10 Key Ingredients for Implementation Science Grant Proposals

Proctor et al. 2012

But First…An Implementation Science Recap

- "The intervention/practice/innovation is **THE THING**

- Effectiveness research looks at whether **THE THING** works

- Implementation research looks at how best to help people/places **DO THE THING**

- Implementation strategies are the stuff we do to try to help people/places **DO THE THING**

- Main implementation outcomes are **HOW MUCH** and **HOW WELL** they **DO THE THING**"

Curran, G.M. Implementation science made too simple: a teaching tool. *Implement Sci Commun* **1,** 27 (2020). https://doi.org/10.1186/s43058-020-00001-z

#1 – The Gap

- What is the environmental public health gap that you are addressing in the proposal?

- How will the implementation of this intervention, innovation, practice (i.e., 'the thing') reduce this gap in environmental public health?

- **Review criteria:** Significance, Impact
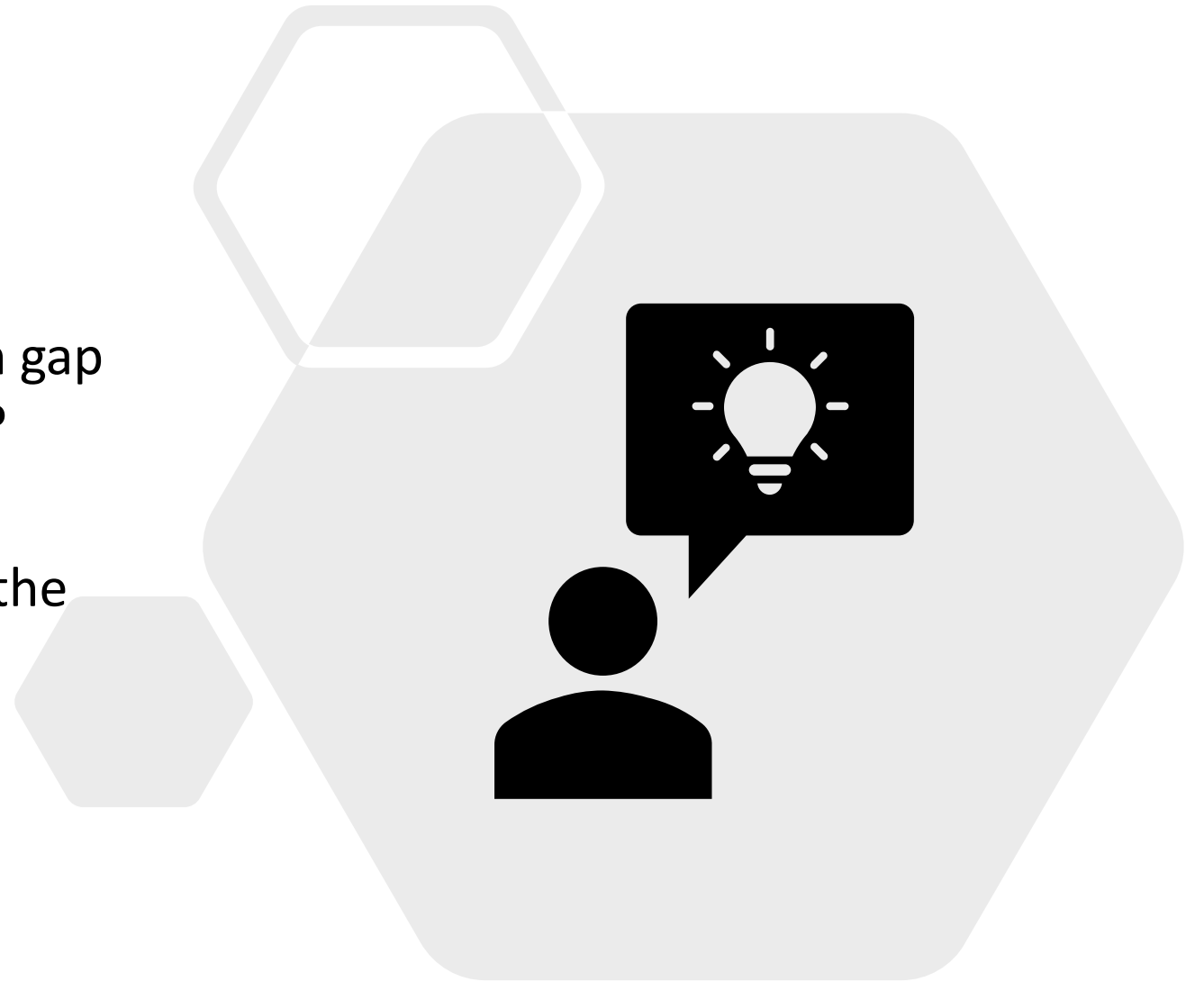
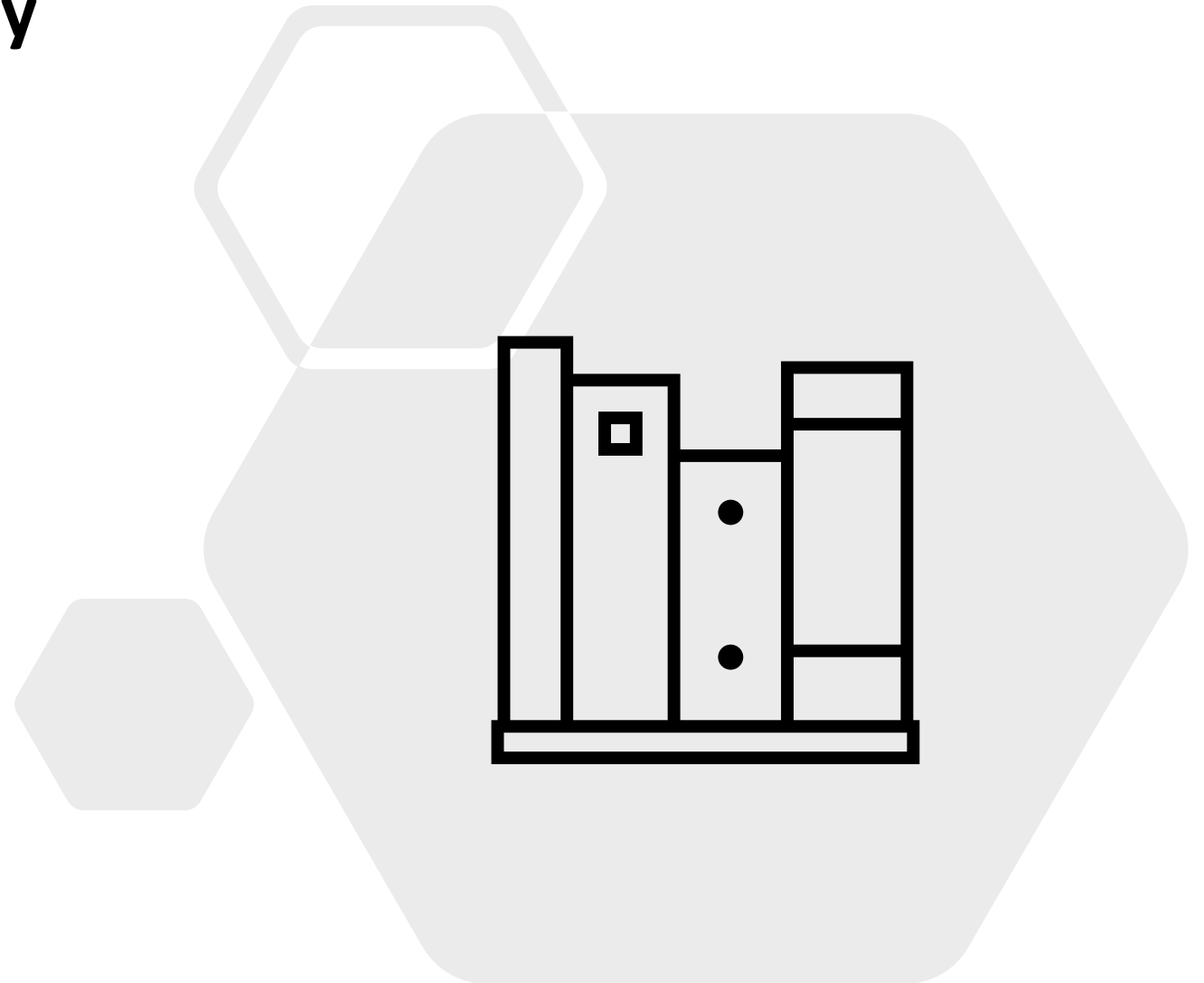# #2 – The Evidence-Based Intervention, Innovation or Policy

- Have you provided evidence that the intervention, innovation, practice (i.e., 'the thing') works?

- Establishing 'readiness' of 'the thing' – prior effectiveness research – literature review to establish the evidence base

- **Review criteria:** Significance, Innovation

#3 – Conceptual Model & Theory

- What implementation science theories, models and frameworks are you using?
    - Conceptual models – anchor the proposal
    - RE-AIM Framework – used in the Clean Cookstove ISN (Quinn et al. 2019)
- Clearly show how theories, models and frameworks are linked to your research design and variables
- **Review criteria:** Approach, Innovation

Quinn, Neta, Sturke et al. Adapting and Operationalizing the RE-AIM Framework for Implementation Science in Environmental Health: Clean Fuel Cooking Programs in Low Resource Countries. Front. Public Health, 20 December 2019, https://doi.org/10.3389/fpubh.2019.00389

#4 – Engaging Partners and Communities

- Who should be engaged? What communities and partners need to be involved?
  - Engagement across multiple sectors
- How have you demonstrated their engagement in this study?
  - Think beyond letters of support – community engaged/CBPR approaches
- Is your community/partnership engagement equitable? Have you considered power imbalances?
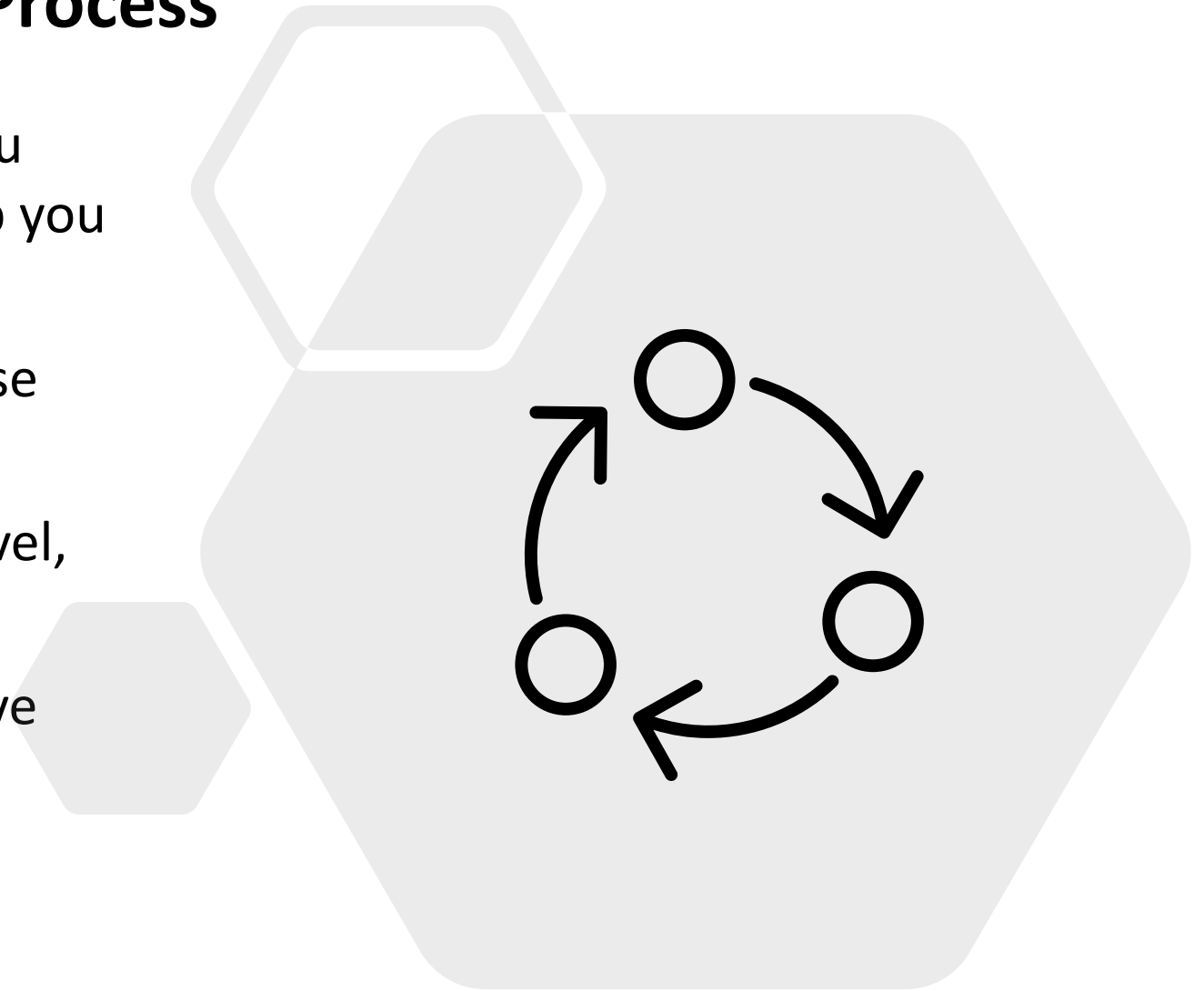- **Review criteria:** Significance, Impact, Approach, Environment
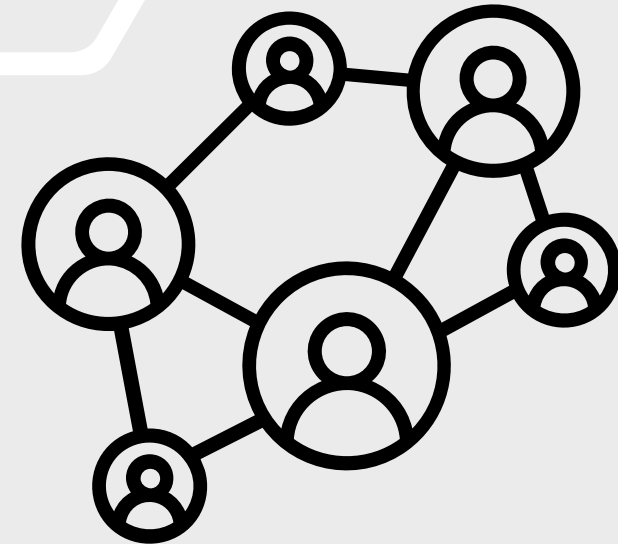
#5 – Readiness to adopt the intervention, innovation, policy

- Is the setting, community, etc., ready for the intervention, innovation, practice (i.e., 'the thing')?

- What are barriers and facilitators to uptake of 'the thing'? (readiness to adopt assessment)
  - Understanding the context where implementation will take place and informing implementation strategies

- **Review criteria:** Impact, Approach, Environment

#6 – Implementation Strategy/Process

- What implementation strategies have you proposed? How can these strategies help you overcome barriers?

- Have you described the rationale for these strategies?

- Are your strategies multifaceted, multilevel, multisectoral?

- Have you provided evidence that you have used these strategies?

- **Review criteria:** Significance, Impact, Innovation

Powell BJ, Waltz TJ, Chinman MJ, et al. A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. Implement Sci. 2015;10:21. Published 2015 Feb 12. doi:10.1186/s13012-015-0209-1; Waltz, T.J., Powell, B.J., Matthieu, M.M. et al. Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: results from the Expert Recommendations for Implementing Change (ERIC) study. Implementation Sci 10, 109 (2015) https://doi.org/10.1186/s13012-015-0295-0

#7 – Team Experience: Setting, Intervention, Implementation

- Do you have experience in this setting, community, etc.?

- Have you described that experience?

- Have you described your experience with the intervention, innovation, practice (i.e., 'the thing')?

- Implementation science is a 'team sport', so if you do not have a strong background in the field, it's an ideal opportunity to network with an implementation scientist to join your team

- **Review criteria:** Approach, Investigator team

#8 – Feasibility of Proposed Research Design/Methods

- Have you included enough detail on your methods (think both quantitative <u>and</u> qualitative methods)

- Contingency plans if you must pivot from these methods – randomized design may not be acceptable with community partners

- **Review criteria:** Approach, Investigator team

#9 – Measurement & Analysis Section

- What are your measures? Are they linked to your model, framework, theory?

- How will you measure the constructs proposed? (i.e., high quality measures, data harmonization)

- How do these constructs relate to one another? (i.e., analysis)

- **Review criteria:** Approach, Investigator team
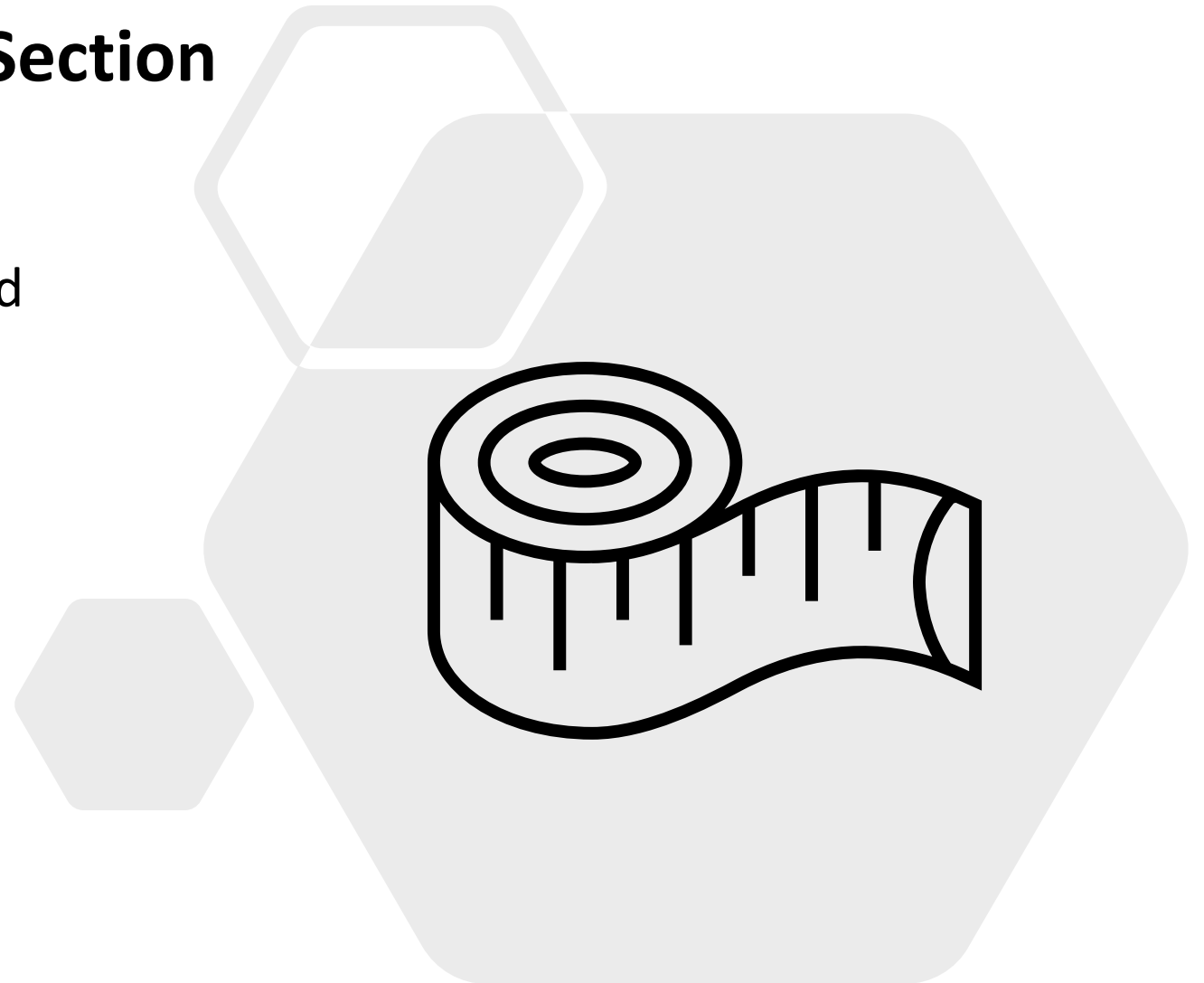
#10 – Policy Environment, Sustained Change

- Have you described the "policy context" behind this work?

- Policy relevance = public health impact, feasibility

- Describing the policy context = awareness of policy-level challenges to implementation

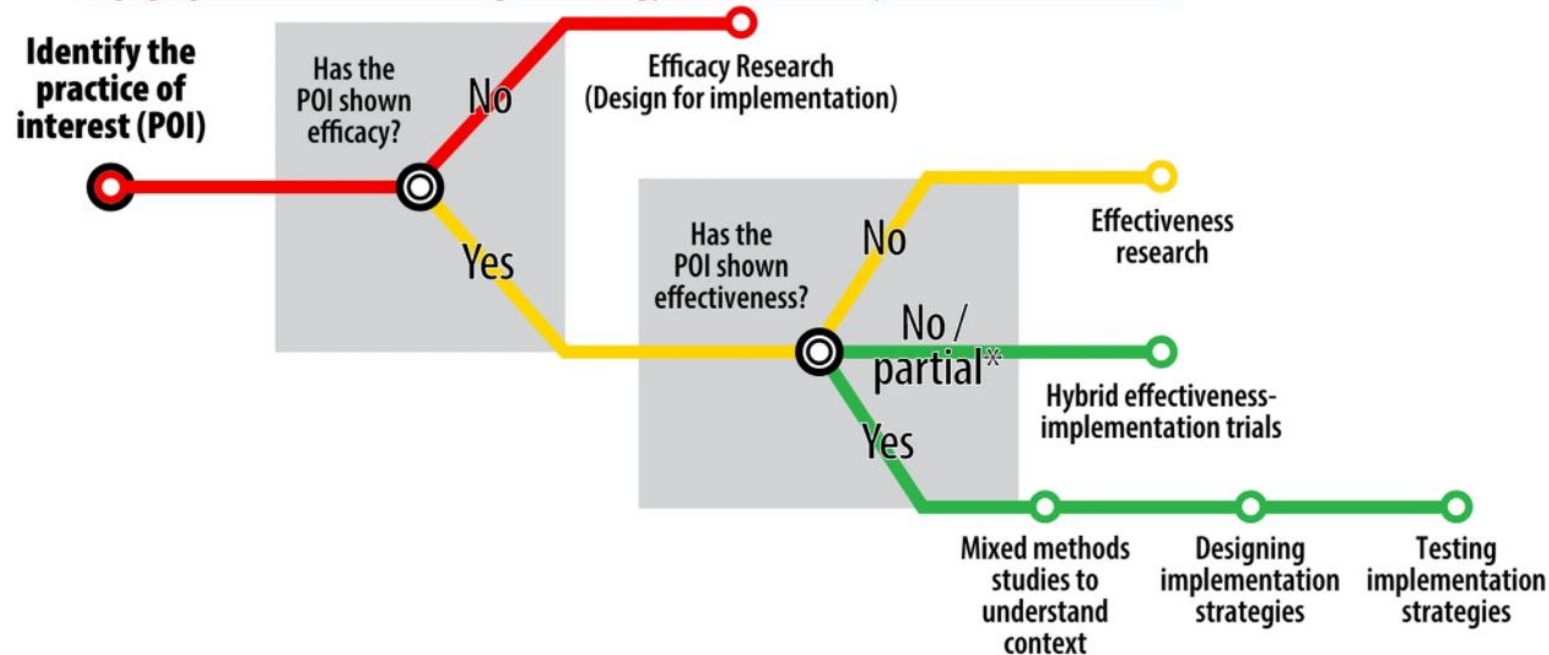- **Review criteria:** Impact, Significance
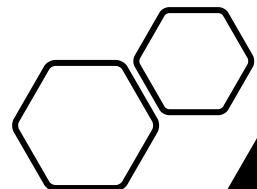
Dissemination & Implementation Research in Health (DIRH)

NIH-Wide Funding Opportunity Announcements

"Subway line" of Translational Research (Lane-Fall, Curran & Beidas)

Fig. 1

From: Scoping implementation science for the beginner: locating yourself on the "subway line" of translational research

Graphic has been tested with colorblindness filters to ensure readability.

* In some cases it may be appropriate to move forward with a hybrid Type 1 trial in the absence of effectiveness evidence (e.g., very strong efficacy, indirect evidence supportive of potential effectiveness in context of interest, and/or strong momentum supporting implementation in a health care context).

Lane-Fall, M.B., Curran, G.M. & Beidas, R.S. Scoping implementation science for the beginner: locating yourself on the "subway line" of translational research. *BMC Med Res Methodol* **19,** 133 (2019). https://doi.org/10.1186/s12874-019-0783-z

Dissemination & Implementation Research in Health NIH-Wide Funding Opportunities

TO BE RENEWED!

R01, Dissemination and Implementation Research in Health (PAR-19-274, Clinical Trial Optional)

This funding opportunity provides research project grants to support discrete, specified research projects led by an investigator in a topic area representing his or her specific interests and competencies. Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award will also vary. Applications may not exceed 5 years.

R21, Dissemination and Implementation Research in Health (PAR-19-275, Clinical Trial Optional)

This funding opportunity provides grants that are intended to encourage exploratory or developmental research projects by supporting the development of pilot projects or feasibility studies to support creative, novel, and high-risk/high-payoff research. Applicants may request a project period of up to 2 years and the combined budget for direct costs may not exceed $275,000.

R03, Dissemination and Implementation Research in Health (PAR-19-276, Clinical Trial Not Allowed)

This funding opportunity provides small research grants to support the initiation of studies that are generally for preliminary short-term projects. Applicants for an R03 award may request a project period of up to 2 years and a budget for direct costs of up to $50,000 per year. While the grant is nonrenewable, there is less competition for these start-up research project funds.

Participating Institutes, Centers & Offices

NCI	NHLBI	NHGRI	NIA	NIAAA
NIAID	NIAMS	NICHD	NIDCD	NIDCR
NIDA	NIDDK	NIEHS	NIMH	NINDS
NINR	NIMHD	NCCIH	ODP-Co-funding	OBSSR- Co-Funding

Active Projects under PAR-19-274
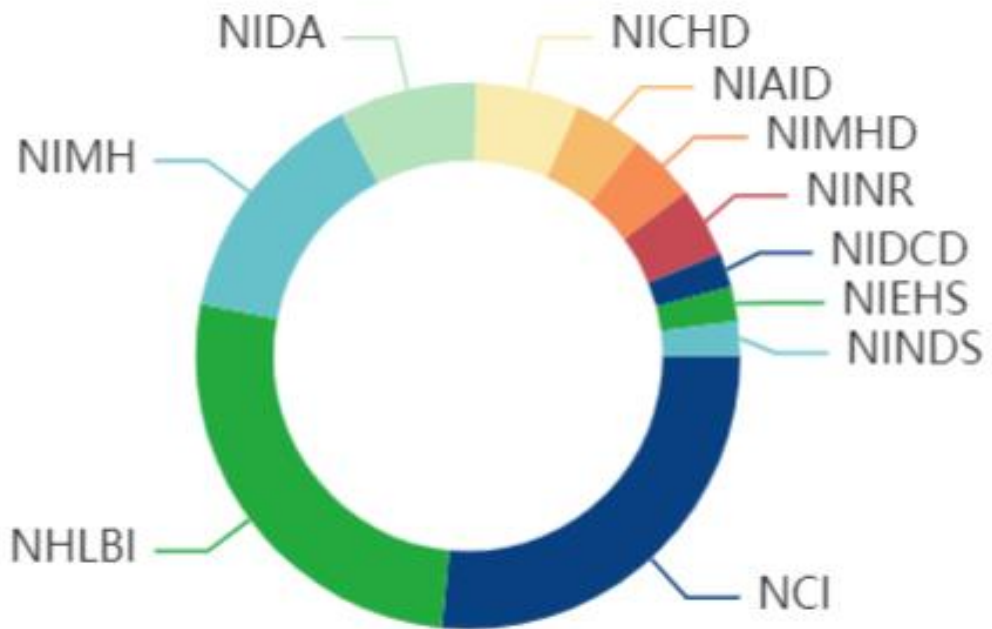
Administering Institute/Center	Projects	Total Funding
NCI	13	$7,483,299
NHLBI	13	$9,616,934
NIMH	7	$4,140,249
NIDA	4	$2,645,513
NICHD	3	$1,867,551
NIAID	2	$1,481,976
NIMHD	2	$1,455,328
NINR	2	$1,220,157
NIDCD	1	$653,714
NIEHS	1	$533,583
NINDS	1	$515,276
Total	**49**	**$31,613,580**

Source: NIH RePORTER

Snapshot: Active Projects under PAR-19-274 (R01)

Source: NIH RePORTER
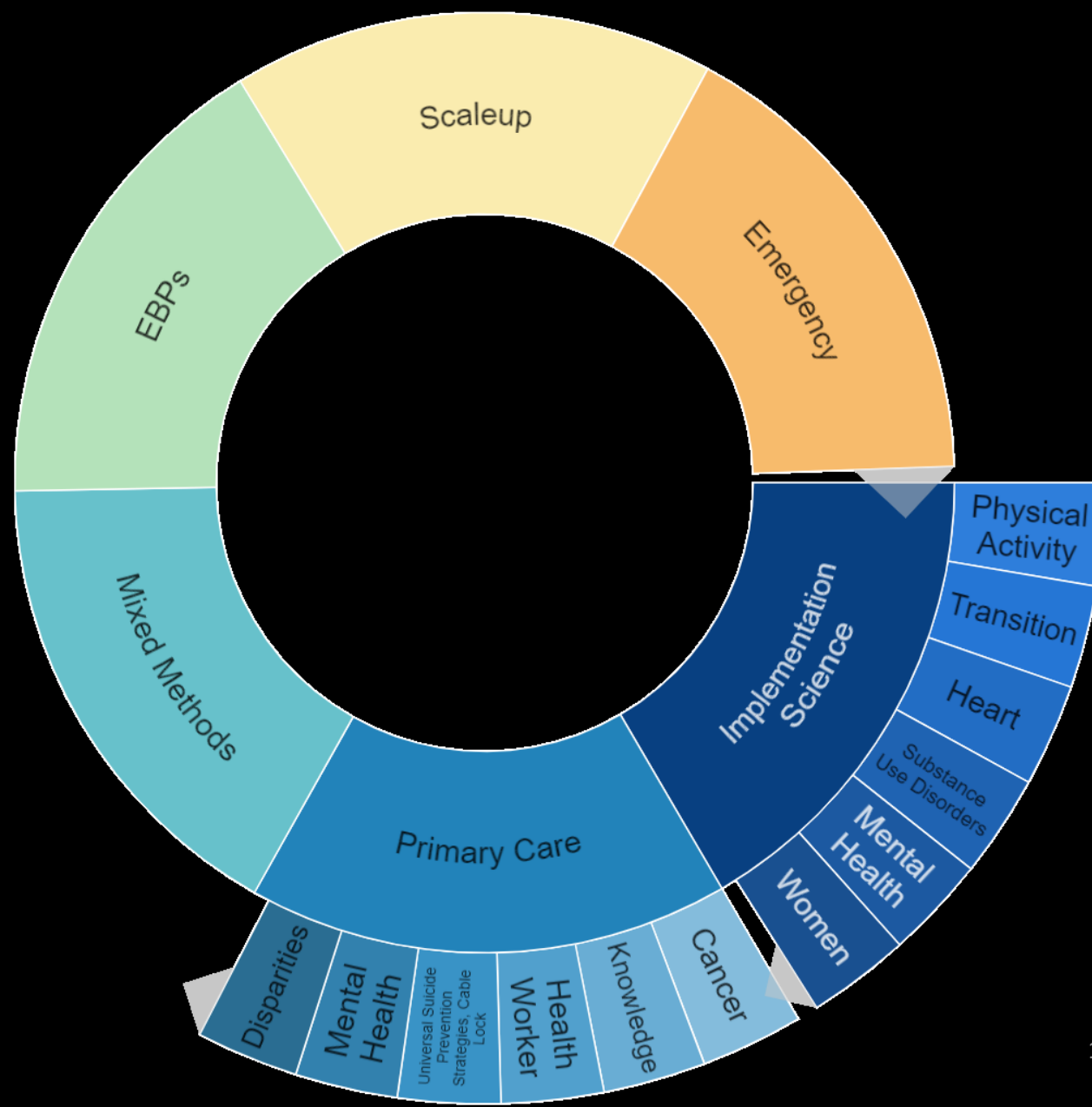
DIRH Funding Opportunity Announcements:

- **Dissemination research** is defined as the scientific study of **targeted distribution of information and intervention materials** to a specific public health or clinical practice audience. The intent is to understand how best to communicate and integrate knowledge and the associated evidence-based interventions

- **Implementation research** is defined as the scientific study of the **use of strategies** to adopt and integrate evidence-based health interventions into clinical and community settings to improve individual outcomes and benefit population health

PAR-19-274: Dissemination and Implementation Research in Health (R01 Clinical Trial Optional)

Select D&I Topic Areas:

- Studies of the local **adaptation** of evidence-based practices in the context of implementation

- Longitudinal and follow-up studies on the factors that contribute to the **sustainability** of evidence-based intervention in public health [settings]

- Studies testing the effectiveness and cost-effectiveness of dissemination or implementation strategies to **reduce health disparities**...among rural, minority...and other underserved populations

- Studies on reducing or stopping **("de-implementing")** the use of...community practices that are ineffective, unproven, low-value, or harmful

- Studies of **policies** and other contextual factors that influence the success of dissemination or implementation efforts

- Studies of the relationship of context and local capacity of...**community settings** to adoption, implementation, and sustainability of evidence-based practices

- Studies that focus on the testing of theories, models, and frameworks for D&I processes

PAR-19-274: Dissemination and Implementation Research in Health (R01 Clinical Trial Optional)

NCI Sample Implementation Science Grant Applications
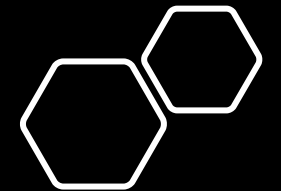
Science of Implementation in Health and Healthcare (SIHH) – Study Section

- SIHH reviews applications that identify, develop, and evaluate dissemination and implementation theories, strategies and methods designed to integrate evidence-based health interventions into **public health, clinical, and community settings**

- Applications reviewed in SIHH should have a **major methods, strategy, or theoretical development component in implementation science** in order to understand how interventions are implemented and measure implementation outcomes in public health, clinical, and community settings

Dr. Wenjuan Wang
SIHH Scientific Review Officer

Guidance on Reaching out to Program Officers

Identify Program Officer from FOA lists

Send them one-pager (Specific Aims page)

Highlight questions

Ask for 30-minute call

Don't be shy to email reminders (weekly, not daily)

Program Staff Q&A

- Please use the Zoom Q&A feature for your questions
- You can also use the 'Raise Hand' feature and we can unmute you