat, dairy eggs and fish recouped up actually 100% of the calories and 63% of the protein, with only 5% of of the greenhouse gas emissions.

135

00:29:12.450 --> 00:29:25.030

Becky Ramsing, MPH, RDN: But getting close to the target, as you can see, is a two-thirds Vegan or a flexitarian diet. In fact this pattern of eating has a lower greenhouse gas footprint than lacto-ov due to replacement of meat with dairy.

136

00:29:25.140 --> 00:29:45.770

Becky Ramsing, MPH, RDN: The good news here is that it's possible to include small amounts of animal products and still be climate friendly. It's not necessary to abstain 100%. We can think of this as a stepwise tradition and studies suggest that more people are likely to stick with a plant-based diet if they make a gradual transition. Some people won't go all the way to Vegan, and that's okay.

137

00:29:45.940 --> 00:29:58.960

So we have to be really careful about thinking, you know, in terms of dichotomy, you're vegan or vegetarian or not. Well, really, there's space for people on the spectrum, particularly if we emphasize more climate friendly foods with even animal foods within that.

138

00:30:00.280 --> 00:30:15.410

Becky Ramsing, MPH, RDN: So what is a healthy, sustainable diet? Well as we talked about, this is really kind of reviewing what we've already addressed is that healthy, sustainable diet addresses our social cultural health, our planetary health, our human health, and our economic health.

139

00:30:16.760 --> 00:30:31.510

Becky Ramsing, MPH, RDN: You may have seen this, the planetary health diet that's recommended by the eat lance and experts. It's one of a few diets that address health and sustainability on a global scale. It's low in red and processed meat and other meats. It has more legumes and vegetables and fewer staples.

140

00:30:31.600 --> 00:30:46.680

Becky Ramsing, MPH, RDN: Compared to the US dietary guidelines, it has more whole grains, no refined grains, it's much lower in all meat, red meat, poultry, and seafood, with one serving of red meat a week, one to 2 servings, a chicken a week, one to 2 servings of fish, more nuts,

141

00:30:46.880 --> 00:30:51.100

Becky Ramsing, MPH, RDN: seeds, soy, daily legumes, and only one serving of dairy a day.

142

00:30:52.490 --> 00:31:08.200

Becky Ramsing, MPH, RDN: Reducing the consumption of animal products. I'm going to go through just a few slides talking about what I would say. What are some guidelines? What are some? If we wanted to recommend a sustainable diet, what would we say? So I'm just gonna fly through a few things here.

143

00:31:08.310 --> 00:31:20.450

Becky Ramsing, MPH, RDN: The first thing is reducing the consumption of animal products, particular red and process meat. This is probably probably the first and most impactful step we can make, especially in high income countries such as the United States.

144

00:31:20.500 --> 00:31:35.510

Becky Ramsing, MPH, RDN: This can be done by replacing animal proteins, especially red and process meat with healthy plant-based proteins. There's many different approaches for it. For some people, as you said, will be reducing, and other people will be abstaining all together.

145

00:31:36.520 --> 00:31:49.940

Becky Ramsing, MPH, RDN: The US has a long way to go to get to a minimally healthy diet. So we're not. We're not putting our diets at risk. Americans are consuming more meat and refined grades than we recommended, and we're not meeting the requirements for fruits, vegetables, and dairy.

146

00:31:50.160 --> 00:32:00.380

Becky Ramsing, MPH, RDN: While per capita, poultry consumption has increased. The majority of our meat consumed is still red meat, including beef and pork and lamb. And nearly a quarter of that is processed meat.

147

00:32:00.600 --> 00:32:09.310

Becky Ramsing, MPH, RDN: The best available estimates of US meat consumption is nearly 6 ounces of total meat a day with red meat and process meat, making it the bulk of that exceeding general recommendations.

148

00:32:10.270 --> 00:32:29.150

Becky Ramsing, MPH, RDN: Along with less meat, it's worth mentioning better meat. While the impact of climate is not significantly different, or at least it's limited. There are many other health and environmental consequences to the way animals are raised for food. Choosing similar portions of meat raised with antibiotics, and acknowledging how it's produced, can support healthier food systems overall.

149

00:32:30.870 --> 00:32:47.410

Becky Ramsing, MPH, RDN: Dairy, given the known health consequences of eating too much red and processed meat, just eating less is a simple solution. More simple than when it comes to dairy. Dairy intake is associated with health benefits, especially for growth in children, but it's also possible

150

00:32:47.410 --> 00:33:04.620

Becky Ramsing, MPH, RDN: possibly beneficial for severe heart disease and all cause mortality. But dairy has a significant environmental footprint, and dairy alternatives are mixed on both sides of the equations depending on the base ingredient. For example, almond milk has a very different nutrition and ecological profile than P protein milk, for example.

151

00:33:04.690 --> 00:33:08.940

Becky Ramsing, MPH, RDN: Recommendations for dairy must incorporate these nuances.

152

00:33:09.220 --> 00:33:21.870

Becky Ramsing, MPH, RDN: One nuance might be the type of dairy consumed. Dairy products that require large quantity of milk, such as butter, Greek yoga, and hard cheese have a greater environmental impact than liquid milk alone, as depicted in this whisker plot.

153

00:33:23.940 --> 00:33:38.870

Becky Ramsing, MPH, RDN: The second guiding principle is consuming more foods that come from plants. While eating less meat is crucial, health benefits are only realized when more legumes, whole grains, vegetables, and fruits are consumed. Healthy plant-based proteins can adequately replace animal products in most cases.

154

00:33:39.660 --> 00:33:58.850

Becky Ramsing, MPH, RDN: Pulses are a subgroup of legumes used mainly as protein sources in the diet. Common pulses include beans, dry peas, chickpeas, and lentils. Pulses are high in protein and fiber, and many vitamins. They're generally hardy crops, and they grow easily. They're associated with healthier overall diets, lower BMIs, lower diabetes, and other chronic diseases.

155

00:33:59.380 --> 00:34:14.940

Becky Ramsing, MPH, RDN: In the 2009 in Haynes analysis, people who consumed one serving each day of dry beans or peas, actually have higher intakes overall protein, fiber, folate, zinc, iron and magnesium, with lower intakes of saturated fats and total fats.

156

00:34:15.250 --> 00:34:30.170

Becky Ramsing, MPH, RDN: Diets emphasizing legumes over red meat have been shown to lower cholesterol, improved blood glucose control in type 2 diabetes, and lower blood pressure. Several studies have also associated consumption of legumes with lower body weight and smaller waist circumference.

157

00:34:30.650 --> 00:34:35.250

Becky Ramsing, MPH, RDN: Environmentally they are also rock stars. Producing a lot of

158

00:34:35.830 --> 00:34:45.440

Becky Ramsing, MPH, RDN: less greenhouse gas emissions that you seen than beef, and also they pull nitrogen and soil through their root system, and they're easy to grow and inexpensive.

159

00:34:46.110 --> 00:34:59.350

Becky Ramsing, MPH, RDN: There's mixed perspectives on soy but overall body of evidence suggest that soy has positive effects on health. They're rich in soy products. Foods are rich in nutrients, B vitamins, fiber, potassium, magnesium, high quality protein.

160

00:34:59.510 --> 00:35:11.400

Becky Ramsing, MPH, RDN: Unlike some plant protein, soy protein is considered complete, containing all 9 essential amino acids and sufficient quantity. In fact, the protein quality score of soy is equal to dairy eggs, egg whites, and beef.

161

00:35:11.640 --> 00:35:30.620

Becky Ramsing, MPH, RDN: Some of the confusion surrounding soy stems from isoflavones found in soy, which are plant estrogens and bought the mimic estrogen in the body. High levels of estrogen have been linked to increase risk of breast cancer. However, food sources of soy don't contain high enough levels of isoflavones to increase the

162

00:35:30.640 --> 00:35:47.760

Becky Ramsing, MPH, RDN: risk of breast cancer. To add to the complexity, many different types of foods are made from soy range from unprocessed foods like tofu and edamame to ultra process soy products containing texture soy protein and soy protein isolate. This makes communicating the health impacts of soy more challenging.

163

00:35:48.090 --> 00:35:53.700

Becky Ramsing, MPH, RDN: But in terms of environmental impact, soy production uses less water and resources compared to animal protein.

164

00:35:53.780 --> 00:36:09.500

Becky Ramsing, MPH, RDN: However, only about 6% of the soy that is produced ends up as fuel for humans. Most of this is grown for animal feed. And deforestation is related to soy production, especially in Brazil, where it contributes about 29% of the country's greenhouse gas emissions.

165

00:36:11.290 --> 00:36:21.570

Becky Ramsing, MPH, RDN: Nuts are nutrition powerhouses, with healthy fats, fiber, vitamin E, and some calcium. They do tend to require more water, and possibly chemicals to produce, but there are other factors to keep in mind.

166

00:36:21.580 --> 00:36:35.670

Becky Ramsing, MPH, RDN: Tree nuts for examples may use mostly rainwater and have higher yields. Peanuts are actually legumes, not nuts, and they're grown in the soil. They have similar low greenhouse gas footprints then to other legumes, and also fixed nitrogen in the soil.

167

00:36:35.830 --> 00:36:54.720

Becky Ramsing, MPH, RDN: Seeds are often overlooked and they are healthy source of oils, poly unsaturated fats, magnesium, antioxidants, protein and fiber, and they have a much lower water footprint than most nuts. Pumpkin seeds, especially our by products that are already being grown.

168

00:36:56.370 --> 00:37:06.980

Becky Ramsing, MPH, RDN: Recently more processed plant-based products that look them taste more like meat, often called Alt meats, alternative meats, are coming to the market. These differ from whole foods, such as beans, nuts, and even tofu.

169

00:37:07.090 --> 00:37:12.770

Becky Ramsing, MPH, RDN: Morning Star Farms and Bocaburgers were early brands, but there are many more now, including Impossible Foods, and Beyond Meat.

170

00:37:12.810 --> 00:37:22.060

Becky Ramsing, MPH, RDN: These products are derived from plant-based ingredients, mostly soy wheat or p protein, and are designed to imitate the exact experience of eating meat.

171

00:37:22.230 --> 00:37:30.970

Becky Ramsing, MPH, RDN: The taste, texture, and smell. But alternative meets generally do not include products made out of natural food, such as tofu or burgers made out of beans or mushrooms.

172

00:37:31.430 --> 00:37:44.240

Becky Ramsing, MPH, RDN: Because they have varying ingredients and processing, the health and environment impacts also vary greatly. This graph here demonstrates this with tofu pulses and peas having extremely low greenhouse gas emissions for 100 grams of protein.

173

00:37:44.240 --> 00:37:55.500

Becky Ramsing, MPH, RDN: And products, or alt meats being generally higher, but also with a much larger range, as you can see, with that dark orange line. That's the range of impacts on the of the different studies they looked at.

174

00:37:55.650 --> 00:38:12.590

Becky Ramsing, MPH, RDN: I've known all plant-based products still have a much lower greenhouse gas footprint than B for dairy. You may have noticed the cell base meat line as well. I don't have time to cover this here, but we, but there is a huge variation due to production methods, and what they actually reveal what's not

175

00:38:13.770 --> 00:38:25.180

Becky Ramsing, MPH, RDN: under intellectual property rules. And we did do a paper in 2020 in the center I'm happy to share it with you looking at the different public health impacts that meat alternatives.

176

00:38:26.500 --> 00:38:42.450

Becky Ramsing, MPH, RDN: Grains are often overlooked when talking about plant-based proteins and foods. Corn, soy and wheat are the most grown but there are many more used globally, and being sold in US like faro, quinoa, brown rice, and oats. Whole grains in particular offer beneficial

177

00:38:42.770 --> 00:38:54.850

Becky Ramsing, MPH, RDN: fiber and vitamins as well as some protein. Grains can be grown more sustainable by producing varieties versus monocultures, and some such as oats, rye, and barley can be utilized as cover crops for soil fertility.

178

00:38:55.070 --> 00:39:02.130

Becky Ramsing, MPH, RDN: In fact, just choosing whole grains over refined products uses wheat more efficiently less make it a more sustainable choice than a refined flour.

179

00:39:03.750 --> 00:39:22.000

Becky Ramsing, MPH, RDN: What about local food? In terms of climate, the benefits are small comparison to changing production and consumption pattern. However, there are other benefits of local purchasing to consider, such as the general use of more sustainable practices on farms, more variety and lower use of harmful chemicals and benefits for food producers in the community.

180

00:39:23.490 --> 00:39:37.180

Becky Ramsing, MPH, RDN: Finally, a quick nod to eating fewer, highly processed foods overall and reducing food waste for health, but also the environmental impact of farm to gate, to the plate, processing, adding ingredients, packaging, etc.

181

00:39:38.350 --> 00:39:51.620

Becky Ramsing, MPH, RDN: Processing and transportation influence both the foods health and sustainability. The farther the foods moves away from an original source typically the greater the impact. Nutrients are lost or changed along the chain, or in some cases never fully developed.

182

00:39:51.640 --> 00:40:05.140

Becky Ramsing, MPH, RDN: Resources are used for processing and packaging, particular plastic and chemical preservatives, and many processed foods have added sugars, and refined flours and oils of which high consumption is associated with overweight and chronic diseases.

183

00:40:05.950 --> 00:40:19.460

Becky Ramsing, MPH, RDN: So just bringing it back to the EAT Lancet diet patterns, there's many ways to look at it. Doesn't have to be a vegan diet, but we do need to shift how consumers eat and the food choices they make.

184

00:40:19.770 --> 00:40:39.390

Becky Ramsing, MPH, RDN: So a theme of this presentation and sustainable food systems that food choices are complex and they're not logical or linear. Many factors play into individual food choices, values and individual health, family and friends and social economic considerations all play into our general dietary patterns as well as our individual dietary food choices.

185

00:40:40.360 --> 00:40:48.660

Becky Ramsing, MPH, RDN: This diagram is based on a review of literature that we did on the factors behind meat consumption. It's crowded, but

186

00:40:48.740 --> 00:41:05.480

Becky Ramsing, MPH, RDN: the categorization by levels of influence, demonstrates the complexity of food choices. The orange macro policy on the outside level factors involved local, state, and federal policies. The community level includes institutional or organizational relationships and characteristics.

187

00:41:06.590 --> 00:41:23.470

Becky Ramsing, MPH, RDN: Such as neighborhoods, work sites, and school. Interpersonal level includes social relationships, culture and social economic factors which also influence lifestyle behaviors and intrapersonal level factors are those mostly situated within the control of an individual. This is where food decisions are ultimately made.

188

00:41:24.550 --> 00:41:27.200

Becky Ramsing, MPH, RDN: To reflect this research and survey suggests

189

00:41:27.220 --> 00:41:46.100

Becky Ramsing, MPH, RDN: several barriers to reducing meat. Many are the individual interpersonal levels, such as taste, preferences, culture, convenience, preference, identity, and knowledge. But we know that food environment and other factors outside the individual control can also heavily influence what consumers have access to and what they choose to eat.

190

00:41:47.470 --> 00:42:04.460

Becky Ramsing, MPH, RDN: In a survey we did at our center in 2015, we asked questions about meat consumption and those who did not reduce meat, the non reducers. Some of their reasons were that they really felt a healthy diet included meat. The meals were incomplete, boring, too expensive, not feeling, or they just didn't like it.

191

00:42:05.380 --> 00:42:22.930

Becky Ramsing, MPH, RDN: On the other hand, another survey done by Meatless Monday in 2017. The reasons for reducing meat consumption were most commonly health, followed by cost and taste preferences. Interestingly, the environmental and animal welfare were less common motivating factors across

192

00:42:23.350 --> 00:42:40.130

Becky Ramsing, MPH, RDN: this and many other surveys reflect the same. This could be an issue of awareness and education, or just attitudes and beliefs. Of not, more recently. we do see awareness of climate, environment growing, which could signal opportunity for building the awareness of the important connection with diet.

193

00:42:41.740 --> 00:42:51.940

Becky Ramsing, MPH, RDN: Another approach is really understanding how people make changes. In the 2015 survey I mentioned, over half of the respondents reported they ate less red meat, poultry, or fish in the past year.

194

00:42:52.070 --> 00:43:07.330

Becky Ramsing, MPH, RDN: Of those, 32% of them ate less by cutting meat out of their diet one day week, 43% by eliminating it from at least one meal, 66% by buying less, 56% by eating smaller portions, and only 8% by cutting it out completely.

195

00:43:07.380 --> 00:43:25.080

Becky Ramsing, MPH, RDN: These results suggest that people are more receptive to smaller changes than eliminate meat entirely. We also know from consumer survey former and current vegetarians, that successful longer term vegetarians have actually shifted gradually. Not all at once, and they had multiple reasons for cutting out meat.

196

00:43:25.290 --> 00:43:38.550

Becky Ramsing, MPH, RDN: So this study also pointed out that the emphasis on reduction versus pure diets was more, in fact, effective in a decreasing overall animal product consumption, and that former vegetarians still eat a lot less meat than the US population.

197

00:43:40.440 --> 00:43:51.960

Becky Ramsing, MPH, RDN: As food and health professionals, when connecting consumers helping people better appreciate that food impacts more than our own personal health is an important first step along the continuum of dietary behavior change.

198

00:43:52.280 --> 00:44:02.970

Becky Ramsing, MPH, RDN: Multiple studies have found low awareness among most consumers about the connection between dieting and climate. Yet awareness alone does not necessarily prompt change. Neither our nudges alone.

199

00:44:03.050 --> 00:44:09.920

Becky Ramsing, MPH, RDN: Recommendations for successful strategies include 2 elements. Approaches to raise awareness and pathways.

200

00:44:09.980 --> 00:44:14.070

Becky Ramsing, MPH, RDN: And then pathways to facilitate change. You need both not one.

201

00:44:15.720 --> 00:44:26.050

Becky Ramsing, MPH, RDN: This diagram by Marteau drives another important point home by demonstrating how most of our behavior is under the control of a faster automatic system rather than a reflective system.

202

00:44:26.090 --> 00:44:36.450

Becky Ramsing, MPH, RDN: While we often focus our educational efforts primarily on values, beliefs, and intentions. In fact, most decisions are made in an instant and highly influenced by environmental clues.

203

00:44:36.480 --> 00:44:48.150

Becky Ramsing, MPH, RDN: Over time, choices become more habitual, but they are driven by experiences and new associations. Effective strategies that reducing the consumption to meat will need to address this decision making process.

204

00:44:49.490 --> 00:44:55.430

Becky Ramsing, MPH, RDN: We know from research the food environment is highly influential on what consumers purchase and eat.

205

00:44:55.560 --> 00:45:06.810

Becky Ramsing, MPH, RDN: Our food system has gone through major shifts for the last decades, influencing and being influenced by urban spall, consolidation of agriculture, climate change, farmland loss, etc.

206

00:45:06.880 --> 00:45:16.300

Becky Ramsing, MPH, RDN: The food environment, where and how people get their food, can also be a lever for change. This is good news. The good news is that consumers interest in the food they eat is growing.

207

00:45:17.440 --> 00:45:34.650

Becky Ramsing, MPH, RDN: Consumers need to be central to strategies, and that's where health and nutrition professionals are also uniquely approached. But there are also many players. In the US, more and more consumers are asking for changes in the food system. In the last 3 years it appears that awareness about food's role and sustainability is starting to grow. Many needs to

208

00:45:34.690 --> 00:45:45.750

Becky Ramsing, MPH, RDN: food trends, predictions, highlight, consumer interest, and whole foods, transparency, new ingredients, health and sustainability, and reflect the growing consumer interest and eating less meat, or at least eating more plants.

209

00:45:47.220 --> 00:45:58.560

Becky Ramsing, MPH, RDN: One of the most influential parts of our food environment is food service sector. This figure shows that the number of meals and dollars spent on eating out has grown at the higher rate than our food at home in the past 30 years.

210

00:45:59.780 --> 00:46:09.790

Becky Ramsing, MPH, RDN: For that reason the food service sector touches many consumers and provides opportunities, influence consumers, food trends, and all of them also demonstrate leadership and help sustainability.

211

00:46:10.450 --> 00:46:22.640

Becky Ramsing, MPH, RDN: Research has demonstrated that labels can influence consumer choice. In one study, taste focus labels increased vegetable selection by almost 30% compared with health focus labels which was 14% in basic labels.

212

00:46:22.640 --> 00:46:32.430

Becky Ramsing, MPH, RDN: Traffic Light labels with environmental labels also been had problem the same results, and they have a lot more studies going on right now, using these different climate labels, they would call them.

213

00:46:32.580 --> 00:46:44.840

Becky Ramsing, MPH, RDN: When especially when they're combined with other strategies. Chefs are important allies when it comes to shifting consumption, as plant-based food becomes more mainstream. The US and globally chefs are driving it with new ingredients, flavors and cuisines.

214

00:46:46.810 --> 00:46:54.540

Becky Ramsing, MPH, RDN: Procurement policies can guide spending and local purchasing, but they can also impact the many people that the food chain, and drive

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00:46:55.850 --> 00:47:02.380

Becky Ramsing, MPH, RDN: the many people, the the food chain, and along the food chain and drive transparent and equitable food system changes.

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00:47:02.390 --> 00:47:17.290

Becky Ramsing, MPH, RDN: For example, the good food purchasing plan program encourages cities, schools, and other large institutions to leverage their billions of dollars in buying power toward 5 core values. Local economies, environmental sustainability, sustainability, animal welfare and nutrition, and a valued workforce.

217

00:47:19.310 --> 00:47:29.910

Becky Ramsing, MPH, RDN: In urban and rural settings, local policy has had an influence on the food environment from procurement to business opportunities to schools and institutional foods. Food policy has an important role

218

00:47:30.120 --> 00:47:32.500

Becky Ramsing, MPH, RDN: in supporting sustainable diets.

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00:47:32.510 --> 00:47:45.200

Becky Ramsing, MPH, RDN: And coming full circle, health professionals have a unique and influential role through their connection to patients and health conversations, nutrition professionals, particular work across the food sector from hospital food service to communities and policy.

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00:47:45.290 --> 00:47:51.210

Becky Ramsing, MPH, RDN: They can also influence procurement policies and local, federal dietary guidelines.

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00:47:51.450 --> 00:48:01.880

Becky Ramsing, MPH, RDN: Training programs like the one in this report from frontiers are growing in number and scope for those preparing for the field, as well as those already work in in the food and health sectors.

222

00:48:03.410 --> 00:48:21.170

Becky Ramsing, MPH, RDN: As an example. meatless Monday is one way of addressing awareness and behavior change. As I think I mentioned early, maybe I did, that our our centers science advisors to meet with Monday. So we've spent a lot of time looking at this this action, and how it impacts consumers.

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00:48:21.180 --> 00:48:27.600

Becky Ramsing, MPH, RDN: Meatless Monday began in 2003, with simple message of one day a week go without meat for the health of people on the planet.

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00:48:27.600 --> 00:48:44.070

Becky Ramsing, MPH, RDN: It's now one of the most well known meat reduction campaigns. The Monday has the significance of the first day of the week. Findings from the study of Google health searches show that the beginning of the week, especially Mondays, are when more people are seeking to change health behaviors, such as losing weight and quitting smoking.

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00:48:44.280 --> 00:48:50.350

Becky Ramsing, MPH, RDN: Another study identified that the cyclical weekly reminder of Monday was an effective prompt for behavior change.

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00:48:51.490 --> 00:49:05.270

Becky Ramsing, MPH, RDN: As the research has shown compared to other dietary changes Meatless Monday is not going to solve the climate or health crisis even alone, however, programs such as Meatless Mondays are entry points, and can be used to spark broader changes.

227

00:49:05.370 --> 00:49:17.730

Becky Ramsing, MPH, RDN: Meatless Monday can reach across sectors and agendas. Cities have initiated Meatless Monday proclamations, and institute of Meatless Monday municipal buildings. Government institutions have aligned procurement policies with Meatless Monday.

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00:49:17.770 --> 00:49:21.340

Becky Ramsing, MPH, RDN: Food policy councils and even food banks have implemented Meatless Monday.

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00:49:21.500 --> 00:49:36.080

Becky Ramsing, MPH, RDN: A town in New York promoted a successful 12 week Meatless Monday campaign as part of this climate action plan. These are just the few examples where the campaign has been used as a vehicle for education, or in outreach, or what we call a gateway to change.

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00:49:37.350 --> 00:49:48.590

Becky Ramsing, MPH, RDN: Here's a simple conceptual model of how Meatless Monday might work to shift behaviors. The persuasive design model by B. J. Fogg, who is a professor at Stanford.

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00:49:49.020 --> 00:49:50.380

Becky Ramsing, MPH, RDN: .

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00:49:50.400 --> 00:50:09.880

Becky Ramsing, MPH, RDN: He proposes 3 things have to be in place motivation, ability or simplicity, and then the third is the trigger necessary to increase the likelihood of our forming a new behavior. Meatless Monday can work on all 3 building motivation and confidence., but perhaps his most unique contribution is this trigger or spark of weekly reminders to try a meatless meal.

233

00:50:13.040 --> 00:50:25.520

Becky Ramsing, MPH, RDN: So I'm going to conclude here and have some time for questions. But I would just hit concluding points. Here are the first of all in the environment, climate, and public health impacts of food from production.

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00:50:25.540 --> 00:50:36.650

Becky Ramsing, MPH, RDN: It's a consumption call for a significant reduction in meat consumption along with a greater focus on plants. The reason people do or don't consume meat, how much or what kind are complex, and they differ by individual.

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00:50:36.700 --> 00:50:43.340

Becky Ramsing, MPH, RDN: There are interventions and influences that have promise for helping people shift toward consuming more plants and less meat.

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00:50:43.410 --> 00:51:00.940

Becky Ramsing, MPH, RDN: But understanding the consumers critical to successful initiatives. And so I'm really happy to share this with you, and to have all of you as team members in promoting sustainable diets that are there good for our health and our planet. So I will end here.

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00:51:01.130 --> 00:51:07.590

Lisa Diewald MS, RDN, LDN: Okay, thank you, Becky. If you want to. Yeah, there we go.

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00:51:07.700 --> 00:51:12.570

Lisa Diewald MS, RDN, LDN: And I'm going to pop my screen up real quick. And

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00:51:13.030 --> 00:51:26.950

Lisa Diewald MS, RDN, LDN: before we get to questions. And, by the way, there's opportunity here for you to pop a question into the question and answer box, and we'll get to it shortly. I did want to just remind you

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00:51:27.030 --> 00:51:36.040

to that attendees of the webinar will be sent a link with an evaluation within the next 2 days. You'll also receive

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00:51:36.510 --> 00:51:41.240

Lisa Diewald MS, RDN, LDN: within that an evaluation sort of a link

242

00:51:41.240 --> 00:51:58.850

Lisa Diewald MS, RDN, LDN: to the evaluation. We invite you to complete the evaluation, as we really in value your feedback. Actually this webinar that we're listening and watching to today that Becky has presented came as a result of some participants from our webinars requesting it. So

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00:51:58.850 --> 00:52:08.890

we invite you to complete the evaluation as soon as possible. And remember, although everyone is encouraged to complete the evaluation, nurses must complete the evaluation in order to receive the certificates

244

00:52:08.990 --> 00:52:19.730

For the Dietitians in our group today, if you want to receive a CE certificate, you must, at the minimum, indicate your credentials on the evaluation, and then just click on submit.

245

00:52:20.590 --> 00:52:38.290

Lisa Diewald MS, RDN, LDN: We're excited to continue our monthly webinar series. So you'll see that in May and June we have some exciting free opportunities for you to earn contact hours and CPEUs. And the next webinar is May, 24 presented by Colleen Tewksbury

246

00:52:38.290 --> 00:52:46.930

Lisa Diewald MS, RDN, LDN: who will be talking about practical comprehensive, and person-centered nutrition care and bariatric surgery. And in June, Wendy Bennett

247

00:52:47.050 --> 00:53:04.690

Lisa Diewald MS, RDN, LDN: will be talking about an update on intermittent fasting and the impact of timing of eating on weight gain. So if you would like to weight gain prevention, if you would like to register for either of these, simply go to our website Villanova COPE

248

00:53:04.690 --> 00:53:07.310

Lisa Diewald MS, RDN, LDN: and you can sign up that way.

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00:53:08.450 --> 00:53:16.580

Lisa Diewald MS, RDN, LDN: Okay, we do have some questions that are coming in. I did want to just kind of make it

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00:53:16.620 --> 00:53:31.450

Lisa Diewald MS, RDN, LDN: a general. Let's just stop my share here. Did want to make just a general comment, Becky, that you know it's not rocket science, but all of a sudden I had this revelation that you know what we tell our patients

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00:53:31.590 --> 00:53:44.220

Lisa Diewald MS, RDN, LDN: is healthy for them is also healthy for the planet for the most part, so isn't it exciting that there's not, you know, all the confusion of, you know, different

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00:53:44.220 --> 00:53:56.860

Lisa Diewald MS, RDN, LDN: recommendations if you are interested in helping the planet, and different recommendations if you're helping your own health in general, they're pretty parallel, and I think that that's an exciting message and opportunity that we have.

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00:53:56.940 --> 00:54:14.670

Lisa Diewald MS, RDN, LDN: We do have a question. Can you speak more about the milk protein alternatives and the impact of their production on the environment. I know you should that graph there, and I think we were all kind of looking at, you know, the difference between yogurt and cheese milk and what would be your kind of

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00:54:14.920 --> 00:54:25.630

Becky Ramsing, MPH, RDN: Yeah, I can. We actually just have a paper that's just a we did a review of that. It's about to be published. So when you talk about I could speak a lot more about this. It's, you know, dairy is like

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00:54:25.630 --> 00:54:50.230

Becky Ramsing, MPH, RDN: you said the for generally, you know, healthier diet is a more plant friendly diet. But there is one of those areas where it's a little more fuzziness. I would say our crossover, and even there's presentation recently. By what Walt Wilt who is, you know, one of the you know main experts in this area. I mean, this is health wise, we could probably have 2 or 3 servings of dairy a a day and and then for health. But environmentally it really need to limit because it's

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00:54:50.230 --> 00:54:52.620

you know it is a major

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00:54:53.380 --> 00:55:03.880

Becky Ramsing, MPH, RDN: impact on, you know, water, greenhouse gas emissions and all because of the, you know, producing the dairy cows. Alternatives are really

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00:55:03.970 --> 00:55:16.280

Becky Ramsing, MPH, RDN: a mixed bag, and, as you know, I mean many people can't have dairy because of a lactose intolerance and other issues as well. So we need to have healthy alternatives, and there are many out there.

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00:55:16.280 --> 00:55:27.350

Becky Ramsing, MPH, RDN: So it really depends, like I like to say, what's it made out of? So like, you know, almonds, for example, have a big, really big water footprint and very low protein amount. So you can compare the nutritional amount. You don't get a lot from it.

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00:55:27.350 --> 00:55:39.060

Becky Ramsing, MPH, RDN: But things even like soy milk which people tend to shy away from. And actually, we're eating a lot, drinking a lot less. Soy Milk has a great protein profile, and environmentally doesn't use, you know, is better environmentally.

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00:55:39.060 --> 00:55:51.870

Becky Ramsing, MPH, RDN: I would love to see p protein milk a lot more attention because it really has it all. And I don't know, maybe p milk because it's not a term that people like. But you see it more like ripples, the one making it. But there's

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00:55:51.910 --> 00:56:06.580

Becky Ramsing, MPH, RDN: in plastic containers. But anyway, yeah, so I would say, just really, you know, as health professionals really looking at a little more critically about what is in, you know, they're not in one category. It's a very diverse category.

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00:56:06.650 --> 00:56:24.470

Becky Ramsing, MPH, RDN: Okay. And just on a side question about that. What about the ultra filtered milks, Fairlife type milks where it's gone through a secondary process where it's higher in protein. Does that end up in some way

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00:56:25.540 --> 00:56:27.630

Lisa Diewald MS, RDN, LDN: helping or hurting when it

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00:56:27.760 --> 00:56:45.870

Becky Ramsing, MPH, RDN: Good question. I haven't really looked at those. Yeah, I think it's yeah, I mean, I guess if you're getting, you know, healthier ingredients out there, you know more more protein. That's great, but you know it's still it's using, you know, if the source is a cow, then there's still going to be the impact that it would be a dairy. So right, that's a good

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00:56:46.470 --> 00:56:48.260

Lisa Diewald MS, RDN, LDN: okay.

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00:56:49.460 --> 00:56:54.790

Lisa Diewald MS, RDN, LDN: You mentioned the low food chain diet containing, you know,

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00:56:55.170 --> 00:57:17.850

Lisa Diewald MS, RDN, LDN: insects, and bivalves I was interested in knowing what type of insects and what cultures you know. And are there practical applications of that? In the United States?

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00:57:17.850 --> 00:57:36.440

Becky Ramsing, MPH, RDN: More and more there are crickets being used in things. You see more cricket flour. It's not culturally across the world. Certainly there's, you know, certain flies and the crickets and worms, mealy worms, are used in diets. But yeah, US definitely not as much. But you're seeing more that is available, but also bivalves like muscles and oysters are also great aquatic foods that have lower footprints. And so there's a lot more.

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00:57:36.440 --> 00:57:49.360

Becky Ramsing, MPH, RDN: Those group called Food Plus Planet that put out a great toolkit recently on using some of these bivalves and in recipes and more affordable ways. So hopefully, we'll see more of those.

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00:57:49.360 --> 00:58:04.510

Lisa Diewald MS, RDN, LDN: Yeah, yeah. And how can health care providers address potential challenges or barriers that patients may face when gradually transitioning to a plant based diet and provide support for overcoming them. So I guess that speaks to,

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00:58:04.830 --> 00:58:11.770

Lisa Diewald MS, RDN, LDN: you know, when you're talking about those small changes, how can health care providers

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00:58:12.010 --> 00:58:29.280

Becky Ramsing, MPH, RDN: the best position to support their patients in the process? Yeah. Well, I mean, I think we know that it's, you know, we have to know where we first need to know., you know, where the patient is at and, you know, what are some levers in there that you can find in their current eating patterns, you know.

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00:58:29.280 --> 00:58:43.900

Becky Ramsing, MPH, RDN: You know. Is it just trying to get them to eat them one more vegetable a week or every meal or, you know, okay, they like refried beans well, there's there is something, and you know we're finding some of those plant based proteins are already eating, in their diet and getting them make those shifts

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00:58:43.900 --> 00:58:58.270

Becky Ramsing, MPH, RDN: So certainly that is a barrier. I think finances for some may feel overwhelming, but you know, if trying to find the more affordable sources. I mean, beans, of course, are not expensive, but you know a lot of times you go out and

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00:58:58.270 --> 00:59:11.960

Becky Ramsing, MPH, RDN: it's a restaurant. The vegetarian items are just expensive or more expensive. So trying, yeah, or granted, you know, locally, source foods are higher. So yeah, helping them find plant based sources that are more affordable.

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00:59:12.070 --> 00:59:16.270

Becky Ramsing, MPH, RDN: And it's really working with them on those aspects. And then taste,

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00:59:16.370 --> 00:59:35.740

Becky Ramsing, MPH, RDN: you know, encouraging them to find what I mean. There's a lot more now with cultural diets, with more, you know, into international foods. There's some really delicious plant food that it's not just having a slab of a tofu and broccoli anymore, which is which is really great.

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00:59:35.980 --> 00:59:45.440

Lisa Diewald MS, RDN, LDN: Yes, that is really great. It's similar to years ago gluten free diet. You know that to eat, you know, basically like wood chips in order to, you know. And here and now there's so many more opportunities.

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00:59:45.440 --> 01:00:01.470

Lisa Diewald MS, RDN, LDN: Well, I think we've run out of time here, but definitely haven't run out of interest. I think it's important for us as healthcare professionals to continue to seek out training opportunities to become more familiar with this topic and practical ways. to implement

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01:00:01.480 --> 01:00:04.020

Lisa Diewald MS, RDN, LDN: It also brings

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01:00:04.300 --> 01:00:11.690

Lisa Diewald MS, RDN, LDN: you know, highlights to me the benefits of the Flexitarian diet, and the the need for more educational

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01:00:11.740 --> 01:00:25.230

Lisa Diewald MS, RDN, LDN: tools and and visuals, and that sort of thing that can help in that area. So, as a small step towards change. But, Becky, I wanted to really thank you so much for bringing to light

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01:00:25.230 --> 01:00:39.840

Lisa Diewald MS, RDN, LDN: not just the issues so that we can become better aware of, but the practical steps that we can begin to, you know, have conversations with with our patients. So that real change can happen. So thank you.

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01:00:39.840 --> 01:00:52.230

Lisa Diewald MS, RDN, LDN: Remember, if you are an attendee today, you can find Becky slides on our website. You simply go to the webinar section of COPEs website, and you will find her slides right there. So

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01:00:52.230 --> 01:01:09.420

Lisa Diewald MS, RDN, LDN: thank you everyone for attending. Thank you again, Becky. Good luck with your work going forward. Thank you, and I will send the link for that paper to you, so you can also distribute that. It was a question about that. Thank you very much. Have a Good day. Becky and everyone else.