We’re very delighted to have Gila Neta, who is a Program Director for Implementation Science in the Office of the Director in the Division of Cancer Control and Population Sciences at the National Cancer Institute. And Gila has actually been a leader in stimulating implementation science approaches to cancer prevention at the NCI for, I’m not sure how many years, 10 or even 15 years. And encouraging research in this area, and fixing concepts and theories of how to approach this sort of work, and yeah, we just look to her for, in terms of cancer, and implementation science, she is the top person. So we’re thrilled to have her here today. And we just found out that NCI and NIH people are allowed to travel, but we weren’t able to arrange that in time for today. So maybe we’ll have her back another time where we can meet with her in person. But I just wanted to give a little more information about her background before turning this over to her.
This talk is sponsored by the Center for Methods and Implementation and Prevention Science here at the Yale School of Public Health and it’s co-sponsored by the Department of Chronic Disease Epidemiology, led by Judy Liman, the chair, and also by the Yale Scholars in Implementation Science Career Development Program, our K12 program, which is actually funded by NHLBI, but I think there are a number of people involved who also are interested in cancer prevention and control, and implementation science perspectives for that. So Gila is the NCI Scientific lead for funding announcements and dissemination implementation research and health, and assists with research and training activities related to implementation science across the division. And she has a secondary appointment within the Epidemiology and Genomics Research Program and the Center for Global Health. And something I know about Gila that isn’t in her biography is, I think she, you can correct me if I’m wrong, PhD Epidemiologist.
So you came to implementation science through epidemiology, which is interesting and not the most common path. Most people come to implementation science through social sciences, so it’s nice to have a PhD epidemiologist leading implementation science at NCI. Dr. Neta’s programmatic and research interests within implementation science include training, portfolio analysis, the use of the PRECIS criteria in evaluating pragmatic trials. Is that the correct pronunciation? Yeah, PRECIS. Okay.

And that’s something we actually covered in the course I’m offering this semester on advanced methods for implementation and prevention science. Shared decision-making and cancer screening, economic evaluation, de-implementation, which we were just discussing on an earlier call and the use of standardized measurement and reporting. Dr. Neta’s co-chair of the NIH-sponsored Annual Conference on the Science of Dissemination and Implementation, which many of us have participated in for many years.
69 00:03:35.460 --> 00:03:37.800 and had a very nice representation
70 00:03:37.800 --> 00:03:39.750 from the Yale School of Public Health
71 00:03:39.750 --> 00:03:41.280 and the Yale Medical School.
72 00:03:41.280 --> 00:03:45.090 She also leads the NIH D&I working group,
73 00:03:45.090 --> 00:03:48.990 a trans-NIH initiative providing leadership and vision
74 00:03:48.990 --> 00:03:52.320 for implementation science across the NIH.
75 00:03:52.320 --> 00:03:55.770 Today she’ll be talking about opportunities and priorities
76 00:03:55.770 --> 00:03:58.410 for dissemination and implementation research
77 00:03:58.410 --> 00:04:00.360 at the National Cancer Institute.
78 00:04:00.360 --> 00:04:03.420 So Dr. Neta, I’m pleased to turn the mic
79 00:04:03.420 --> 00:04:04.253 and screen over to you.
80 00:04:04.253 --> 00:04:07.440 We’re really looking forward to your talk today.
81 00:04:07.440 --> 00:04:08.820 <v - Great, thank you so much, Donna.</v>
82 00:04:08.820 --> 00:04:12.840 And I should clarify that I don’t lead
83 00:04:12.840 --> 00:04:14.790 the NCI Implementation Science.
84 00:04:14.790 --> 00:04:17.040 David Chambers is definitely our fearless leader,
85 00:04:17.040 --> 00:04:19.860 although he does primarily come from mental health.
86 00:04:19.860 --> 00:04:22.620 But I would say NCI as our team,
87 00:04:22.620 --> 00:04:25.740 I’m on a large implementation science team
88 00:04:25.740 --> 00:04:27.900 and we are seen as leaders across the NIH,
89 00:04:27.900 --> 00:04:30.870 which is great because I have fantastic colleagues
90 00:04:30.870 --> 00:04:33.240 and we are truly an interdisciplinary team.
91 00:04:33.240 --> 00:04:35.010 So I do think, Donna, what you said is correct,
92 00:04:35.010 --> 00:04:38.730 that I’m the lead epidemiologist in implementation science
93 00:04:38.730 --> 00:04:42.700 at NCI, in part, ’cause I’m the only epidemiologist
94 00:04:43.770 --> 00:04:45.030 in implementation science.
But it might be worth mentioning how I came to this as I was, I did my postdoc in radiation epidemiology and the questions that were most interesting to me at that time, and that was when papers were coming out about excess deaths due to unnecessary CT scans. And so I was really interested in the question of how do we de-implement, how do we de-implement this practice of unnecessary CT scans while I was doing my epidemiologic research on the risk of thyroid cancer associated with medical diagnostic radiation. But what I was really sort of passionate about, were asking those bigger questions, So now I’m working with this very transdisciplinary team at NCI and we consist of health services, researchers, anthropologists, psychologists. So it’s just a fantastic, MBAs, MPAs. So, fantastic Team. One question I wanted to ask before we share the slides, just to get a sense, and I don’t know if it’s easy for people to raise their hands. I believe raising your hand is an ability, I’m curious. If you go down to reactions
and you click on reactions, and you’ll see raise hand under reactions. So I would love it if folks could raise their hand.

If you are an epidemiologist, I’m just curious to get a sense.

Okay, great. It’s even summarizing how many, so we’ve got some epidemiologists in the group. Can I see a show of hands of how many folks have actually submitted a grant in implementation science?

You have to lower your hand and then re-raise it.

Yeah, no, I see people lower.

Okay, now lower your hands. And maybe last question is, or two, a two-part question, raise your hand if you are new to implementation science.

Okay, great. So a significant portion of you, I’m glad that I anticipated that an introduction to what implementation science is would be helpful in addition to describing funding opportunities, resources, and priorities.

It will be helpful, Dr. Neta.

Great.

Okay, great.
So with that then, William, if you don’t mind sharing my slides and as Donna mentioned the title, the official title of my talk is "Opportunities and Priorities for Dissemination and Implementation Research at the National Cancer Institute". Summarizing that as implementation science fits cleaner on the slide, but also what I’m going to share, I do sit on the implementation science team, but we do use dissemination and implementation research and health sometimes interchangeably with implementation science. As I’ll describe a little bit later in my talk for the purposes of our funding opportunities, we do think of implementation science as those two different component parts. So I’ll explain a little bit about that later. But basically, on the next slide, I just wanna summarize what I’m hoping to do over the next 50 minutes with you which is give you a brief background on what is implementation science and why should we care. Then do what Donna asked me to do, which is talk about opportunities and priorities in implementation science at NCI.
So I’m really hoping to wet your appetite in this field and then hoping that you will reach out to me or any folks on my team to take advantage of these opportunities and where our priorities may align with yours. Great to explore ways to collaborate and synergize those efforts. And then finally, how can you learn more? So on the next slide, just starting with what is implementation science and why we should care?

So first wanted to start with just simple definitions on the next slide, which is distinguishing the difference between implementation science from implementation practice.

And I think in my, I guess it’s a little more than eight years that I’ve been a program director on the team and speaking with PIs, I’ve realized sometimes this distinction is not always clear upfront. So implementation practice is simply using interventions in healthcare and public health settings. And perhaps, I shouldn’t say simply because that’s complicated as well, but implementation science is focused on studying the use of those interventions in healthcare.
and public health settings and specifically studying methods and strategies to promote the uptake, the adoption, and integration of that evidence into practice. So why should we care about studying those things? Why do we need to focus on those methods and strategies? So on the next slide, I highlight an example that shouldn’t come as a surprise to anyone. I think COVID has really highlighted the importance of thinking about implementation. It’s not enough to just think about what intervention. So we saw with COVID that it wasn’t enough to just come up with a vaccine. While that was phenomenal and I mean just an amazing feat of science that we had these highly effective vaccines. As you see on the next slide, and as you well remember, the rollout was slow and complicated. Anxiety was growing, shots were slow to reach arms as those final steps of ensuring vaccine delivery were left to beleaguered states. And I think on the next slide, you’ll see that Dr. Ashish Jha, who’s now dean of the Brown University School of Public Health really nicely articulated the problem.
And that was that the federal government saw their role as getting vaccines to the states without considering what support states would need to get vaccines to the people. And this type of problem, as you all know, is not unique to COVID-19. So on the next slide, you’ll see that the promise of any effective innovation that our science delivers can only be fully realized through its use by a range of stakeholders and attending to a range of different types of barriers held by those stakeholders. So while the vaccine was highly desired, there was still a significant portion, and continues to be a significant portion of the population who continues to refuse to take it. So how do we deliver our innovations most effectively? Is it, A, not thinking about implementation? B, thinking about implementation with a plan informed by intuition? Or C, having a plan informed by empirical evidence, the signs of implementation? So too often we don’t focus on thinking about and generating the necessary evidence to inform implementation.
but what this slide illustrates is what happens if we don’t also focus on implementation. And Donna’s center highlights this as well, noting this gap. But what this displays to give you the story behind that 17 year gap, these are findings of a study from 2000 by Andrew Balas and Sue Boren that asked the question, let’s assume that the end product of our research is simply a high-impact publication, an RCT on the effectiveness of an innovation. What happens next if we’re not thinking about implementation and not attending to it? So what you see in the middle of the slide is the rough publication pathway from publication of our original research to implementation, which they defined in this paper as 50% uptake. So on the left side of the slide you see all the ways we lose valuable evidence and on the right side it estimates about how long it takes to get through each one of these steps. And on the next slide, you see the punchline that it takes 17 years for only 14% of original research to benefit patients. So it shouldn’t be the case that so little takes so long and that’s the time.
to reach just half of the people who could benefit. We need to do a better job.

And on the next slide, just wanted to mention, Balas and Boren looked at a range of healthcare interventions, but specifically for cancer control, this time lag is not much better, as you can see from this recent review.

So on the next slide, and as you saw with the COVID-19 vaccine example, the problem really goes beyond the strength of the evidence for effectiveness. An intervention is going to be only as good as how and whether it is adopted by the different systems within different communities and that we can identify the relevant practitioners who can then be trained to deliver the intervention. But we can’t stop with training and education. I’ve often seen a lot of applications that are simply focused on training, thinking education will be enough, but we have a history of training providers where there isn’t then a way to come back from that training and incorporate the intervention into routine practice.
So we need to think about the barriers to doing that, attending to those, and making sure we also consider the needed supports to ensure that delivery and integration. And we need to make sure that once those trained providers are able to deliver the intervention and have the needed supports, that they can also reach all those people who could potentially benefit from it. So on the next slide, I don’t believe this is the next slide, the next slide is, even one more, even if we get halfway there at each of these steps, not accounting for issues with access, adherence, dosage, and maintenance, we are down to just a fraction of the benefit that we thought we were going to have. And we need to make sure that we don’t assume these steps are going to happen by themselves. So how can we accelerate the time it takes for our evidence to be implemented? On the next slide, you can see here, on the left side, you see effective interventions such as vaccines, technologies, and treatments. On the right side of the slide, you see our goal to decrease the burden of disease or cancer.
And in the middle, you see some reasons why there's a gap from the intervention to its intended effect. It's that challenge of implementation. So interventions are often underused and overused and this has been highlighted during the COVID pandemic, of course, but as similarly true as those of you in chronic diseases, it being known this is also true for cancer control measures and other chronic disease measures. And some reasons for that implementation gap include insufficient training, infrastructure, governance, and policies to provide the needed supports to deliver interventions. On the next slide, you can see that through implementation science we can understand those implementation barriers, and develop, and importantly develop and test, strategies to overcome those barriers. So on the final slide, on the next slide, final slide of this picture, if you advance one more, how do we know if those strategies are working? As you will find out, here we go. Those strategies should improve the feasibility
and acceptability of an intervention.
Ensure delivery is cost-effective and can reach as many people as possible, ensure fidelity so that the intervention works as it’s intended, that we can see high rates of uptake and sustain the intervention over time. So these are really critical outcomes that we seek to advance through implementation science and that our strategies are intended to improve, to ensure that we can promote the adoption and integration of interventions into practice by developing and testing strategies to advance these implementation outcomes, and generating evidence on these strategies which can improve our ability to ultimately decrease the burden of cancer through effective data-driven implementation. On the next slide, I just wanted to give you an example of what this looks like in practice. And I realize many of you may be interested in global health. So I pulled two examples of studies that NCI funded and that’s the example of testing a strategy, of task shifting to address the barrier of limited access to cancer control intervention.
So task shifting is a broad strategy to enhance access through decentralization of care, and we funded these two studies to test specific types of task-shifting strategies to increase the uptake in two LMIC countries. So interestingly both found a threefold increase in uptake with these two different approaches, suggesting that this strategy of task-shifting can be broadly effective to address a range of global cancer control implementation challenges. So on the next slide, I just wanna clarify that task shifting is one example, but there are a whole host of implementation strategies that have been identified, and tested, and developed and studied in the literature. And this paper from Byron Powell et al. in 2015 talks about those 73 strategies that through a systematic review had been identified. But just to give you a sense of what these things are,
these include things like strategies to educate and train practitioners, as I’ve mentioned, as well as strategies to ensure that those practitioners can incorporate the intervention into the workflow and integrate it into community settings, providing that interactive or technical assistance, strategies to support fidelity, and other supports for clinicians. Also at the front end, really ensuring stakeholder buy-in, building relationships among stakeholders as needed, engaging consumers, and importantly, financial strategies, as well as thinking about whether there might be a need to change the infrastructure to deliver the intervention. So how would you select these range of strategies? And in your research proposals, in particular, it will be really dependent on what barriers you are seeking to overcome, what resources you are able to leverage, and the critical implementers or other stakeholders who you are seeking to affect. So on the next slide you’ll see in terms of thinking about who those stakeholders are in implementation science,
we recognize that intervention and innovation delivery is really context-dependent and there are a range of multilevel factors that can influence that. And so on the next slide, engaging stakeholders at all of these levels. So thinking beyond that relationship between a provider and a consumer, but also taking into account the organization in which that provider is working, the community in which that organization exists, and what higher-level policies may be needed to put in place in order for those things to be possible. And when we’ve historically ignored these levels, we often leave out populations who don’t have as good access to care. So this is really critical in thinking about equity as well. How do we best get organizational change? How do we best get communities and states to support implementation of these interventions? And so it is particularly important to engage stakeholders at all of these levels to build the evidence base to support implementation at each of these levels. So on the next slide, I had mentioned earlier
the distinction, how we define implementation science, and the component parts of implementation science. So this is how we think of it at NCI and these definitions come from our trans-NIH funding opportunities, which I’ll talk about in a few slides. But we see implementation science broadly as bridging the gap between research, and practice, and policy by building a knowledge base on how evidence can be most effectively communicated and integrated into practice. And so for the purposes of our funding announcements, we break it down into these two different components where dissemination research is the study of the targeted distribution of information and how best to spread or sustain knowledge and evidence. Whereas implementation research is focused on what strategies can best facilitate the adoption and integration of evidence into a given practice. So on the next slide, I just wanna break down a little bit further. The goal of dissemination research is really to understand how, when, by whom, and under what circumstances...
evidence most effectively spreads focusing on all the stages of evidence from its creation to its reception. And these are important steps that we often jump over.

So in the next slide, focusing more on the implementation research and what we try to draw contrast from what you typically see in effectiveness trials, which tend to focus on the what, what intervention can improve health outcomes? And most studies assume that if we focus on the what we will get the answers that we need, what do we need to do for these individuals in this population to improve a range of health outcomes?

But we often jump over, through doing this, we jump over this important middle which is seen on the next slide.

And that’s the question of how, how can we ensure those interventions are delivered?

So what are those implementation strategies that will support our ability to deliver those interventions?

And you can see here in the implementation outcomes that I had mentioned earlier, those outcomes that those strategies are intended to improve.
And so how do we know those strategies are working, in implementation science we’re really focused on understanding what strategies, what methods can improve implementation and focusing on the implementation of something that is evidence-based. So for those of you who are thinking about implementation, it’s very important that this really is the science of implementing evidence. It’s also increasingly I brought up de-implementation. We’re also interested in thinking about where it may not be an evidence-based intervention, but something is being implemented that is not evidence-based, then you would flip it, and it would be implementation strategies to reduce the use of those things. Just wanted to mention that as an aside because that is something that we are also very interested in. So by focusing here we see this knock on benefit of improving service outcomes and health outcomes. So, on the next slide, just reiterating what we mean by those strategies,
it’s really developing and testing, here are a range of strategies that have been studied but focusing again on that question of what are the barriers that you’re observing for your evidence-based intervention or innovation, whatever it is that you’re trying to implement, understanding why it’s not being implemented or perhaps in some cases, you see in certain places it’s being implemented very well and you wanna understand why that might be, and then trying to overcome those barriers. So on the next couple slides I just wanna mention that in implementation science, a lot of this work really hinges on theories, frameworks, and models. So I’m gonna review just a few. And the reason why these are valuable as an epidemiologist, I was not trained in theories, frameworks, and models, but I’ve come to appreciate, I mean we learned about DAGs, the directed acyclic graphs because we need some sort of basis to inform what variables we include in our regression models. But as Donna mentioned, this is also very much a social sciences,
behavioral science, and implementation science

is truly a transdisciplinary science, and I think epidemiologists are a real asset for the field.

But in terms of thinking about, in terms of developing measurement methods, but in terms of understanding what are those barriers, I think that that’s where social and behavioral scientists can really help us.

Through these theories and frameworks is understanding what are those drivers.

So here you see one of the oldest theories in the field, Roger’s Diffusion of Innovations theory, which actually comes from agronomy.

And in fact, because implementation science and health is a relatively new field, a lot of our theories, and frameworks, and methods are borrowed from other fields.

And so in this case, what Everett Rogers highlighted was that what influences our ability to adopt and deliver is not just the characteristics of the intervention itself but also the organizational characteristics, the environmental context.

And those are the types of things that can influence
or impede our ability to adopt and implement something.

So on the next slide, this is the consolidated framework for implementation research. Those of you who are less new to the field I'm sure are very familiar with this. But this was actually developed in 2009 from Laura Dan Schroeder at the VA and colleagues where they identified a range of constructs of categories, which you can see are similar to what Everett Rogers laid out. There's the inner setting, and the outer setting, as well as the intervention characteristics. And I realize this graph is a little bit confusing so I'm gonna take a moment to walk through it 'cause I actually think it's popular for a reason. I think they really do a great job of describing the range of constructs that can influence our ability to implement. And a few things that they add to what Everett Rogers had posited, as you see on the left side of the slide, the intervention as unadapted. And so we think of interventions as having their core components and that's what you need to ensure fidelity. But there's also an adaptable periphery.
and on the left side, you see it doesn’t quite fit.

There’s some white space there.

But this bottom part that they added is this critical iterative process of planning, of engaging stakeholders, of implementing and iterating, of assessing your ability to implement and testing those strategies. The hope is that you can get to the right side of the slide where now you have an adapted intervention that fits much better into the context in which it is delivered. Understanding that both that inner and outer context are critical.

And what’s really nice is there’s a whole website for CFIR that describes all of these constructs and they’re also SIRC, the Society for Implementation Research Collaboration, they’ve created, unfortunately it’s behind a paywall, but there are a whole host of measures that have been developed, validated, and tested to measure these constructs as well. So I think that’s one reason why this is very popular framework. You don’t have to invent these things from scratch.
There are existing tools to measure these constructs to understand what those barriers are and perhaps what their relative weights are to help you decide on where you can most appropriately intervene.

So on the next slide, last, oh and I wanted to mention also the re-aim framework, which is another popular framework in the field. It’s often been used as an evaluation framework, but I think it nicely highlights what are the key questions in implementation science.

So beyond the effectiveness, how do I know my intervention is effective? It’s also focusing on how do I develop organizational support to deliver my intervention, the implementation, how do I ensure the intervention is delivered properly and that maintenance, how do I incorporate the intervention so it is delivered over the long term?

And finally, how do I reach the targeted population? So re-aim is another framework in the field that was developed for the field and also has a website with extensive guidance on the use of this framework and measures. So on the next slide, I wanted to move now
to what opportunities and priorities
in implementation science at NCI.
So first starting with the trans-NIH funding opportunities
that NCI leads on the next slide.
And so these are called the Dissemination
Implementation Research in Health, PAR, that’s program announcement with review.
So that R is that dedicated study section.
If folks were here at the very beginning of the call
when Melinda and I were talking about review committees.
So applications submitted to these funding opportunities
which do include 22 institute centers
and offices across the NIH
participate in these funding opportunities.
I believe I can share with you that while they will,
the current versions that are published expire in May, 2022,
you can expect that those will be renewed.
So those will continue.
And to date, we’ve funded well over 300 grants
across the NIH just in the last decade
through these funding opportunities.
And that review committee I mentioned,
it used to be called DIRH, our Center for Scientific Review
at the NIH recently went through a process
of reviewing the study sections
and coming up with new study sections or revising somewhat how the study sections are to stay up to date with the science. And this is a process CSR goes through periodically.

So now DIRH has become SIHH, which stands for the Science of Implementation in Health and Healthcare. There are an additional four review committees that were newly created that have overlapping interest with implementation science, which basically means just additional expertise.

So if you submit through these funding opportunities, but for some reason, it is not assigned to SIHH, there can be a few reasons why that might happen. Feel free to reach out to me and we can talk about that another time.

But all of these committees should have the capacity to review implementation science grants. And just also as a side note, for those of you familiar with the review committee, SIHH is almost entirely the same members as DIRH, the chair is the same.

So it has been a pretty seamless transition.
On the next slide, for those of you unfamiliar with these funding opportunities, I did want to highlight what the purpose of these are, which is to support innovative approaches to identifying, understanding, and developing strategies for overcoming barriers to the adoption, adaptation, integration, scale-up, and sustainability of evidence-based interventions. I had mentioned earlier also an interest in de-implementation. So conversely, as we recognize there’s a benefit in understanding circumstances that create a need to stop effectiveness, unproven, low value, or harmful.

And these funding opportunities, in addition to studying those strategies to implement or de-implement, we also seek studies that advance methods in our field as well as measures.

So on the next slide, I just wanted to give you some example research questions from the funding opportunities, but I do encourage you to take a look at these funding opportunities and take a look again after, at the end of February when we hope that they will be reissued.
So you can see slightly updated version of these, but essentially, these are focused on understanding what factors influence the creation, packaging, transmission and reception of valid health research knowledge. That’s the dissemination research questions as well as understanding how do we adapt our interventions to best fit within specific contexts or settings, what strategies best support uptake in sustainability, also strategies to ensure scale-up and sustainability. And then finally, that de-implementation question. So on the next slide I just wanted to very briefly mention that there are, on our website, which I’ll show you at the end, we do have examples of sample grant applications that have been successfully funded through these. And this is one of the most popular websites on our website because it’s nice, not only do you have the abstract which anyone can access in reporter, but we had about a dozen investigators generously agree to have their full application, the research strategy, and specific aims also made available publicly.
So you can see here and on the next slide a range of sample grants that are available and that really are spanning a range of different topics from healthcare, public health, sustainability, de-implementation, both in global and domestic settings.

So on the next slide, in terms of priorities, just generally, I would like to mention for those of you who aren’t aware, well, NCI is the one institute at NIH that has a separate congressional line item since, and our director is a presidential appointee. And so because of that we do submit each year an annual plan and budget proposal to Congress that needs to be approved.

And so for this fiscal year that just ended, implementation science was recognized as a key priority area by the NCI. And on the next slide, you can see, and I think this really launched interest across the divisions and centers within the NCI.

And so our NCI Center for Global Health, they recently hired a new director and released this new strategic plan for the next four years where implementation science was also highlighted as a key priority area.
So on the next slide, I just wanted to mention this, this is a real opportunity as we are thinking across the NIH and NCI of the importance of addressing inequities.

And here the simple graph from the WHO really highlights how those global inequities in cancer control. And so on the next slide you can see, oh, and so just as an aside, this was a systematic review not just in cancer but across a range of health issues focusing on studies that have been published on implementing health interventions in LMICs.

And these weren’t implementation studies necessarily, these were just all studies in literature where they were looking at health interventions in LMICs.

And what was interesting about this review is that relatively few, painfully few, only 14 studies, if you look at that smallest circle at the bottom, actually measured implementation outcomes. So really we saw this as a huge missed opportunity to be studying implementation in the context of global cancer control.

And so on the next slide you can see that the Center for Global Health has issued two funding opportunities.
One is a Notice of Special Interest for Dissemination and Implementation Science in Low Resource Environments. And those are, NOSIs are Notices of Special Interests that are tied to an existing funding opportunity. So in this case, these are tied to those dissemination and implementation research and health program announcements. And then most recently, the Center for Global Health issued a UO1 Clinical Trial Optional, Implementation Science for Cancer Control in People Living with HIV in Low and Middle-Income Countries. So given that Center for Global Health, one of their main strategic goals is to advance implementation science and cancer control in Low and Middle-Income countries, I would stay tuned for additional funding opportunities that may come out. And I’m happy to talk about any of these as well. So on the next slide I wanted to mention in addition to global and global is a part of this, the NCI launched a consortium for cancer implementation science and I remember one of your colleagues,
Steve Bernstein was at that initial launch meeting. And so this was a consortium of implementation scientists and cancer control researchers identifying key areas that the field could really advance and we could all benefit from advancing those areas.

So you can see here the CCIS development of public goods on the bottom left of the slide. And on the next slide, you can see examples of what those different areas were. One was focused on enhancing community participation and more broadly, stakeholder engagement. One is focused on advancing economic evaluation and really understanding not just the cost-effectiveness and how do we measure those costs. And there are relatively few good measures for that. In fact, none to date have been validated measures of implementation costs. So there’s been a thriving community of economists, healthcare, health service researchers, and implementation scientists working together to try to develop guidance for the field on doing that.
Also a focus on policy implementation science and context and equity.

And as you can see in the small print, additional areas that were identified as key priorities where those public goods are forthcoming.

So if you were to click on those pluses by each of those four areas I mentioned, on the next slide you can see for example with the economics and costs group, there is a link to a new collection of papers that was just published in BMC, and it’s a collection because it’s not only in one journal but it’s across several BMC journals. So implementation science and implementation science communications. And these are a series of papers that are providing that guidance I had mentioned around measuring cost in implementation science.

On the next slide you can see resources for stakeholder engagement.

There’s a whole list on the next, I think somebody is not on mute, but I’m almost done.

The next slide.

<v Donna>Gila, can you mute everybody?</v>
Oh, I see Amaka joined who I know from Aortic.

So on the next slide, that community engagement and stakeholder engagement, if you go one more, William, you’ll see that that group created this phenomenal resource on stakeholder, and community engagement literature, and best practices and measures of doing that. So on the next slide, you can see what are the contents of that resource. Key readings focused on health equity and community engagement in implementation science, the rationale for doing it, frameworks for doing it, and assessing, and measuring it. And so that’s a really rich guide if you’re interested in focusing on that aspect. On the next slide, this gets to the policy implementation science and I did see that there may be several of you or many of you who are really interested in advancing policy implementation science. And so there was this recent commentary addressing that in particular as a way to address social determinants of health.

We also had Karen Emmonds from Harvard come and work with us over the last two years to really build out this area.
And one of the things that she did was help curate this fantastic series of webinars.

I think there were six in total, here are four of them,

they’ve all been archived.

So something that you may be interested in exploring.

And so those are just some of the key priority areas

that I wanted to mention.

But then finally, where can you learn more?

So on the next slide, and the next slide after that.

So in addition to those policy webinars,

we do have a whole host of webinars,

two different webinar series.

All of these webinars are archived.

Some of those include, from years past,

a focus on different methodologies, measurement,

the use of frameworks.

And upcoming our next webinar at the end of November

is focused again on economic evaluation

because of that recent publication of those collection

of papers which continues to grow.

Right now we have two published in that collection,

two forthcoming any day now, and an additional six

that are forthcoming in the coming months.
And so in addition to the webinars, I did wanna mention for those of you new to implementation science and hopefully, I’ve convinced you that you may wanna learn more, on the next slide, you can see that NCI has been hosting a training institute. And here you can see the main modules. It historically had been an institute where initially was a residential program, and we moved to a hybrid model where we would do three months online where people could just integrate it and now with COVID, it’s been completely virtual. And now with COVID, it’s been completely virtual, but also it has been a highly competitive program and we’ve wanted to be able to train more people than we can necessarily accommodate at our NCI offices. So we have made it open-access and all the modules now are available as well as the readings. The one thing that you don’t get from the open-access and during those three months of the online
you get feedback from faculty on your proposal. So it’s really an opportunity to develop a proposal through this training program. But thankfully you have a whole team at NCI and NIH who can help you as you’re developing your proposal. So I would encourage you as you are developing proposals for implementation science or if you are and when you are to reach out to program staff often and early. So on the next slide, I did just wanna mention at least for NCI, on the next slide, we do have a pretty user-friendly search function where you can look through at the division of cancer control and population sciences grant opportunities, and we have a filter where implementation science is one of those filters. So in addition to the funding opportunities I mentioned, you can see which other funding opportunities might exist that could align with the specific topics you’re focused on. We do have one for example, that’s specifically on de-implementation in cancer screening for the overuse of screening.
And lastly, on the last slide, I just wanted to leave you with a link to our team’s website and to remind you that I am just one of a fantastic group of folks at the NCI on the implementation science team. You can see there in the back left is David Chambers, our director for implementation science, as well as Wynne Norton, April Oh, Cindy Vincent who are other critical members of our team. So thanks, I hope that was helpful. And I was hoping we’d have at least 10 minutes for questions. So there’s so much common knowledge and kind of perspective that I think we all share. So I hope, Donna, we can use some of that time for questions if folks have questions. Yeah, so perfect timing. It’s great to see the overview and it’s so interesting that some of the slides that you have shown, I also show in my class and I’m guessing Luke Davis who teaches our implementation science course here probably uses some of these slides. So there’s so much common knowledge and kind of perspective that I think we all share. I see that Luke Davis has his hand up. He is an implementation scientist focusing primarily
on HIV and tuberculosis, particularly from the global health perspective. And he’s an associate faculty member of our center.

So Luke, what are your questions and comments?

Thank you, Donna, and thank you Gila for a great talk.

Donna’s right, I really do enjoy your slides and a lot of the materials that you, and David, and others have put together, they’ve been very helpful in setting up our implementation science course here at Yale.

As Donna mentioned, I’m primarily a global health researcher, but I wanted to ask you a general question about grant strategy ’cause this is something that’s come up in my own work and also in talking with other colleagues here at Yale who are interested in putting in proposals and I think the issue that arises is that often one of the most common critiques of any type of grant is that there’s an inter-dependence of the aims and in implementation science, I think it’s very common that you may be thinking of adapting or scaling-up intervention or an implementation strategy.
in a new setting and you don’t yet have the intervention adapted.
And so often maybe aim one might be to adapt it and aim two might be to evaluate it.
And that leads commonly to a critique that the two aims are interdependent.
And I’m just curious how you would respond to that from an implementation science perspective.
And then more practically when you’re in that type of situation, are you better off, say, pursuing an R21 and doing the adaptation in one grant, and then pursuing the evaluation in another.
Thanks so much.
Really enjoyed your talk.
Very important question, Luke.
Yes, excellent question.
and not the first time I’ve been asked.
Yeah, no, it’s a great question.
I guess the first thing,
well, there’s several first reactions I have to that one is, I think that one of the struggles is making sure for each aim they have to have their own hypothesis.
They are each individual scientific aim.
So is it enough to just say you wanna adapt the intervention in your aim?
I think part of it is understanding what are the most effective ways and you may hypothesize an effective way to adapt it. So the use of different methods to do that I think could be the focus. But I think what we've seen more in terms of the challenge has been where the first aim is trying to understand the barriers and you don't know then whether those barriers will be ones that can be overcome for example, or how that would influence your strategy. So I think we often encourage investigators to already have a clear sense of what the likely barriers might be. But also given that implementation sciences really focused on understanding context, we understand that that's also a significant aspect of the study. So I think, if you go through those sample grants, you'll see that, I think this is a nuanced challenge because many of our grants that aim one, it does have to do with adaptation or understanding barriers and context. And I think part of it is how it is framed,
and how you can justify that this is needed, and it will not, I think it’s needed because it’s needed to make sure that you’re tailoring those strategies, that they are attentive.

But it’s true that the more preliminary evidence on the feasibility and acceptability of those strategies, and some preliminary evidence on those barriers would be critical.

And I think that gets to your second question of whether you go for the R21 or the R01. I can’t tell you how much preliminary evidence you need. That is a tough one.

The answer is always, it depends, but I think for a particular study, and I think that those are the conversations that presumably program directors, program officers can help you figure out as you’re developing those aims pages.

The answer is always, it depends, but I think for a particular study, and I think that those are the conversations that presumably program directors, program officers can help you figure out as you’re developing those aims pages.

I hope that’s helpful.

Yeah, glad to talk more about that offline.

Yeah.

Thank you.

Does anybody else in our audience have a question? or comment they’d like to make?
Okay, well, Gila, I was wondering, I'm kind of interested and I keep encouraging colleagues that I work with to think about integrated approaches to health promotion that might, let's say for example, there's the PEN guidelines from WHO for chronic disease prevention and control. And it addresses the controllable cancers, it addresses cardiometabolic diseases, and I think it includes mental health disorders that have, all of which have well-known evidence-based interventions that probably need to be adapted to different contexts. By the way, I should mention, we do have quite a bit of global reach in our center and there's people on this call from, at least from Nigeria I can see, and also from Mexico. So anyway, but then we have the problem with NIH that a proposal has to be cancer or it has to be mental health or it has to be cardiovascular disease when really probably the most sustainable, when once somebody's in a center or once a community health worker is going to somebody's home, why would they only focus on HPV vaccination.
or taking a TB test, it just isn’t really the best thing for public health. And how do you suggest that we address that in terms of developing interventions that are really integrated? That’s a visionary question. I think it’s the next horizon and I can say, I know this is an area that David Chambers has been really pushing this concept of how do we best bundle our margins? And I think that’s really critical, especially, in global contexts, but oh yeah, and I see that perhaps some of your tighter alum can speak to that as well. But no, I think absolutely that is really critical and I think that is an area that we are hoping to see advance. But right now it isn’t really an option. Do you agree? For example, I’m a methodologist, so I work in cancer, but I also work on HIV AIDS, and other areas, and we’re involved in implementation science work in ending the AIDS epidemic domestically. And we have a core, a technical support core,
for implementation science methods across the range
of qualitative, quantitative, and health economics.
Anyway, when we had our renewal, they wanted an innovation.
And so I suggested maybe thinking about integration
of HIV prevention and control with say some other issues
that people are facing.
And so because this particular core, and overall project,
and consortium is funded by NIMH and NIAD,
they said we could only integrate with substance abuse
and mental health.
Well, actually-Not in diabetes or obesity or cancer screening,
that was like off the table.
Well, that is one challenge
sometimes people bring up depending on the institute.
But you said the Center for Global Health recently released as you know the U01
that’s focused on cancer control
and populations living with HIV.
And so there, I think that opportunity,
that funding announcement, I think bundling is identified
as one of the key questions there
and how do you integrate it with HIV care,
1125 00:56:40.230 --> 00:56:42.751 how can you cancer control of HIV care.
1126 00:56:42.751 --> 00:56:46.770 <v ->Yeah.</v>
1127 00:56:46.770 --> 00:56:47.603 Great.
1128 00:56:49.740 --> 00:56:52.590 So any other comments?
1129 00:56:52.590 --> 00:56:54.873 We’re a minute away from the hour.
1130 00:56:57.330 --> 00:56:58.163 Okay.
1131 00:56:58.163 --> 00:57:00.810 Well, thank you all for tuning in
1132 00:57:00.810 --> 00:57:04.800 and continuing with your work in implementa-
1133 00:57:04.800 --> 00:57:06.120 here at Yale and elsewhere.
1134 00:57:06.120 --> 00:57:09.360 And thank you, Dr. Neta, for such an inter-
1135 00:57:09.360 --> 00:57:11.220 and informative talk.
1136 00:57:11.220 --> 00:57:13.830 So have a great rest of your day everybody.
1137 00:57:13.830 --> 00:57:14.880 <v ->Thank you for inviting me</v>
1138 00:57:14.880 --> 00:57:16.133 and thank you to William for advancing my
1139 00:57:16.133 --> 00:57:17.216 <v Luke>Bye.</v>
1140 00:57:18.554 --> 00:57:19.908 <v Donna>Bye-bye.</v>
1141 00:57:19.908 --> 00:57:20.970 <v Gila>Thanks, bye.</v>