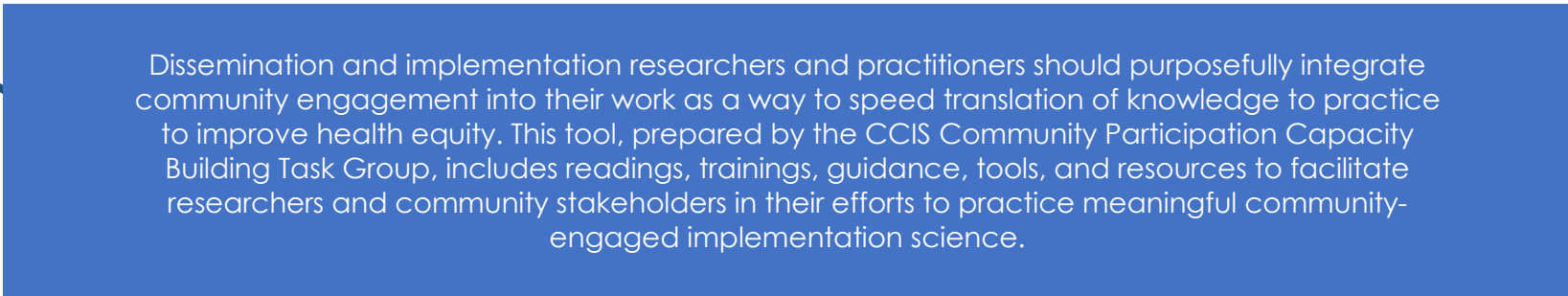# RESOURCES FOR STAKEHOLDER & COMMUNITY ENGAGEMENT

**CONSORTIUM FOR CANCER IMPLEMENTATION
SCIENCE COMMUNITY PARTICIPATION CAPACITY
BUILDING TASK GROUP
JULY 2021**

Dissemination and implementation researchers and practitioners should purposefully integrate community engagement into their work as a way to speed translation of knowledge to practice to improve health equity. This tool, prepared by the CCIS Community Participation Capacity Building Task Group, includes readings, trainings, guidance, tools, and resources to facilitate researchers and community stakeholders in their efforts to practice meaningful community-engaged implementation science.

CCIS
Consortium for Cancer
Implementation Science

Cover Page

As defined by the National Cancer Institute, implementation science (IS) is the study of methods to promote the adoption and integration of evidence-based practices, interventions, and policies into routine healthcare and public health settings to improve our impact on population health. This discipline is characterized by a variety of research designs and methodological approaches, partnerships with key stakeholder groups (e.g., patients, providers, organizations, systems, and/or communities), and the development and testing of ways to effectively and efficiently integrate evidence-based practices, interventions, and policies into routine health settings.

There have been recent calls for an increased focus on health equity in IS. Stakeholder/community engagement is an essential component for advancing health equity. Stakeholder engagement is a term often used in health services research and is similar to community engagement, often used in public health spaces. Stakeholders are anyone who has a stake in the delivery or outcomes of an intervention or policy, including healthcare providers and administrators, clinical and non-clinical staff, patients, and caregivers. Community may be defined in many ways, but typically refers to individuals, groups, and organizations external to the academic organization. Communities are often defined by a commonality such as geography, race/ethnicity, religion, or another feature. We became aware of concerns about the use of the term "stakeholder" when referring to people with lived experience from the community, including some Indigenous populations. Therefore, we refer to all collaborators or contributors as community members in our annotations in this document. Here are two links to read more on the topic if you are interested: 1) As an evaluator, do I use words (e.g., stakeholder) that can be harmful to others? and 2) CDC's 2020 Health Equity Style Guide for the COVID-19 Response: Principles and Preferred Terms for Non-Stigmatizing, Bias-Free Language

Researchers from fields of dissemination and implementation (D&I) and health equity/ health disparities are beginning to integrate principles, methods, frameworks, and tools from both fields. Community based participatory research, under the broad umbrella of community engagement, is a gold standard for health disparities research. As such, D&I researchers and practitioners should consider purposefully integrating community engagement into their work as one way to speed translation of knowledge to practice to improve health equity. Therefore, community engagement may promote equitable D&I practice and research.

How the need for the tool was identified

• • •

The **Consortium for Cancer Implementation Science (CCIS)** is an annual working meeting that focuses on cancer control priorities, cross-collaboration, and innovative solutions in IS.

One of the CCIS action groups has been focused on community participation in IS.

One of the priority "public goods" that was identified during the 2020 consortium meeting was an annotated resource list specific to engaged IS to support capacity building and training.

This tool includes key readings, trainings and guidance, and other tools and resources to support community engagement in implementation science. The scope does not extend to clinical trial recruitment. The document is separated into two lists—one for researchers and one for community members. Resources included in both lists are denoted by an asterisk (*) to indicate opportunities for developing shared understanding among collaborators.

Intended Users. The intended audience for this tool includes: 1) researchers in D&I and 2) public health, clinical, and other community members involved in implementing evidence in practice/policy or wanting to engage in D&I research.

Purpose/Indications for use. The goals of this tool are to:
1) help make the case to D&I researchers of the value of community engagement in their work,
2) provide educational and practical information and tools to help D&I researchers increase engagement in their work,
3) provide an introduction to IS and practice-based research for public health and clinical practitioners as a foundation for their engagement, and
4) provide tools to help community members effectively engage in implementation science.

How the tool was developed. This tool was developed by a CCIS task group and included resources were hand selected based on our prior familiarity with or experience using them, or through Internet searching. An initial draft list was reviewed by 15 additional academic researchers and practitioners and additional resources were added. We recognize that it is not a comprehensive list of resources but hope that it will be of some use in your work. We also recognize that not all of the resources included are specifically at the intersection of IS and community engagement; however, we have reviewed them all and added a brief statement to each from our professional perspectives as to how the resource could be used in IS. If you have additional resources you think should be listed, please email us.

Who developed the tool. This document was prepared collaboratively by:
- Joseph Astorino, PhD (The George Washington University Cancer Center)
- Randy Schwartz, MSPH (Public Health Systems Consultants)
- Clare Viglione, MPH, RD (University of California San Diego Altman Clinical and Translational Research Institute Dissemination and Implementation Science Center)
- Aubrey Villalobos, DrPH, MEd (National Cancer Institute Division of Cancer Control and Population Sciences)
- Eva Woodward, PhD (Central Arkansas Veterans Healthcare System & University of Arkansas for Medical Sciences)

Thank you to the many reviewers who provided helpful feedback throughout the development of this resource.

> **For more information**
>
> Visit: The Consortium for Cancer Implementation Science
>
> Email: aubrey.villalobos@nih.gov

Lifespan of the tool. This tool was last updated and released in July 2021. It is anticipated that this is a time-limited resource that will not be updated frequently. The Implementation Science Centers in Cancer Control (ISC3) are in the process of developing an online capacity-building database that will be publicly available and dynamically updated, replacing this resource list when released.

Contents

I. Resources for Researchers

A. Key readings

a. Health equity and community engagement in implementation science

- Baumann, A. A., & Cabassa, L. J. (2020). Reframing implementation science to address inequities in healthcare delivery. *BMC health services research*, 20(1), 190.
Research has generated valuable knowledge in identifying, understanding, and intervening to address inequities in the delivery of healthcare, yet these inequities persist. The best available interventions, programs and policies designed to address inequities in healthcare are not being adopted in routine practice settings. Implementation science can help address this gap by studying the factors, processes, and strategies at multiple levels of a system of care that influence the uptake, use, and the sustainability of these programs for vulnerable populations. We propose that an equity lens can help integrate the fields of implementation science and research that focuses on inequities in healthcare delivery. Using Proctor et al.' (12) framework as a case study, we reframed five elements of implementation science to study inequities in healthcare. These elements include: 1) focus on reach from the very beginning; 2) design and select interventions for vulnerable populations and low-resource communities with implementation in mind; 3) implement what works and develop implementation strategies that can help reduce inequities in care; 4) develop the science of adaptations; and 5) use an equity lens for implementation outcomes. The goal of this paper is to continue the dialogue on how to critically infuse an equity approach in implementation studies to proactively address healthcare inequities in historically underserved populations. Our examples provide ways to operationalize how we can blend implementation science and healthcare inequities research.

- Brownson, R. C., Kumanyika, S. K., Kreuter, M. W., & Haire-Joshu, D. (2021). Implementation science should give higher priority to health equity. *Implementation science*, 16(1), 28.
There is growing urgency to tackle issues of equity and justice in the USA and worldwide. Health equity, a framing that moves away from a deficit mindset of what society is doing poorly (disparities) to one that is positive about what society can achieve, is becoming more prominent in health research that uses implementation science approaches. Equity begins with justice—health differences often reflect societal injustices. Applying the perspectives and tools of implementation science has potential for immediate impact to improve health equity. We propose a vision and set of action steps for making health equity a more prominent and central aim of implementation science, thus committing to conduct implementation science through equity-focused principles to achieve this vision in U.S. research and practice. We identify and discuss challenges in current health disparities approaches that do not fully consider social determinants. Implementation research challenges are outlined in three areas: limitations of the evidence base, underdeveloped measures and methods, and inadequate attention to context. To address these challenges, we offer recommendations that seek to (1) link social determinants with health outcomes, (2) build equity into all policies, (3) use equity-relevant metrics, (4) study what is already happening, (5) integrate equity into implementation models, (6)

design and tailor implementation strategies, (7) connect to systems and sectors outside of health, (8) engage organizations in internal and external equity efforts, (9) build capacity for equity in implementation science, and (10) focus on equity in dissemination efforts. Every project in implementation science should include an equity focus. For some studies, equity is the main goal of the project and a central feature of all aspects of the project. In other studies, equity is part of a project but not the singular focus. In these studies, we should, at a minimum, ensure that we "leave no one behind" and that existing disparities are not widened. With a stronger commitment to health equity from funders, researchers, practitioners, advocates, evaluators, and policy makers, we can harvest the rewards of the resources being invested in health-related research to eliminate disparities, resulting in health equity.

- Eslava-Schmalbach, J., Garzón-Orjuela, N., Elias, V., Reveiz, L., Tran, N., & Langlois, E. V. (2019). Conceptual framework of equity-focused implementation research for health programs (EquIR). *International journal for equity in health*, *18*(1), 80.
Background. Implementation research is increasingly used to identify common implementation problems and key barriers and facilitators influencing efficient access to health interventions. Objective. To develop and propose an equity-based framework for Implementation Research (EquIR) of health programs, policies and systems. Methods. A systematic search of models and conceptual frameworks involving equity in the implementation of health programs, policies and systems was conducted in Medline (PubMed), Embase, LILACS, Scopus and grey literature. Key characteristics of models and conceptual frameworks were summarized. We identified key aspects of equity in the context of seven Latin American countries-focused health programs We gathered information related to the awareness of inequalities in health policy, systems and programs, the potential negative impact of increasing inequalities in disadvantaged populations, and the strategies used to reduce them. Results. A conceptual framework of EquIR was developed. It includes elements of equity-focused implementation research, but it also links the population health status before and after the implementation, including relevant aspects of health equity before, during and after the implementation. Additionally, health sectors were included, linked with social determinants of health through the "health in all policies" proposal affecting universal health and the potential impact of the public health and public policies. Conclusion. EquIR is a conceptual framework that is proposed for use by decision makers and researchers during the implementation of programs, policies or health interventions, with a focus on equity, which aims to reduce or prevent the increase of existing inequalities during implementation.

- Shelton, R. C., Adsul, P., & Oh, A. (2021). Recommendations for Addressing Structural Racism in Implementation Science: A Call to the Field. *Ethnicity & disease*, *31*(Suppl 1), 357–364.
Implementation science (IS) has emerged in response to a striking research-to-practice gap, with the goal of accelerating and addressing the development, translation, and widespread uptake of evidence-based interventions (EBIs). Despite the promise of IS, critical gaps and opportunities remain within the field to explicitly facilitate health equity, particularly as they relate to the role of social determinants of health and structural racism. In this commentary,

we propose recommendations for the field of IS to include structural racism as a more explicit focus of our work. First, we make the case for including structural racism as a construct and promote its measurement as a determinant within existing IS frameworks/models, laying the foundation for an empirical evidence base on mechanisms through which such factors influence inequitable adoption, implementation, and sustainability of EBIs. Second, we suggest considerations for both EBIs and implementation strategies that directly or indirectly address structural racism and impact health equity. Finally, we call for use of methods and approaches within IS that may be more appropriate for addressing structural racism at multiple ecological levels and clinical and community settings in which we conduct IS, including community-based participatory research and stakeholder engagement. We see these as opportunities to advance the focus on health equity within IS and conclude with a charge to the field to consider making structural racism and the dismantling of racism an explicit part of the IS research agenda.

- Woodward, E. N., Matthieu, M. M., Uchendu, U. S., Rogal, S., & Kirchner, J. E. (2019). The health equity implementation framework: proposal and preliminary study of hepatitis C virus treatment. *Implementation science*, *14*(1), 26. Background. Researchers could benefit from methodological advancements to advance uptake of new treatments while also reducing healthcare disparities. A comprehensive determinants framework for healthcare disparity implementation challenges is essential to accurately understand an implementation problem and select implementation strategies. Methods. We integrated and modified two conceptual frameworks—one from implementation science and one from healthcare disparities research to develop the Health Equity Implementation Framework. We applied the Health Equity Implementation Framework to a historical healthcare disparity challenge— hepatitis C virus (HCV) and its treatment among Black patients seeking care in the US Department of Veterans Affairs (VA). A specific implementation assessment at the patient level was needed to understand any barriers to increasing uptake of HCV treatment, independent of cost. We conducted a preliminary study to assess how feasible it was for researchers to use the Health Equity Implementation Framework. We applied the framework to design the qualitative interview guide and interpret results. Using quantitative data to screen potential participants, this preliminary study consisted of semi-structured interviews with a purposively selected sample of Black, rural-dwelling, older adult VA patients (N = 12), living with HCV, from VA medical clinics in the Southern part of the USA. Results. The Health Equity Implementation Framework was feasible for implementation researchers. Barriers and facilitators were identified at all levels including the patient, provider (recipients), patient-provider interaction (clinical encounter), characteristics of treatment (innovation), and healthcare system (inner and outer context). Some barriers reflected general implementation issues (e.g., poor care coordination after testing positive for HCV). Other barriers were related to healthcare disparities and likely unique to racial minority patients (e.g., testimonials from Black peers about racial discrimination at VA). We identified several facilitators, including patient enthusiasm to obtain treatment because of its high cure rates, and VA clinics that offset HCV stigma by protecting patient confidentiality. Conclusion. The Health Equity Implementation Framework showcases one way to modify an implementation framework to better assess health equity determinants as well. Researchers may be able to optimize the scientific yield of research inquiries by

identifying and addressing factors that promote or impede implementation of novel treatments in addition to eliminating healthcare disparities.

- Bringing Equity to Implementation. Special issue of *Stanford Social Innovation Review* – This collection of 10 articles reviews case studies and articulates lessons for incorporating the knowledge and leadership of marginalized communities into the policies and practices intended to serve them.
  - o Equitable Implementation at Work by Metz, Woo & Loper – Equity must be integrated into implementation research and practice. Here are 10 recommendations for putting equitable implementation into action.

b. *Rationale for using engagement in implementation science*
  - Holt, C. L., & Chambers, D. A. (2017). Opportunities and challenges in conducting community-engaged dissemination/implementation research. *Translational behavioral medicine*, 7(3), 389–392.
    Holt and Chambers provide an introduction to this *Translational Behavioral Medicine* special section in Community-Engaged Dissemination or Implementation (CEDI) Research, "which focuses on research involving dissemination or implementation of evidence-based health interventions within clinical or community-based settings using community-engaged processes or partnerships, including but not limited to community-based participatory research. This section aims to highlight the role of community partnerships in the conduct of the research and/or the development and execution of dissemination or implementation strategies that are used to integrate research evidence and evidence-based practice within communities and service systems. The section highlights work being done in community-based settings, in particular with recognition that reaching people in community settings with evidence-based interventions has the potential to expand the impact of the translational continuum, and reduce or eliminate persistent health disparities in nearly all areas of population health and chronic disease. We consider the definition of "community" in the special section to include both research outside of healthcare settings (e.g., schools, workplaces, faith-based organizations) as well as research in clinical settings (e.g., practice-based research networks, integrated health systems) that involves partnerships linking research, practice, and policy. Communities in clinical settings can consist of patients, families, clinicians, administrators, and researchers."

  - Metz, A. Implementation Brief: The Potential of Co-Creation in Implementation Science. National Implementation Research Network (NIRN).
    Research to practice and research to policy "gaps" have been well documented in implementation science. An implication of the "gap" language is the inference that there is an empty space situated at the nexus of research to practice waiting to be filled, rather than a sphere populated by interconnected stakeholders acting on knowledge and driving decision-making every day. Moving away from a "gap" framework to one of "co-creation" allows for an explicit focus on assessing and understanding how various actors and groups must build trust and pathways for the use of research evidence to improve outcomes for populations of concern. The purpose of this brief is to create a

deeper understanding of the benefits of co-creation approaches and the benefits of engaging a range of stakeholders in implementing, improving, and sustaining the use of research evidence to improve outcomes.

- Ramanadhan, S., Davis, M. M., Armstrong, R., Baquero, B., Ko, L. K., Leng, J. C., Salloum, R. G., Vaughn, N. A., & Brownson, R. C. (2018). Participatory implementation science to increase the impact of evidence-based cancer prevention and control. *Cancer causes & control: CCC*, *29*(3), 363–369.
It is critical to accelerate the integration of evidence-based programs, practices, and strategies for cancer prevention and control into clinical, community, and public health settings. While it is clear that effective translation of existing knowledge into practice can reduce cancer burden, it is less clear how best to achieve this. This gap is addressed by the rapidly growing field of implementation science. Given that context influences and is influenced by implementation efforts, engaging stakeholders in the co-production of knowledge and solutions offers an opportunity to increase the likelihood that implementation efforts are useful, scalable, and sustainable in real-world settings. We argue that a participatory implementation science approach is critical, as it supports iterative, ongoing engagement between stakeholders and researchers to improve the pathway between research and practice, create system change, and address health disparities and health equity. This article highlights the utility of participatory implementation science for cancer prevention and control research and addresses: a) the spectrum of participatory research approaches that may be of use, b) benefits of participatory implementation science, and c) key considerations for researchers embarking on such projects.

- Knoepke, C. E., Ingle, M. P., Matlock, D. D., Brownson, R. C., & Glasgow, R. E. (2019). Dissemination and stakeholder engagement practices among dissemination & implementation scientists: Results from an online survey. *PloS one*, 14(11), e0216971.
There has been an increasing focus on disseminating research findings, but less about practices specific to disseminating and engaging non-researchers. The present project sought to describe dissemination practices and engagement of stakeholders among dissemination & implementation (D&I) scientists. Methods to disseminate to and engage non-research stakeholders were assessed using an online survey sent to a broad, diverse sample of D&I scientists. Surveys were received from 210 participants. The majority of respondents were from university or research settings in the United States. (69%) or Canada (13%), representing a mix of clinical (28%) and community settings (34%). 26% had received formal training in D&I. Respondents indicated routinely engaging in a variety of dissemination-related activities, with academic journal publications (88%), conference presentations (86%), and tools to funders (74%) being the most frequent. Journal publication was identified as the most impactful on respondents' careers (94%), but face-to-face meetings with stakeholders were rated as most impactful on practice or policy (40%). Stakeholder involvement in research was common, with clinical and community-based researchers engaging stakeholder groups in broadly similar ways, but with critical differences noted between researchers with greater seniority, those with more D&I training, those based in the United States vs. Canada, and those in community vs.

clinical research settings. There have been increases in stakeholder engagement, but few other practices since the 2012 survey, and some differences across subgroups. Methods to engage different stakeholders deserve more in-depth investigation. D&I researchers tool substantial misalignment of incentives and behaviors related to dissemination to non-research audiences.

- Ray, K. N., & Miller, E. (2017). Strengthening stakeholder-engaged research and research on stakeholder engagement. *Journal of comparative effectiveness research*, 6(4), 375–389.
  Stakeholder engagement is an emerging field with little evidence to inform best practices. Guidelines are needed to improve the quality of research on stakeholder engagement through more intentional planning, evaluation and tooling. We developed a preliminary framework for planning, evaluating and tooling stakeholder engagement, informed by published conceptual models and recommendations and then refined through our own stakeholder engagement experience. Our proposed exploratory framework highlights contexts and processes to be addressed in planning stakeholder engagement, and potential immediate, intermediate and long-term outcomes that warrant evaluation. We use this framework to illustrate both the minimum information needed for tooling stakeholder-engaged research and the comprehensive detail needed for tooling research on stakeholder engagement.

c. *Engagement frameworks and strategies*
- Pinto, R. M., Park, S., Miles, R., & Ong, P. N. (2021). Community engagement in dissemination and implementation models: A narrative review. *Implementation Research and Practice.*
  Responding to the growing demand for scientific understanding of adoption and uptake of evidence-based interventions (EBIs), numerous dissemination and implementation ("D&I") models have been proposed. This review aimed to identify community-specific constructs with the potential to help researchers engage community partners in D&I studies or deploy EBIs. We identified 74 D&I models targeting community-level changes, published between 2012 and 2020. Three coders independently examined all 74 models looking for community-specific engagement constructs. We identified five community engagement constructs: (1) Communication, (2) Partnership Exchange, (3) Community Capacity Building, (4) Leadership, and (5) Collaboration. Of the 74 models, 20% reflected all five constructs; 32%, four; 22%, three; 20%, two; and 5%, only one. This article identified community engagement constructs reflected in existing D&I models targeting community-level changes. Implications for future research and practice are discussed.

- Exploring the frontiers of research co-production: the Integrated Knowledge Translation Research Network concept papers – Research co-production – sometimes referred to by such terms as participatory research, engaged scholarship, collaborative research, and integrated knowledge translation (IKT) – is about conducting research with those who would use it. A defining feature of research co-production is the involvement of patients, clinicians, policy makers, and others as full members of the research team. This is done with the expectation that the resulting research

is relevant, and will be particularly useful, usable, and used by knowledge users thereby optimizing research impact. This cross-journal collection of concept and empirical papers considers some of the key issues currently facing the science and practice of research partnerships and collectively begins to identify elements of a research agenda for research co-production.

- Nápoles, A. M., & Stewart, A. L. (2018). Transcreation: an implementation science framework for community-engaged behavioral interventions to reduce health disparities. *BMC health services research*, 18(1), 710.
  Methods for translating evidence-based behavioral interventions into real-world settings seldom account for the special issues in reaching health disparity populations. The objective of this article is to describe an innovative "transcreational" framework for designing and delivering interventions in communities to reduce health disparities. We define transcreation as the process of planning, delivering, and evaluating interventions so that they resonate with the community experiencing health disparities, while achieving intended health outcomes. The Transcreation Framework for Community-engaged Behavioral Interventions to Reduce Health Disparities comprises seven steps: 1) identify community infrastructure and engage partners; 2) specify theory; 3) identify multiple inputs for new program; 4) design intervention prototype; 5) design study, methods, and measures for community setting; 6) build community capacity for delivery; and 7) deliver transcreated intervention and evaluate implementation processes. Communities are engaged from the start and interventions are delivered by community-based interventionists and tested in community settings. The framework applies rigorous scientific methods for evaluating program effectiveness and implementation processes. It incorporates training and ongoing technical assistance to assure treatment fidelity and build community capacity. This framework expands the types of scientific evidence used and balances fidelity to evidence and fit to the community setting. It can guide researchers and communities in developing and testing behavioral interventions to reduce health disparities that are likely to be sustained because infrastructure development is embedded in the research.

- Alcaraz, K. I., Sly, J., Ashing, K., Fleisher, L., Gil-Rivas, V., Ford, S., Yi, J. C., Lu, Q., Meade, C. D., Menon, U., & Gwede, C. K. (2017). The ConNECT Framework: a model for advancing behavioral medicine science and practice to foster health equity. *Journal of behavioral medicine*, 40(1), 23–38.
  Health disparities persist despite ongoing efforts. Given the United States' rapidly changing demography and socio-cultural diversity, a paradigm shift in behavioral medicine is needed to advance research and interventions focused on health equity. This paper introduces the Con-NECT Framework as a model to link the sciences of behavioral medicine and health equity with the goal of achieving equitable health and outcomes in the twenty-first century. We first evaluate the state of health equity efforts in behavioral medicine science and identify key opportunities to advance the field. We then discuss and present actionable recommendations related to ConNECT's five broad and synergistic principles: (1) Integrating Context; (2) Fostering a Norm of Inclusion; (3) Ensuring Equitable Diffusion of Innovations; (4) Harnessing Communication Technology; and (5) Prioritizing Specialized Training. The framework holds

significant promise for furthering health equity and ushering in a new and refreshing era of behavioral medicine science and practice.

- Sanders Thompson, V. L., Ackermann, N., Bauer, K. L., Bowen, D. J., & Goodman, M. S. (2021). Strategies of community engagement in research: Definitions and classifications. *Translational behavioral medicine*, 11(2), 441–451. Engagement activities are defined along a continuum that analyzes and represents nonacademic stakeholder activities and interactions with academic researchers. Proposed continua begin with none to limited stakeholder inclusion and input into research and continue with descriptions of increasing presence, input, and participation in decision-making. Despite some agreement in the literature, development of consistent terminology and definitions has been recommended to promote the common understanding of strategies in engaged research. This paper sought to develop and understand classifications and definitions of community-engaged research that can serve as the foundation of a measure of engaged research that permits comparisons among engagement strategies and the outcomes that they produce in health- and healthcare-related research studies. Data on academic and stakeholder perceptions and understandings of classifications and definitions were obtained using Delphi process (N = 19) via online and face-to-face survey and cognitive response interviews (N = 16). Participants suggested the need for more nuanced understanding of engagement along portions of the continuum, with active involvement and decision-making as engagement progressed. Cognitive interview responses suggested that outreach and education is a more advanced level of engagement than previously discussed in the literature and viewed consultation negatively because it required work without guaranteeing community benefit. It is possible to define a continuum of patient- and community-engaged research that is understood and accepted by both academic researchers and community members. However, future research should revisit the understanding and depiction of the strategies that are to be used in measure development.

- Ortiz, K., Nash, J., Shea, L., Oetzel, J., Garoutte, J., Sanchez-Youngman, S., & Wallerstein, N. (2020). Partnerships, Processes, and Outcomes: A Health Equity-Focused Scoping Meta-Review of Community-Engaged Scholarship. *Annual review of public health*, 41, 177–199. In recent decades, there has been remarkable growth in scholarship examining the usefulness of community-engaged research (CEnR) and community-based participatory research (CBPR) for eliminating health inequities. This article seeks to synthesize the extant literature of systematic reviews, scoping reviews, and other related reviews regarding the context, processes, and research designs and interventions underlying CEnR that optimize its effectiveness. Through a scoping review, we have utilized an empirically derived framework of CBPR to map this literature and identify key findings and priorities for future research. Our study found 100 reviews of CEnR that largely support the CBPR conceptual framework.

d. Assessing and measuring engagement

- Shea, C. M., Young, T. L., Powell, B. J., Rohweder, C., Enga, Z. K., Scott, J. E., Carter-Edwards, L., & Corbie-Smith, G. (2017). Researcher readiness for participating in community-engaged dissemination and implementation research: a conceptual framework of core competencies. Translational behavioral medicine, 7(3), 393–404.
Participating in community-engaged dissemination and implementation (CEDI) research is challenging for a variety of reasons. Currently, there is not specific guidance or a tool available for researchers to assess their readiness to conduct CEDI research. We propose a conceptual framework that identifies detailed competencies for researchers participating in CEDI and maps these competencies to domains. The framework is a necessary step toward developing a CEDI research readiness survey that measures a researcher's attitudes, willingness, and self-tooled ability for acquiring the knowledge and performing the behaviors necessary for effective community engagement. The conceptual framework for CEDI competencies was developed by a team of eight faculty and staff affiliated with a university's Clinical and Translational Science Award (CTSA). The authors developed CEDI competencies by identifying the attitudes, knowledge, and behaviors necessary for carrying out commonly accepted CE principles. After collectively developing an initial list of competencies, team members individually mapped each competency to a single domain that provided the best fit. Following the individual mapping, the group held two sessions in which the sorting preferences were shared and discrepancies were discussed until consensus was reached. During this discussion, modifications to wording of competencies and domains were made as needed. The team then engaged five community stakeholders to review and modify the competencies and domains. The CEDI framework consists of 40 competencies organized into nine domains: perceived value of CE in D&I research, introspection and openness, knowledge of community characteristics, appreciation for stakeholder's experience with and attitudes toward research, preparing the partnership for collaborative decision-making, collaborative planning for the research design and goals, communication effectiveness, equitable distribution of resources and credit, and sustaining the partnership. Delineation of CEDI competencies advances the broader CE principles and D&I research goals found in the literature and facilitates development of readiness assessments tied to specific training resources for researchers interested in conducting CEDI research.

- Luger, T. M., Hamilton, A. B., & True, G. (2020). Measuring Community-Engaged Research Contexts, Processes, and Outcomes: A Mapping Review. The Milbank quarterly, 98(2), 493–553.
Community-engaged research (CEnR) engenders meaningful academic-community partnerships to improve research quality and health out-comes. CEnR has increasingly been adopted by health care systems, funders, and communities looking for solutions to intractable problems. It has been difficult to systematically measure CEnR's impact, as most evaluations focus on project-specific outcomes. Similarly, partners have struggled with identifying appropriate measures to assess outcomes of interest. To make a case for CEnR's value, we must demonstrate the impacts of CEnR over time. We compiled recent measures and developed an interactive data visualization to facilitate more consistent measurement of CEnR's theoretical domains.

- Developing and Validating Metrics and Measures for Stakeholder Engagement in Research [45:33] – In this archived presentation hosted by the National Institutes of Health Office of Disease Prevention, Dr. Melody Goodman discusses her efforts to develop and validate quantitative measures of stakeholder engagement in research and research literacy. Emerging data suggest a valid and reliable measure to accurately assess associations between research outcomes and stakeholder engagement. Data on the measure of research literacy show mixed results and Dr. Goodman discusses potential areas for modification. See related publications:
    - o Goodman, M. S., Sanders Thompson, V. L., Johnson, C. A., Gennarelli, R., Drake, B. F., Bajwa, P., Witherspoon, M., & Bowen, D. (2017). Evaluating community engagement in research: quantitative measure development. *Journal of community psychology*, 45(1), 17–32.
    Although the importance of community engagement in research has been previously established, there are few evidence-based approaches for measuring the level of community engagement in research projects. A quantitative community engagement measure was developed, aligned with 11 engagement principles (EPs) previously established in the literature. The measure has 96 Likert response items; 3–5 quality items and 3–5 quantity items measure each EP. Cronbach's alpha is used to examine the internal consistency of items that measure a single EP. Every EP item group had a Cronbach's alpha > .85, which indicates strong internal consistency for all question groups across both scales (quality and quantity). This information determines the level of community engagement, which can be correlated with other research outcomes.
    - o Goodman, M. S., Ackermann, N., Bowen, D. J., & Thompson, V. (2019). Content validation of a quantitative stakeholder engagement measure. *Journal of community psychology*, 47(8), 1937–1951.
    Using a stakeholder-engaged approach, this study conducted content validation and item reduction of a quantitative measure of research engagement. A five-round modified Delphi process was used to reach consensus on items. Rounds 1–3 and 5 were conducted using web-based surveys. Round 4 consisted of a 2-day, in-person meeting. Delphi panelists received individualized tools outlining individual and aggregate group responses after rounds 1–3. Over the five-round process, items were added, dropped, modified, and moved from one engagement principle to another. The number of items was reduced from 48 to 32, with three to five items corresponding to eight engagement principles. Research that develops standardized, reliable, and accurate measures to assess stakeholder engagement is essential to understanding the impact of engagement on scientific discovery and the scientific process. Valid quantitative measures to assess stakeholder engagement in research are necessary to assess associations between engagement and research outcomes.
    - o Thompson, V., Leahy, N., Ackermann, N., Bowen, D. J., & Goodman, M. S. (2020). Community partners' responses to items assessing stakeholder engagement: Cognitive response testing in measure development. *PloS one*, 15(11), e0241839. Despite recognition of the importance of stakeholder input into research, there is a lack of validated measures to assess how well constituencies are engaged and their input integrated into

research design. Measurement theory suggests that a community engagement measure should use clear and simple language and capture important components of underlying constructs, resulting in a valid measure that is accessible to a broad audience. The primary objective of this study was to evaluate how community members understood and responded to a measure of community engagement developed to be reliable, valid, easily administered, and broadly usable. Cognitive response interviews were completed, during which participants described their reactions to items and how they processed them. Participants were asked to interpret item meaning, paraphrase items, and identify difficult or problematic terms and phrases, as well as provide any concerns with response options while responding to 16 of 32 survey items. The results of the cognitive response interviews of participants (N = 16) suggest concerns about plain language and literacy, clarity of question focus, and the lack of context clues to facilitate processing in response to items querying research experience. Minimal concerns were related to response options. Participants suggested changes in words and terms, as well as item structure. Qualitative research can improve the validity and accessibility of measures that assess stakeholder experience of community-engaged research. The findings suggest wording and sentence structure changes that improve ability to assess implementation of community engagement and its impact on research outcomes.

- Norris, J. M., White, D. E., Nowell, L., Mrklas, K., & Stelfox, H. T. (2017). How do stakeholders from multiple hierarchical levels of a large provincial health system define engagement? A qualitative study. *Implementation science*, *12*(1), 98. Engaging stakeholders from varied organizational levels is essential to successful healthcare quality improvement. However, engagement has been hard to achieve and to measure across diverse stakeholders. Further, current implementation science models provide little clarity about what engagement means, despite its importance. The aim of this study was to understand how stakeholders of healthcare improvement initiatives defined engagement. Participants (n = 86) in this qualitative thematic study were purposively sampled for individual interviews. Participants included leaders, core members, frontline clinicians, support personnel, and other stakeholders of Strategic Clinical Networks in Alberta Health Services, a Canadian provincial health system with over 108,000 employees. We used an iterative thematic approach to analyze participants' responses to the question, "How do you define engagement?" Regardless of their organizational role, participants defined engagement through three interrelated themes. First, engagement was active participation from willing and committed stakeholders, with levels that ranged from information sharing to full decision-making. Second, engagement centered on a shared decision-making process about meaningful change for everyone "around the table," those who are most impacted. Third, engagement was two-way interactions that began early in the change process, where exchanges were respectful and all stakeholders felt heard and understood. This study highlights the commonalities of how stakeholders in a large healthcare system defined engagement—a shared understanding and terminology—to guide and improve stakeholder engagement. Overall, engagement was an active and committed decision-making about a meaningful problem through respectful

interactions and dialog where everyone's voice is considered. Our results may be used in conjunction with current implementation models to provide clarity about what engagement means and how to engage various stakeholders.

B. Trainings and Guidance

a. National Cancer Institute-hosted 3-part conversation series on health equity and community engagement in IS –
   - June 2021 Framing Priorities for Advancing Health Equity Through Implementation Science
   - July 2021 Opportunities for Examination of Structural Racism and other Social Determinants of Health to Advance Health Equity through Implementation Science
   - Coming in September 2021! Joining Forces: Engagement Science and Implementation Science to Advance Health Equity

b. 5 Steps to Help You Get Buy-in to Use Implementation Science [YouTube video 3:23] – Video from The Center for Implementation published in 2021

c. Various Perspectives are Critical to the Work [Archived presentation 3:08] – Video from The Community Toolbox published in 2016 – Pennie Foster-Fishman describes why engagement is critical. We not only need people around the table, but we need the right people around the table—most importantly, constituents, but also providers, support systems, decision-makers, funders, and experts.

d. Harnessing Implementation Science to Promote Health Equity [Archived presentations 1:59:41] – Recording from the Consortium for Implementation Science virtual forum in 2020. Presenters included:
   - Dr. Ana Baumann, Implementation Science and equity: A path
   - Dr. Cory Bradley, A Ruthless Critique of Everything: Possibilities for critical race theory (CRT) In Implementation Science to Achieve Health Equity
   - Dr. Eva Woodward, What gets measured gets done: Assessing health equity determinants in implementation research
   - Dr. Sara Jacobs, Integrating CFIR into a culturally responsive evaluation approach: Examples from mixed-methods evaluations of diabetes prevention and management programs
   - Dr. Lori Carter-Edwards, Using Community Engagement to Adapt Implementation Science Methods in a Faith Setting
   - Pastor James Gailliard, Leveraging Faith Entities in Influencing Social Outcomes

e. Community based participatory research and community engaged research: Facilitating implementation science outcomes [Archived webinar 55:06] – Video from the National Cancer Institute published in 2016 – This webinar tools on a national cross-site study to test a community-based participatory research (CBPR) model and to assess the relationship of participatory

research practices, implementation science, and other CBPR and health outcomes. Research to measure and assess metrics of engagement, associations with outcomes, and implications for dissemination and implementation is highlighted.

f. Community-based participatory research and D&I research: Overlaps and significance [Archived presentation 27:42] – Video from the University of Wisconsin Dissemination & Implementation Short Course published in 2017

g. The Role of Relationships in Implementation Practice [Archived panel discussion 1:02:44] – Video from the UNC Institute on Implementation Science published in 2020 – Are relationships as important as strategies for successful implementation of evidence-informed programs and practices? We discuss new research findings on the role of trusting relationships in supporting evidence use and identify areas for future research in implementation practice.

h. *Implementation Strategy Training Opportunities offered by the U.S. Department of Veteran's Affairs (VA) Quality Enhancement Research Initiative (QUERI). There are several options for trainings on different implementation strategies, but most emphasize stakeholder engagement. Features of QUERI Learning Hubs: Training in specific evidence-based strategies; Virtual collaborative sessions; Experienced mentors and coaches, many trained by the Institute for Healthcare Improvement; Application of key implementation and quality improvement concepts within everyday work routines; Access to various resources, including videos, readings, and templated tools. May require a fee for non-VA employees.

i. *Putting Public Health Evidence in Action Training, created by the Cancer Prevention and Control Research Network (CPCRN), supports community program planners and health educators in developing skills in using evidence-based approaches and learning about new tools for planning and evaluating community health interventions. It is a self-paced curriculum with activities and tools. The CPCRN website provides access to an interactive training curriculum that includes presentation slides and tools practitioners can use. Beginning in late summer 2021, the website will also include videos of CPCRN faculty delivering the training.

j. *The CPCRN Scholars program (launched in 2021) is an educational and training program that strives to educate students, postdoctoral fellows, junior faculty, practitioners, and other health professionals in dissemination and implementation science focused on cancer prevention and control and health equity. Enrollees are provided with a curriculum related to implementation science, webinar and group interactions, and opportunities to engage in mentored projects.

k. NIH's Clinical and Translational Science Awards (CTSA) Program supports a national network of medical research institutions — called hubs — that work together to improve the translational research process to get more treatments to more patients more quickly. The hubs collaborate locally and regionally to catalyze innovation in training, research tools and processes. CTSA Program support enables research teams including scientists, patient advocacy organizations and community members to tackle system-wide scientific and operational problems in clinical and translational research that no one team

can overcome. A primary goal is patient and community engagement and many CTSAs have locally available resources and tools to support engagement. Find out if you have a CTSA near you and get in touch!

l. *The University of Colorado's Adult & Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS) Education Program offers an annual conference, the Colorado Pragmatic Research in Health Conference, or "COPRH Con." COPRH Con focuses on methods for pragmatic research in health and healthcare contexts, including the importance of stakeholder engagement in pragmatic research. Access archives for 2020 and 2021 COPRH Con online. Registered attendees are encouraged to bring a community or patient stakeholder for free. COPRH Con includes sessions designed specifically for stakeholder attendees. COPRH Con is supported by an R13 Conference Grant from the Agency for Healthcare Research and Quality (AHRQ). Between conferences, COPRH Con offers a Virtual Learning Community, with free access to ACCORDS' research blogs, discussion forums, monthly webinars, and newsletters. Researchers and stakeholders are invited to join the learning community here.

m. Building Effective Multi-Stakeholder Research Teams from PCORI – This website provides information and resources to help you succeed in conducting research in multi-stakeholder teams. It addresses two key areas–engaging stakeholders to be active members of the team and working together as a productive team.

n. *PCORI Research Fundamentals: Preparing stakeholders to successfully contribute to community-engaged research
This is a guide that researchers can use with stakeholders who are getting oriented to the processes and principles of community-engaged research. It gives an overview to the processes involved in community-engaged research for laypeople who will be participating as research stakeholders. This includes videos of research stakeholders and researchers who describe the goals and methods used in stakeholder engagement. In addition to the general overview, there are 5 web-based modules covering these topics: developing research questions; designing the research study; planning patient-centered consent and study protocols; sampling recruiting and retaining participants; understanding and sharing research findings. In prior community-engaged research, community members have rated this content very highly to orient them to 'what happens' in community-engaged research, and what their role should be.

- See additional resources listed below for investigators to use to train community partners to assist with or lead data collection by conducting surveys, interviews and citizen science.

C. Tools and other resources
a. *The Consortium for Cancer Implementation Science (CCIS) is an annual working meeting that focuses on cancer control priorities, cross collaboration, and innovative solutions in implementation science. One priority action group is focusing on increasing community participation in implementation science – Contact us to get involved!

b. Community and Stakeholder Engagement in Health Research: Guidelines Offered by NC TraCS
   The creation of equitable community and stakeholder partnerships can better inform some of the What, Why, Who, How, When and Where of clinical and translational health research. This document has guidelines to lean more toward "What, Why, Who, How, When and Where" for appropriate and effective engagement of stakeholders in health *research*, although not implementation research specifically and not implementation practice. However, many of the concepts, issues, and suggestions could be generalized to implementation science or implementation practice. Several of their solutions are geared toward serving their university community at the University of North Carolina, so that is one limiting factor. Yet, even if you are outside that university, it might generate solutions or ideas in your organization.

c. Engaging Your Community: A toolkit for partnership, collaboration, and action. Prepared by John Snow, Inc. for the Department of Health and Human Services.
   This is a handy toolkit for the scientist or practitioner in any setting wanting to make connections and collaborations with a variety of stakeholders. This is a toolkit with guidance and actual tools to use to 1) form partnerships with stakeholder groups, 2) outreach successfully to individuals in a community, and 3) create clear communication channels to your groups and individuals. This toolkit is not comprehensive coverage of processes or issues in stakeholder engagement, although it provides adequate tools for the three areas mentioned above. Although this was developed in the context of adolescent pregnancy prevention and parenting, the tools are agnostic to population or health problem and more focused on community and public health contexts (although not completely). There are many tools provided for planning.

d. Prusaczyk, B., Baumann, A., & Proctor, E. Implementation Strategies. [Internet]. St. Louis, MO: Washington University; 2016 October. Eight toolkits related to Dissemination and Implementation.
   This is a brief toolkit that has one component useful for stakeholder engagement, as one cluster of strategies showcased is consumer engagement (e.g., engaging with end-users of the intervention). The toolkit showcases: 1) broad clusters of types of implementation strategies, 2) website links to D&I frameworks, and 2) guidance on how to tool which strategies were used when writing scientific manuscripts. This is a resource for the scientist, most likely, or a very advanced implementation practitioner. One helpful part of this toolkit is that each strategy mentioned also has a linked manuscript with an example. No tools are provided for planning.

e. The TeamScience@SWOG Field Guide
   D&I research is an inherently interdisciplinary field, and team science enhances our work. This field guide was prepared to support equitable partnership in clinical oncology research, but is applicable to D&I and health services research. It is intended as a catalyst for the team and its leadership, providing guidance and opportunities that collectively define culture and values and stimulate continuous improvement. The most critical takeaway is clarity about opportunities for Patient Advocate engagement across the research life cycle, along with strategies for increasing engagement at any point in the

study team's work. The guide includes 6 handy worksheets to help teams talk through common challenges such as negotiating roles, assessing engagement, and facilitating inclusive discussions.

f. Research Ready Workbook for Clinical Staff Implementing Research
Much D&I research takes place in healthcare delivery environments, thus engagement of clinical staff in research activities has emerged as a key factor for success. However, clinic staff have not often been the recipients of interventions for improved research implementation within healthcare settings. The Louisiana Public Health Institute conducted interviews with both clinic and research staff to learn more about their experiences and perceptions of clinic-based research. This workbook provides resources for research teams seeking to achieve successful engagement of clinic staff in future research. It provides background info on the research process, including distinguishing it from quality improvement generally, as well as research ethics and integrity, and their role in an integrated study team.

g. Dissemination, Implementation, Communication, and Engagement: A Guide for health researchers (DICEmethods.org)
  • Stakeholder Engagement Navigator webtool – Are you wondering what method would be best to engage with your research stakeholders, given your project's purpose, the stage of your research, and your resources/budget for engagement? This navigator tool includes: 1. an education hub to learn about the purposes and principles of stakeholder engagement, 2. high level approaches to stakeholder engagement, and 3. an interactive engagement method selection tool. The online tool, developed by researchers and community stakeholders in the University of Colorado Data to Value (D2V) program, guides researchers to identify the appropriate engagement methods for their specific needs, after answering a set of questions to clarify the purpose of the research and the purpose of the engagement. Methods are provided for programs that are in the planning phase, implementation phase, or dissemination phase. Here is one example: for researchers in the planning phase who want to engage stakeholders to select outcomes and measures that matter to stakeholders, and who have a shoestring budget and limited time to engage with stakeholders, the top methods recommended were 25/10 crowdsourcing, ecocycle planning, nominal group differences

technique, purpose to practice, or a user experience fishbowl. Here is an example visual of stakeholder engagement methods generated from dicemethods.org – bigger ovals with darker shading are more strongly recommended.

h. Community Engagement Studio Toolkit
Engaging community members, patients, caregivers, community health providers, advocates and policy makers in research is complex. Many researchers are not prepared to identify, recruit, convene and engage these stakeholders or prepare them for participation in research in an advisory capacity or as part of a research team. The Community Engagement Studio creates a framework for stakeholders to provide immediate feedback to the researcher on specific areas of concern before the research project is implemented. The Meharry-Vanderbilt Community Engaged Research Core developed the CE Studio to help researchers interested in working directly with patients and other community stakeholders do so in a way that is culturally sensitive and in keeping with community priorities, values, and needs. It provides a structured forum to gain valuable patient or community insight and has the potential to transform the way community and academic researchers work together. A CE Studio is similar yet different from a focus group, and is used to build relationships to understand community needs and perspectives by positioning community members as experts with lived experience of the phenomena under study. For example, in implementation science, a CE Studio can be useful for identifying community priorities for research and in supporting a designing for dissemination approach to ensure that the products of research (interventions, materials, and findings) are developed in ways that match well with the needs, resources, workflows, and contextual characteristics of the target audience and setting (Brownson, Colditz, & Proctor, 2018, p. 19-46).

i. Strengthening Diversity in Research Partnerships: Knowledge to Action Guide
Lack of diversity in health services research and implementation science limits the generalizability of research and contributes to health disparities. Engaging under-represented communities in all stages of research is an important strategy to ensure research is relevant, appropriate to community context, and increases likelihood of dissemination and implementation. This Knowledge to Action Guide from the Institute for Patient and Family-Centered Care provides guidance and best practices for creating partnerships with typically underrepresented patient, family, and community partners in research. The guide also offers strategies and insights, stories from the field, top tips, and selected resources to learn about, facilitate, and strengthen engagement of diverse patient, family, and community partners such that research can be co-designed and co-implemented.

j. PCORI is committed to advancing patient-centered, stakeholder-engaged research and the meaningful involvement of patients, caregivers, clinicians, and other healthcare stakeholders throughout the entire research process. We do this to ensure that the results of the studies we fund are relevant, trustworthy, and more likely to be used in practice. PCORI also supports the uptake of engagement practices and methodologies within the broader healthcare research community. To encourage the spread of these practices, we have assembled a repository of engagement-related tools and resources developed and used by PCORI awardees. The repository is searchable by phase of research, research focus, health

condition, type of stakeholder, and population of focus. Two of these tools are described below in detail. Other types of tools that may be useful to Implementation Science include engagement plans, governance plans, engagement panel recruitment templates, engagement standards, memo of understanding templates, engagement survey templates, etc.

- COMPASS Study Engagement Roadmap Example
This document outlines the key timepoints at which patients and other stakeholders will have input on the COMPASS study (Wake Forest University Health Sciences). It is meant to provide a roadmap of engagement activities across the entire project by multiple stakeholders. The document outlines specific engagement activities for intervention design, recruitment and retention, and study implementation that can serve as a planning tool for other teams interested in developing stakeholder engagement.
- CISTO Study Advocate Advisor Onboarding Materials
An example of a community advisory board manual from a PCORI grantee developed for the role of advocate advisors. This template includes roles, qualities, expectations, payment amounts, confidentiality/data security, as well as a list of sections from the funded grant that are most relevant for advocates to review prior to being onboarded.

k. Preparation for Academic Researchers Before & during Community Engagement [Slide deck] – Developed by the Alliance for Research in Chicagoland Communities (ARCC) at Northwestern, this document contains background and questions for reflection for academic researchers to consider when forming and building research partnerships with community members & organizations.

l. Budget and grant writing recommendations for community based participatory research
To supplement relational investments in community and stakeholder partnerships to facilitate impactful implementation science, investigators must consider how their budget plans and research strategy description reflect their commitment to engagement, including power and resource sharing. This document from Community Campus Partnerships for Health is a compilation of resources that includes budget item recommendations for engaged research, tips and strategies for funding community-engaged research, and frameworks for peer review guidance. For more information, see also "Strategies to Facilitate Equitable Resource Sharing in Community-Engaged Research," a manuscript led by a community partner involved in a longstanding and successful community-academic partnership in Arkansas. The manuscript describes issues related to equitable resource sharing, especially regarding funding, between community and academic organizations, and strategies to overcome them.

m. Community Toolbox By now, we hope you are convinced of the value of community engagement in IS. This online toolbox includes 46 "chapters" through which you can obtain practical, step-by-step guidance and supporting tools in community-building.

n. *Community Citizen Science: From Promise to Action
    Citizen science is a form of CBPR and is broadly defined as the use of scientific methods by the general public to answer questions about the world and solve problems of concern. This important, yet understudied, model often focuses on addressing key community concerns rather than research concerns. This comprehensive tool from the RAND Corporation sets forth principles, guidelines, and recommendations to encourage the practice of Citizen Science in real world settings. Citizen Science approaches might be particularly valuable in D&I to yield insights into community barriers and opportunities for translating research into action. In community citizen science, groups of volunteers exert a high degree of control over research, working with scientists during the research process and performing research on their own. If interested, see additional pub (Katapally, 2017) highlighting synergies between CBPR, community-based citizen science, and systems thinking to offer a framework for scaling population health and digital health interventions. This article by Cooper et al. (2021) covers the history of the term "citizen science," the expansion on the initial definition, what it means for citsci to be inclusive, and more.

o. *The Society for Implementation Research Collaboration (SIRC) is a society dedicated to facilitating communication and collaboration between implementation research teams, researchers, and community providers. SIRC aims to bring together researchers and stakeholders committed to the rigorous evaluation of implementation of evidence based psychosocial interventions. SIRC lists additional Dissemination and Implementation Training Opportunities including conferences, training institutes, fellowships, internships, graduate training programs, online trainings, and other resources.

p. *The Center for Implementation offers evidence-based training and implementation supports to organizations and individuals to help them effectively manage change in the workplace and beyond

q. *Community Campus Partnerships for Health's mission is to promote health equity and social justice through partnerships between communities and academic institutions. They offer programs, trainings, and networking opportunities.

r. *The purpose of the Global Implementation Society (GIS) is to promote and establish coherent and collaborative approaches to implementation practice, science, and policy. The GIS promotes the development and integration of effective implementation, improvement, and scaling practices in human service settings in order to improve outcomes for children, families, individuals, and communities worldwide.

II. Resources for Healthcare, Public Health, and Other Community Members

Engagement of healthcare and public health practitioners and other community members in implementation science (IS) is essential to inform the development and testing of ways to effectively and efficiently integrate evidence-based practices, interventions, and policies into routine clinical or community health settings.

A. Trainings and Guidance

a. Implementation Science in Practice [Archived webinar 1:02:19] – Video from the National Association of Chronic Disease Directors published in 2020

b. Inspiring Change 2.0: Creating Impact with Evidence-based Implementation from The Center for Implementation – Free mini-course, updated in Fall 2020 with all new video content, provides a high level overview on how to create impact with evidence-based implementation. This mini-course will help you: 1) Understand what evidence-based implementation is and how to proactively plan for change; 2) Discover how process models, theories, and frameworks can be the backbone of your change plan; 3) Be inspired to use behavior change theory; 4) Be more purposeful with your time, by addressing high-priority areas and anticipating resistance to change; and 5) Learn simple tips and tricks that can set you up for success. Plus you'll also have access to a downloadable guide with key points covered in the mini-course! Time to complete: It takes about 1.5 hours to complete the videos and activities.

c. *Putting Public Health Evidence in Action Training, created by the Cancer Prevention and Control Research Network (CPCRN), supports community program planners and health educators in developing skills in using evidence-based approaches and learning about new tools for planning and evaluating community health interventions. It is a self-paced curriculum with activities and tools. The CPCRN website provides access to an interactive training curriculum that includes presentation slides and tools practitioners can use. Beginning in late summer 2021, the website will also include videos of CPCRN faculty delivering the training.

d. *The CPCRN Scholars program (launched in 2021) is an educational and training program that strives to educate students, postdoctoral fellows, junior faculty, practitioners, and other health professionals in dissemination and implementation science focused on cancer prevention and control and health equity. Enrollees are provided with a curriculum related to implementation science, webinar and group interactions, and opportunities to engage in mentored projects.

e. Coming soon from the George Washington University Cancer Center! Implementation Science Base Camp is a training for practitioners in comprehensive cancer control designed to help them optimize the implementation of evidence-based interventions. The training is developed for multilevel teams of cancer coalition representatives, program directors, clinical and public health champions, and executive leadership. The training covers over twenty competencies selected to provide

a foundation to the new field centered around: assessing context, using evidence and theories, evaluation, facilitating implementation, and sustainability. Facilitating implementation is made concrete through the use of case studies and panel discussions. Participants leave with a team-created implementation blueprint that can serve as a logic model for future work or to retrofit existing projects along implementation science guidelines.

f. *[Implementation Strategy Training Opportunities](#) offered by the U.S. Department of Veteran's Affairs (VA) Quality Enhancement Research Initiative (QUERI). There are several options for trainings on different implementation strategies, but most emphasize stakeholder engagement. Features of QUERI Learning Hubs: Training in specific evidence-based strategies; Virtual collaborative sessions; Experienced mentors and coaches, many trained by the Institute for Healthcare Improvement; Application of key implementation and quality improvement concepts within everyday work routines; Access to various resources, including videos, readings, and templated tools. May require a fee for non-VA employees.

g. *[The University of Colorado's Adult & Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS) Education Program](#) offers an annual conference, the Colorado Pragmatic Research in Health Conference, or "COPRH Con." COPRH Con focuses on methods for pragmatic research in health and healthcare contexts, including the importance of stakeholder engagement in pragmatic research. Access archives for [2020](#) and [2021](#) COPRH Con online. Registered attendees are encouraged to bring a community or patient stakeholder for free. COPRH Con includes sessions designed specifically for stakeholder attendees. COPRH Con is supported by an R13 Conference Grant from the Agency for Healthcare Research and Quality (AHRQ). Between conferences, COPRH Con offers a [Virtual Learning Community](#), with free access to ACCORDS' research blogs, discussion forums, monthly webinars, and newsletters. Researchers and stakeholders are invited to join the learning community [here](#).

h. *[Research Interviews for Community Members](#) and [Survey Design for Community Members](#)
Community members can be involved beyond an advisory capacity in implementation science by leading research activities like recruitment and data collection. A team at The University of South Florida developed these slide decks to build capacity for community members to serve as members of the research team by understanding survey design and administration and how to conduct research interviews.

i. Learn about secondary use of clinical and administrative data for research and rules governed by the Health Insurance Portability and Accountability Act (HIPAA) with these brief animated videos from University of Colorado published in 2020:
    - [Patient Data And Privacy Regulations](#) [5:00]
    - [Privacy Protected Record Linkage](#) [3:36]

B. Key readings

a. Implementation Science at a Glance [Open access]
Designed specifically for cancer control practitioners, Implementation Science at a Glance provides a succinct overview of the rapidly evolving field. This workbook was written by members of the NCI Implementation Science team and reviewed by public health practitioners and implementation researchers. Through summaries of key theories, methods, and models, the guide shows how the use of implementation science can support the effective adoption of evidence-based interventions. Case studies illustrate how practitioners are successfully applying implementation science in their cancer control programs.
   - See also the National Cancer Institute's Implementation Science Infographic, which provides a brief overview of the field.

b. Schwartz, R.; Moore, J. B. (2021). Implementation Science in Practice. *Journal of Public Health Management and Practice,* 27(2), 100-101.
   - Listen to the related podcast episode "Implementation science in public health" [Open access]

c. Kilbourne, A.M., Glasgow, R.E. & Chambers, D.A. (2020). What Can Implementation Science Do for You? Key Success Stories from the Field. *J Gen Intern Med* 35, 783–787. [Open access on 2021-11-01 in PubMed Central]

d. Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. M. (2015). An introduction to implementation science for the non-specialist. *BMC psychology*, 3(1), 32. [Open access]
The movement of evidence-based practices (EBPs) into routine clinical usage is not spontaneous, but requires focused efforts. The field of implementation science has developed to facilitate the spread of EBPs, including both psychosocial and medical interventions for mental and physical health concerns. The authors aim to introduce implementation science principles to non-specialist investigators, administrators, and policymakers seeking to become familiar with this emerging field. This introduction is based on published literature and the authors' experience as researchers in the field, as well as extensive service as implementation science grant reviewers. Implementation science is "the scientific study of methods to promote the systematic uptake of research findings and other EBPs into routine practice, and, hence, to improve the quality and effectiveness of health services." Implementation science is distinct from, but shares characteristics with, both quality improvement and dissemination methods. Implementation studies can be either assess naturalistic variability or measure change in response to planned intervention. Implementation studies typically employ mixed quantitative-qualitative designs, identifying factors that impact uptake across multiple levels, including patient, provider, clinic, facility, organization, and often the broader community and policy environment. Accordingly, implementation science requires a solid grounding in theory and the involvement of trans-disciplinary research teams. The business case for implementation science is clear: As healthcare systems work under increasingly dynamic and resource-constrained conditions, evidence-based strategies are

essential in order to ensure that research investments maximize healthcare value and improve public health. Implementation science plays a critical role in supporting these efforts.

e. Ammerman, A., Smith, T. W., & Calancie, L. (2014). Practice-based evidence in public health: improving reach, relevance, and results. *Annual review of public health*, 35, 47–63.
The most threatening public health challenges today are chronic and complex and require joint effort from academic researchers in partnership with clinical and public health practitioners to identify and implement sustainable solutions that work in the real world. Practice-based research offers researchers and practitioners an underutilized way forward, an opportunity to work together to design and test feasible, evidence-based programs to address our greatest challenges. In this article, we outline the need for practice-based evidence, tools, and strategies that investigators can use to generate practice-based evidence, describe approaches to translating practice-based evidence into practice, and offer recommendations for making practice-based research the norm in public health.

f. Moullin, J.C., Dickson, K.S., Stadnick, N.A. et al. (2020). Ten recommendations for using implementation frameworks in research and practice. *Implement Sci Commun* 1, 42. [Open access]
Recent reviews of the use and application of implementation frameworks in implementation efforts highlight the limited use of frameworks, despite the value in doing so. As such, this article aims to provide recommendations to enhance the application of implementation frameworks, for implementation researchers, intermediaries, and practitioners. Ideally, an implementation framework, or multiple frameworks should be used prior to and throughout an implementation effort. This includes both in implementation science research studies and in real-world implementation projects. To guide this application, outlined are ten recommendations for using implementation frameworks across the implementation process. The recommendations have been written in the rough chronological order of an implementation effort; however, we understand these may vary depending on the project or context: (1) select a suitable framework(s), (2) establish and maintain community stakeholder engagement and partnerships, (3) define issue and develop research or evaluation questions and hypotheses, (4) develop an implementation mechanistic process model or logic model, (5) select research and evaluation methods (6) determine implementation factors/determinants, (7) select and tailor, or develop, implementation strategy(s), (8) specify implementation outcomes and evaluate implementation, (9) use a framework(s) at micro level to conduct and tailor implementation, and (10) write the proposal and tool. Ideally, a framework(s) would be applied to each of the recommendations. For this article, we begin by discussing each recommendation within the context of frameworks broadly, followed by specific examples using the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. The use of conceptual and theoretical frameworks provides a foundation from which generalizable implementation knowledge can be advanced. On the contrary, superficial use of frameworks hinders being able to use, learn from, and work sequentially to progress the field. Following the provided ten recommendations, we hope to assist researchers, intermediaries, and practitioners to improve the use of implementation science frameworks.

- This free resource from the Centre for Effective Services may be helpful to apply the recommendations: http://implementation.effectiveservices.org/frameworks

g. Metz, A., Albers, B., Burke, K., Bartley, L., Louison, L., Ward, C., & Farley, A. (2021). Implementation Practice in Human Service Systems: Understanding the Principles and Competencies of Professionals Who Support Implementation. *Human Service Organizations: Management, Leadership & Governance*, 45(3), 238-259.
  This study aims to understand the role implementation support practitioners can have in supporting the use of research-supported practices, policies, and programs in human service sectors. Through a survey design, the authors: 1) confirm and refine principles and competencies used by professionals to provide implementation support in human service systems; 2) increase understanding of the conditions under which implementation support practitioners can be more or less effective; and 3) describe the usefulness of competencies for professionals providing implementation support. Additional findings are presented on the role of context and trusting relationships in implementation support practice. Areas for further research are discussed.
    - See Guiding Principles and Core Competencies for Implementation Practice – Practice Guide and Practitioner Profile and additional resources on implementation support from the National Implementation Research Network [Open access]

h. Albers, B., Metz, A., & Burke, K. (2020). Implementation support practitioners - a proposal for consolidating a diverse evidence base. *BMC health services research*, 20(1), 368. [Open access]
  Workforce development for implementation practice has been identified as a grand challenge in health services. This is due to the embryonic nature of the existing research in this area, few available training programs and a general shortage of frontline service staff trained and prepared for practicing implementation in the field. The interest in the role of "implementation support" as a way to effectively build the implementation capacities of the human service sector has therefore increased. However, while frequently used, little is known about the skills and competencies required to effectively provide such support. To progress the debate and the research agenda on implementation support competencies, we propose the role of the "implementation support practitioner" as a concept unifying the multiple streams of research focused on e.g. consultation, facilitation, or knowledge brokering. Implementation support practitioners are professionals supporting others in implementing evidence-informed practices, policies and programs, and in sustaining and scaling evidence for population impact. They are not involved in direct service delivery or management and work closely with the leadership and staff needed to effectively deliver direct clinical, therapeutic or educational services to individuals, families and communities. They may be specialists or generalists and be located within and/or outside the delivery system they serve. To effectively support the implementation practice of others, implementation support practitioners require an ability to activate implementation-relevant knowledge, skills and attitudes, and to operationalize and apply these in the context of their support activities. In doing so, they aim to trigger both relational and behavioral outcomes. This thinking is reflected in an overarching logic outlined in this article. The development of implementation support practitioners as a profession

necessitates improved conceptual thinking about their role and work and how they enable the uptake and integration of evidence in real world settings. This article introduces a preliminary logic conceptualizing the role of implementation support practitioners informing research in progress aimed at increasing our knowledge about implementation support and the competencies needed to provide this support.

i. Albers, B., Metz, A., Burke, K., Bührmann, L., Bartley, L., Driessen, P., & Varsi, C. (2021). Implementation Support Skills: Findings from a Systematic Integrative Review. *Research on Social Work Practice*, 31(2), 147–170.
Skills in selecting and designing strategies for implementing research-supported interventions (RSIs) within specific local contexts are important for progressing a wider RSI adoption and application in human and social services. This also applies to a particular role in implementation, the implementation support practitioner (ISP). This study examines which strategies have been tooled as being used by ISPs across multiple bodies of research on implementation support and how these strategies were applied in concrete practice settings. A systematic integrative review was conducted. Data analysis utilized the Expert Recommendations for Implementing Change compilation of implementation strategies. Studies tooled on 18 implementation strategies commonly used by different ISPs, who require mastery in selecting, operationalizing, and detailing these. Two further strategies not included in the ERIC compilation could be identified. Given the use of primarily more feasible implementation support strategies among ISPs, their potential as agents of change may be underutilized.

C. Tools and other resources
a. *The Consortium for Cancer Implementation Science (CCIS) is an annual working meeting that focuses on cancer control priorities, cross collaboration, and innovative solutions in implementation science. Practitioner engagement in this consortium is encouraged. One priority action group is focusing on increasing community participation in implementation science – Contact us to get involved!

b. *PCORI Research Fundamentals: Preparing stakeholders to successfully contribute to community-engaged research
This is a guide for community members who are getting oriented to the processes and principles of community-engaged research. It gives an overview to the processes involved in community-engaged research for laypeople who will be participating as research stakeholders. This includes videos of research stakeholders and researchers who describe the goals and methods used in stakeholder engagement. In addition to the general overview, there are 5 web-based modules covering these topics: developing research questions; designing the research study; planning patient-centered consent and study protocols; sampling recruiting and retaining participants; understanding and sharing research findings. In prior community-engaged research, community members have rated this content very highly to orient them to 'what happens' in community-engaged research, and what their role should be.

c. Evidence-Based Cancer Control Programs (EBCCP) (formerly RTIPs) website is a searchable database of evidence-based cancer control programs and is designed to provide program planners and public health practitioners easy and immediate access to program materials. Researchers study implementation, adaptation, sustainability, and scale up of these interventions and practitioners select, adapt, implement, and evaluate them transforming research into community and clinical practice.
   - Percy-Laurry, A., Adsul, P., Uy, A., & Vinson, C. (2021). Improving Evidence-Based Program Repositories: Introducing the Evidence-Based Cancer Control Programs (EBCCP) Web Repository. *American journal of health promotion*, 8901171211006589. Advance online publication.

d. NCI-funded Implementation Science Centers in Cancer Control (ISC3) Program supports the rapid development, testing, and refinement of innovative approaches to implement a range of evidence-based cancer control interventions. Centers all feature "implementation laboratories" involving clinical and community practice sites that will engage in implementation research across the cancer control continuum to advance methods in studying implementation and develop and validate reliable measures of key implementation science constructs. Clinical and public health practitioners can reach out to funded center investigators directly to inquire about opportunities to collaborate.

e. The D&I Models Webtool is an interactive, online resource designed to help researchers and practitioners navigate dissemination and implementation models through planning, selecting, combining, adapting, using, and linking to measures.

f. The University of Washington Implementation Science Resource Hub provides helpful introductory information on implementation research including how to frame your question; pick a theory, model, or framework; identify implementation strategies; select research methods; select study design; choose measured; get funding; and tool results.

g. Fiscal Readiness Initiative: Community Partner's Guide for pre- and post-award grants management when conducting community engaged research. The North Carolina Translational and Clinical Sciences (NC TraCS) Institute; University of North Carolina at Chapel Hill, Chapel Hill, NC; 2015.
   This guide is intended to help community members prepare for the pre-award and post-award grants management process when working with academic researchers. This guide is extremely comprehensive covering all aspects of proposal development, submission, and post-award grants management. This document might be best used as a reference resource for community members. It is lengthy and technical, so should not be used as required reading for community partners when initiating community-engaged work.

h. *Basic Steps for Your Project Planning Toolkit from CitizenScience.gov
   This Citizen Science Planning toolkit shows five basic process steps for planning, designing and carrying out a crowdsourcing or citizen science project (adapted from Bonney et al. (2009)). This toolkit could be useful in community-engaged, D&I work

to guide teams in thinking through the research development process together. The language in the toolkit is appropriate for a lay audience and can be used for educational and training purposes.

i. *The Society for Implementation Research Collaboration (SIRC) is a society dedicated to facilitating communication and collaboration between implementation research teams, researchers, and community providers. SIRC aims to bring together researchers and stakeholders committed to the rigorous evaluation of implementation of evidence based psychosocial interventions. SIRC lists additional Dissemination and Implementation Training Opportunities including conferences, training institutes, fellowships, internships, graduate training programs, online trainings, and other resources.

j. *The Center for Implementation offers evidence-based training and implementation supports to organizations and individuals to help them effectively manage change in the workplace and beyond

k. *Community Campus Partnerships for Health's mission is to promote health equity and social justice through partnerships between communities and academic institutions. They offer programs, trainings, and networking opportunities.

l. *The purpose of the Global Implementation Society (GIS) is to promote and establish coherent and collaborative approaches to implementation practice, science, and policy. The GIS promotes the development and integration of effective implementation, improvement, and scaling practices in human service settings in order to improve outcomes for children, families, individuals, and communities worldwide.