

Implementation Science Centers in Cancer Control



**An Implementation  
Scientist's Toolkit  
for Getting Started with  
Health Equity-Focused  
Implementation Research**



**NATIONAL CANCER INSTITUTE**  
**Division of Cancer Control & Population Sciences**



# Introduction

## Audience for this toolkit

This toolkit provides a comprehensive resource to help implementation scientists get started with health equity-focused implementation research. The toolkit assumes that the user has basic knowledge of foundational concepts and constructs in implementation science and is looking for guidance or suggestions regarding what to know, what to consider, and how to start implementation research projects that integrate a health equity lens.

## Rationale for the toolkit

The field of implementation science (IS) has contributed to understanding barriers and facilitators to implementing evidence-based practices (EBPs) and has generated evidence for effective strategies to improve the adoption, implementation, and sustainment of proven health interventions and public health EBPs. Despite substantial progress in implementing EBPs in health care, public health, and community-based settings, widespread inequities in EBP access and benefits linked with underlying social, structural, economic, and racial injustices persist. Implementation research that focuses on understanding and addressing factors driving inequities and disparities holds promise for advancing health equity.

## Gap/need filled by the toolkit

There have been numerous calls to prioritize health equity in IS, with key questions and considerations for reflection as well as recommendations in grounding and bringing an equity and antiracism approach to implementation research. IS scholars have responded with guidance for integrating an explicit equity lens in applying or operationalizing implementation research. However, these resources for integrating health equity in IS are scattered across scholarly articles. IS-trained investigators new to health equity in IS may not know these resources exist or where to find them.

To address this challenge, our team from the National Cancer Institute's (NCI) Implementation Science Centers in Cancer Control (ISC<sup>3</sup>) Network collaborated with federal agency partners at NCI to develop a bibliography of broad thematic areas for consideration among research and practice communities to advance health equity through IS in cancer prevention and control (access the publicly available resource at <https://cpcrn.org/resources-cancer-equity>).

We complement the existing resources with a toolkit designed to help IS investigators get started with health equity-focused IS research.

## Using the toolkit

This toolkit was designed to orient IS-trained investigators to key constructs and concepts in health equity and approaches to integrating health equity into IS research, whether health equity is the primary or secondary focus of an investigation. The toolkit provides links to relevant online resources and provides bibliographies for recommended readings and resources, with empirical examples and applications from the literature. The content in this toolkit is not exhaustive and may be updated over time as new resources and literature emerge.



We welcome feedback about the content of this toolkit, including its usability and accuracy. Users are encouraged to read the orientation section and then selectively read sections that are most relevant to their immediate needs and interests. The toolkit is designed to serve as an ongoing resource as IS investigators engage in this work.

Contact Kelly Aschbrenner, PhD, with any questions and or comments related to the toolkit at [Kelly.Aschbrenner@Dartmouth.edu](mailto:Kelly.Aschbrenner@Dartmouth.edu) or contact [ISC3@icf.com](mailto:ISC3@icf.com).

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<https://iscentersincancercontrol.org/health-equity-toolkit/>

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# Brief Orientation

Section lead: Kelly Aschbrenner, PhD



**Health equity is centered on social justice in health, where everyone has a fair and just opportunity to be as healthy as possible.** In the US context, there are numerous historical and ongoing structural drivers and systems that disproportionately create and maintain social and health inequities among population groups, including people from minoritized racial and ethnic groups, people with disabilities, people who are LGBTQI+ (lesbian, gay, bisexual, transgender, queer, and intersex), people with limited English proficiency, and other groups.<sup>1,2</sup>

In addition, contextual factors like characteristics of the physical and social environment where people live, and harmful aspects of the built environment, can exacerbate health inequalities (e.g., areas of persistent poverty, remote areas, and urban or residential segregation have more harmful exposures and lack access to health-promoting resources, including evidence-based programs). Although well intentioned, broader efforts to implement health interventions and evidence-based practices (EBPs) may disproportionately benefit privileged groups and settings, with reach and benefits limited among groups that experience numerous social and structural impediments to health.<sup>3</sup>

Implementation science (IS) investigators are well-poised to address health equity. Implementation science involves applying theories, models, frameworks, and methods to rigorously examine strategies to facilitate the uptake of EBPs and the investigation of the contextual determinants (e.g., patient, provider, organizational, community, and policy factors) that influence implementation processes and outcomes.<sup>4</sup> IS is team based and investigators represent a broad range of academic disciplines, including medicine, social work, psychology, anthropology, and public health. Additionally, implementation science routinely engages community members and other key partners, including health care professionals, health system administrators, health policy makers, and patients and families.<sup>5</sup> Implementation research addresses health equity if it concentrates on explicitly understanding and addressing factors driving inequities and disparities as either a primary or secondary focus of the research.<sup>6</sup>

Bringing a health equity lens to IS involves identifying barriers to equitable implementation as well as facilitators, assets, or strengths that can be used to promote equity in implementation efforts.<sup>7,8</sup> IS-trained investigators have approached this research by integrating health equity into implementation frameworks to identify determinants, guide processes of translating research into practice, and evaluate outcomes of implementation efforts.<sup>9,10,11</sup> Doing this work effectively requires engaging community partners in meaningful ways throughout the implementation and research process to increase relevance and impact and promote sustainability of EBPs.<sup>12</sup> Finally, conducting IS research focused on promoting health equity requires ongoing self-reflection on how issues of equity are addressed and considered in one's own research, research teams, and institutions.<sup>13</sup>

This toolkit is designed to enable an IS-trained investigator to

- better understand key health equity terms and use them in planning and carrying out health equity-focused implementation research
- locate additional resources for health equity in IS
- understand approaches to integrating health equity into implementation frameworks and identify relevant study designs and methods



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# Key Language and Concepts

Section lead: Kelly Aschbrenner, PhD





Health equity is associated with other concepts (e.g., health disparities, health care disparities, health inequalities, health care inequalities) that are sometimes used interchangeably in the literature, which can lead to confusion and slow progress in research. **In this section (Table 1), we provide an overview of key terms and concepts used in health equity IS to inform efforts to integrate health equity into IS.** This list is not exhaustive, nor does it capture all the nuances of these terms. Rather, it is intended to serve as a starting point for planning health equity-focused IS research projects. We also provide links to external resources with health equity guides and glossaries of key terms and concepts to help investigators use relevant language and concepts in their research.

**Table 1. Overview of Key Terms and Concepts Applied in Health Equity-Focused Implementation Science**

Term, Definition, and Meaning	Examples of Application to Health Equity-Focused Implementation Science
<p><b>Health equity</b> is the absence of avoidable, unfair, or remediable differences in health among population groups defined socially, economically, demographically, or geographically or by other means of stratification.<sup>1,2</sup> Health equity is a principle underlying a commitment to reduce, and ultimately eliminate, a health disparity and its determinants, including social determinants.<sup>3</sup></p>	<p>Health equity has been applied in addressing health disparities—a particular type of health difference that is closely linked with economic, social, or environmental disadvantage. Health disparities have been used as a metric to measure progress toward achieving health equity.<sup>3</sup></p>
<p><b>Health inequities</b> are differences in health (or health care) that are systemic, avoidable, unfair, and unjust.<sup>4</sup> Health inequities are affected by social, economic, and environmental conditions.<sup>5</sup></p>	<p>Apply health inequities when referring to unjust differences in health outcomes.</p>



## Term, Definition, and Meaning

## Examples of Application to Health Equity-Focused Implementation Science

**Health disparities** are differences in outcomes or disease burden between groups. With a health disparity, there is a higher burden of illness, injury, disability, or mortality in one group relative to another.<sup>6,7</sup> Health disparities adversely affect groups of people who have experienced greater social or economic obstacles to health based on their racial or ethnic group, religion, socioeconomic status, gender, age, or mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.

Health disparities are a metric used to measure progress toward health equity. A reduction in health disparities (in absolute and relative terms) is evidence of moving toward health equity.<sup>7</sup>

Moving toward greater equity is achieved by improving the health of those who are economically or socially disadvantaged.<sup>8</sup>

**Health care disparities** are differences between groups that are closely linked to economic and social disadvantage, including differences in health insurance coverage, access to and use of care, and quality of care.<sup>9,10</sup>

Apply health care disparities when trying to understand and address inequities in health care between groups, when such inequities are closely linked to economic and social disadvantage.

**Social determinants of health (SDoH)** are interrelated economic and social conditions that influence health.<sup>11</sup> Social determinants of health (SDoH) have a major impact on people's health, well-being, and quality of life. Examples of SDoH include:

- safe housing, transportation, and neighborhoods
- discrimination and violence
- education, job opportunities, and income
- access to nutritious foods and physical activity opportunities
- access to health care
- polluted air and water
- language and literacy skills

An example of health equity-focused implementation research is trying to understand the influence of social determinants of health on equitable implementation of clinical and public health evidence-based practices, interventions, or policies.



## Term, Definition, and Meaning

## Examples of Application to Health Equity-Focused Implementation Science

**Structural racism** has been defined as “the totality of ways in which societies foster racial discrimination through mutually reinforcing systems of housing, education, employment, earnings, benefits, credit, media, health care, and criminal justice. These patterns and practices can reinforce discriminatory beliefs, values, and distribution of resources.”<sup>12</sup>

Apply to understand the broader context in which health inequities are embedded, shaped, and reinforced, and to consider it a determinant of equitable and inequitable implementation of evidence-based interventions and implementation strategies.<sup>13,14</sup>

Several organizations provide a similar definition of **social justice**. Here are two:

“Social justice may be broadly understood as the fair and compassionate distribution of the fruits of economic growth.”

[United Nations](#)

“Social justice is the view that everyone deserves equal economic, political and social rights and opportunities.”

[National Association of Social Workers](#)

**Equity-oriented implementation research** occurs “when strong equity components—including explicit attention to the culture, history, values, assets, and needs of the community—are integrated into the principles, strategies, frameworks, and tools of implementation science.”<sup>15</sup>

Apply to address structural and social determinants of health or other factors that shape inequitable implementation, reach, and adoption.



## Links to External Resources that Focus on Key Language and Concepts in Health Equity

Centers for Disease Control and Prevention

### **Health Equity Guiding Principles for Inclusive Communication**

[https://www.cdc.gov/healthcommunication/Health\\_Equity.html](https://www.cdc.gov/healthcommunication/Health_Equity.html)

Centers for Disease Control and Prevention

### **Health Equity Style Guide for the COVID-19 Response: Principles and Preferred Terms for Non-Stigmatizing, Bias Free Language**

[https://www.cdc.gov/healthcommunication/Health\\_Equity.html](https://www.cdc.gov/healthcommunication/Health_Equity.html)

(See pg. 8, Table 4, in the Health Equity Style Guide for additional resources/guidelines.)

American Medical Association Center for Health Equity

### **Advancing Health Equity: A Guide to Language, Narrative and Concepts**

<https://www.ama-assn.org/about/ama-center-health-equity/advancing-health-equity-guide-language-narrative-and-concepts>

US Department of Health and Human Services

### **Health Equity and Health Disparities Environmental Scan**

The Health Equity and Health Disparities Environmental Scan explores how health equity and health disparities are defined and communicated within the field of public health.

<https://health.gov/sites/default/files/2022-04/HP2030-HealthEquityEnvironmentalScan.pdf>

Stanford Innovation Review

### **Bringing Equity to Implementation**

[https://ssir.org/supplement/bringing\\_equity\\_to\\_implementation](https://ssir.org/supplement/bringing_equity_to_implementation)

American Public Health Association

### **What Is Health Equity?**

<https://www.apha.org/topics-and-issues/health-equity>



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### Health disparities:

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### Social determinants of health:

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### Structural racism:

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### Equity-oriented implementation research:

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# Key Literature

Section lead: Jinying Chen, PhD



**This section includes a reading list of editorials, calls to action, perspectives, and methods articles that provide guidelines and recommendations for integrating health equity into IS.** *Table 2* categorizes these articles based on their topic areas and summarizes the key points of each article.

General recommendations include incorporating a health equity focus into the study from the very beginning and continuing to apply this focus in all stages, from design and planning to implementation and evaluation, whenever possible. In addition, incorporating health equity constructs into implementation models and frameworks, conducting community engagement, and using equity-relevant measures are essential strategies for health equity-focused IS.

The summary column in *Table 2* contains cross references to content in the articles (e.g., tables, figures, and page numbers).

**Table 2. Annotated List of Literature on Integrating Equity into IS**

Articles	Summary of Content
<b>Recommendations, guidelines, and approaches to integrating a health equity lens into implementation science</b>	
<p>Ramanadhan S, Davis MM, Armstrong R, et al. Participatory implementation science to increase the impact of evidence-based cancer prevention and control. <i>Cancer Causes Control</i>. 2018;29(3):363-369. <a href="https://doi.org/10.1007/s10552-018-1008-1">doi:10.1007/s10552-018-1008-1</a></p>	<p>Discussed the utility of participatory implementation science for cancer prevention and control research:</p> <ol style="list-style-type: none"> <li>1. the spectrum of participatory research approaches;</li> <li>2. benefits of participatory implementation science; and</li> <li>3. key considerations for conducting such projects.</li> </ol> <p>Described six application areas of participatory implementation science (with example studies): identification of research question and evidence-based practice, study execution, data interpretation, dissemination, building the evidence base, and capacity building.</p>
<p>McNulty M, Smith JD, Villamar J, et al. Implementation research methodologies for achieving scientific equity and health equity. <i>Ethn Dis</i>. 2019;29(Suppl 1):83-92. <a href="https://doi.org/10.18865/ed.29.S1.83">doi:10.18865/ed.29.S1.83</a></p>	<p>Emphasized community engagement (e.g., community-based participatory research and community-partnered participatory research) as an important strategy to overcome disparities.</p> <p>Reviewed three implementation science research paradigms and related methods, with example studies, to improve scientific and health equity:</p> <ol style="list-style-type: none"> <li>1. analysis of existing data, using epidemiologic methods and simulation modeling (agent-based modeling) to understand and address disparities;</li> <li>2. research with health equity as secondary focus of implementation; and</li> <li>3. research focusing exclusively on vulnerable populations.</li> </ol>



## Articles

## Summary of Content

### Recommendations, guidelines, and approaches to integrating a health equity lens into implementation science

Baumann AA, Cabassa LJ. Reframing implementation science to address inequities in healthcare delivery. *BMC Health Serv Res.* 2020;20(1):190. [doi:10.1186/s12913-020-4975-3](https://doi.org/10.1186/s12913-020-4975-3)

Reframed five core elements of implementation science to incorporate a health equity lens:

1. focus on reach from the very beginning;
2. design and select evidence-based interventions (EBIs) that best serve vulnerable populations;
3. develop implementation strategies to reduce health care inequities;
4. adapt implementation programs; and
5. examine equity issues when assessing implementation outcomes.

Brownson RC, Kumanyika SK, Kreuter MW, Haire-Joshu D. Implementation science should give higher priority to health equity. *Implement Sci.* 2021;16(1):28. [doi:10.1186/s13012-021-01097-0](https://doi.org/10.1186/s13012-021-01097-0)

Outlined three challenges for addressing health equity in implementation science:

1. EBIs were not sensitive to health equity;
2. measures or methods lack a focus on health equity; and
3. factors driving health equity received less attention when assessing and addressing the implementation context.

Provided 10 recommendations, with action steps and examples, on how to address these challenges (table 2). Figure 1 shows four types of metrics for equity in implementation science.

Snell-Rood C, Jaramillo ET, Hamilton AB, Raskin SE, Nicosia FM, Willging C. Advancing health equity through a theoretically critical implementation science. *Transl Behav Med.* 2021;11(8):1617-1625. [doi:10.1093/tbm/ibab008](https://doi.org/10.1093/tbm/ibab008)

Discussed three areas of anthropology theories that could complement implementation science theories and constructs to advance health equity:

1. theories of postcoloniality and reflexivity, to give attention to the role of power in knowledge production and to the ways that researchers and interventionists may perpetuate the inequalities shaping health (table 1);
2. theories of structural violence and intersectionality, to help understand and address health disparities at multiple levels and across sectors (table 2); and
3. theories of policy and governance, to examine the social-political forces of the “outer context” crucial for implementation and sustainability (table 3).

Key questions and relevant studies were provided (tables 1–3) to demonstrate how these theories can be operationalized to enhance each stage of health equity implementation research.





## Articles

## Summary of Content

### Recommendations, guidelines, and approaches to integrating a health equity lens into implementation science

Loper A, Woo B, Metz A. Equity is fundamental to implementation science. *Stanf Soc Innov Rev.* 2021;19(3):A3-A5.  
[doi:10.48558/QNGV-KG05](https://doi.org/10.48558/QNGV-KG05)

Proposed a new lens called equitable implementation and discussed five crucial elements:

1. design/select intervention by assessing root causes of inequity, including historical and structural racism;
2. focus on reach and equity from the very beginning;
3. conduct community engagement;
4. adapt intervention to fit the local community; and
5. develop new strategies.

Odeny B. Closing the health equity gap: A role for implementation science? *PLoS Medicine.* 2021;18(9):e1003762.  
[doi:10.1371/journal.pmed.1003762](https://doi.org/10.1371/journal.pmed.1003762)

Recommended integrating health equity in three areas:

1. identify implementation strategies to promote equity;
2. develop metrics for quantifying and monitoring disparities during implementation; and
3. adopt pragmatic study designs (e.g., mixed methods, hybrid effectiveness–implementation research) to generate evidence related to health equity.

Kerkhoff AD, Farrand E, Marquez C, Cattamanchi A, Handley MA. Addressing health disparities through implementation science—a need to integrate an equity lens from the outset. *Implement Sci.* 2022;17(1):13.  
[doi:10.1186/s13012-022-01189-5](https://doi.org/10.1186/s13012-022-01189-5)

Outlined four key pre-implementation steps and associated questions to guide selection and design of interventions and implementation strategies to reduce health disparities:

1. engage relevant community partners and stakeholders;
2. select interventions and implementation strategies using a health equity lens;
3. evaluate existing performance gaps related to the intervention or program in vulnerable populations; and
4. identify and prioritize barriers faced by vulnerable populations.



## Articles

## Summary of Content

### Recommendations, guidelines, and approaches to integrating a health equity lens into implementation science

Adsul P, Chambers D, Brandt HM, et al. Grounding implementation science in health equity for cancer prevention and control. *Implement Sci Commun*. 2022;3(1):56. [doi:10.1186/s43058-022-00311-4](https://doi.org/10.1186/s43058-022-00311-4)

Highlighted recent advances in implementation science to promote health equity (e.g., theories, models, frameworks, adaptations, implementation strategies, study designs, implementation determinants, and outcomes).

Described opportunities for integration of broader health equity research with implementation science (figure 1), which include incorporating an explicit focus on health equity in:

1. conducting and reviewing implementation science;
2. theories, models, and frameworks guiding implementation science; and
3. identifying methods for understanding and documenting influences on the context of implementation.

Recommendations apply to cancer prevention and control—and beyond. The Discussion section described methods for integrating implementation science and health equity research (under recommendations 1 and 2; e.g., community engagement, tracking adaptations, key questions to consider regarding implementation strategies, intervention mapping).

### Addressing structural and institutional racism and power in implementation science

Shelton RC, Adsul P, Oh A. Recommendations for addressing structural racism in implementation science: A call to the field. *Ethn Dis*. 2021;31(Suppl 1):357-364. [doi:10.18865/ed.31.S1.357](https://doi.org/10.18865/ed.31.S1.357)

Provided recommendations for addressing structural racism in implementation science, with example studies, in three areas:

1. include structural racism as a construct and determinant within implementation science frameworks and models;
2. use a multi-level approach to select, develop, and adapt EBIs and implementation strategies to address structural racism; and
3. conduct transdisciplinary and intersectoral collaborations and engagement (e.g., community-based participatory research and stakeholder engagement) as essential methods to address structural racism.

Discussed measures of structural racism (p. 4, within recommendation 1) and study designs (pp. 6–7, within recommendation 3).



## Articles

## Summary of Content

### Addressing structural and institutional racism and power in implementation science

Shelton RC, Adsul P, Oh A, Moise N, Griffith DM. Application of an antiracism lens in the field of implementation science (IS): Recommendations for reframing implementation research with a focus on justice and racial equity. *Implement Res Pract.* 2021;2. [doi:10.1177/26334895211049482](https://doi.org/10.1177/26334895211049482)

Provided guidance for applying an antiracism lens to implementation science, focusing on select core elements in implementation research:

1. stakeholder engagement;
2. conceptual frameworks and models;
3. development, selection, adaptation of EBIs;
4. evaluation approaches; and
5. implementation strategies.

Table 1 summarized the recommendations, along with key questions for each element. The article also provided helpful examples and references for community engagement and community-based participatory research (pp. 3, 7) and assessing SDoH/structural racism (p. 7).

Stanton MC, Ali SB, SUSTAIN Center Team. A typology of power in implementation: Building on the exploration, preparation, implementation, sustainment (EPIS) framework to advance mental health and HIV health equity. *Implement Res Pract.* Jan 2022. [doi:10.1177/26334895211064250](https://doi.org/10.1177/26334895211064250)

Identified three types of power working through implementation:

1. **discursive power** is enacted through defining health-related problems to be targeted and through health narratives emerging through implementation;
2. **epistemic power** influences whose knowledge is valued in decision-making; and
3. **material power** is created through resource distribution and patterns of access to health resources and acquisition of health benefits provided by the intervention.

Explained how these forms of power influence factors and phases of implementation, using the EPIS (exploration, preparation, implementation, sustainment) framework.



## Articles

## Summary of Content

### Policy implementation science to address health inequity

Emmons KM, Chambers DA. Policy implementation science—an unexplored strategy to address social determinants of health. *Ethn Dis*. 2021;31(1):133-138. [doi:10.18865/ed.31.1.133](https://doi.org/10.18865/ed.31.1.133)

An elaboration of key points discussed in the 2021 Policy Implementation Science paper in the context of cancer control research. Discussed capacity building and potential areas for applying implementation science approaches and methods to health-related policy:

1. develop measures and data infrastructure to support evaluation of policy-relevant implementation processes and outcomes;
2. train scholars to conduct policy implementation science;
3. understand and improve the connection of scientific evidence and policy implementation; and
4. evaluate and track the equity-relevant impact of policies (long term, multiple levels and sectors).

### Policy implementation science to address health inequity

Emmons KM, Chambers D, Abazeed A. Embracing policy implementation science to ensure translation of evidence to cancer control policy. *Transl Behav Med*. 2021;11(11):1972-1979. [doi:10.1093/tbm/ibab147](https://doi.org/10.1093/tbm/ibab147)

An elaboration of key points discussed in the 2021 Policy Implementation Science paper in the context of cancer control research. Discussed six key gap areas (table 1) that could be addressed by implementation science related to cancer control policy implementation:

1. bring a focus of policy implementation to implementation science frameworks;
2. develop and use policy-relevant measures;
3. study the intersection between policy instruments (strategies) and the policy context;
4. develop collaboration structures that support policy implementation science;
5. clarify factors that influence transfer from knowledge to policy; and
6. evaluate the impact of all aspects of policy implementation on health equity.

Introduced concepts in policy science (e.g., the five-stream framework of the policy process, policy instruments) useful for policy implementation science.



## Articles

## Summary of Content

### De-implementation to reduce health inequities

Helfrich CD, Hartmann CW, Parikh TJ, Au DH. Promoting health equity through de-implementation research. *Ethn Dis*. 2019;29(Suppl 1):93-96. [doi:10.18865/ed.29.S1.93](https://doi.org/10.18865/ed.29.S1.93)

Discussed three reasons why de-implementation is critical for advancing equity. Proposed several actions for closing current research gaps, including:

1. measure inequity in medical overuse of low-value practices/interventions;
2. study potential mechanisms related to equity in overuse; and
3. test de-implementation strategies to reduce inequity.

### COVID-19 pandemic

Jacobson TA, Smith LE, Hirschhorn LR, Huffman MD. Using implementation science to mitigate worsening health inequities in the United States during the COVID-19 pandemic. *Int J Equity Health*. 2020;19(1):170. [doi:10.1186/s12939-020-01293-2](https://doi.org/10.1186/s12939-020-01293-2)

Discussed opportunities for using implementation science methods and strategies to improve reach and effectiveness (and thus health equity) of interventions and policies for controlling the COVID-19 pandemic. The discussion was organized by types of policies, related to testing, tracing, social distancing, and public mask use. Implementation science can support policy design, implementation, and evaluation.

Provided an example of using implementation science implementation outcomes framework to evaluate COVID-19 testing strategies (table 1).

Galaviz KI, Breland JY, Sanders M, et al. Implementation science to address health disparities during the coronavirus pandemic. *Health Equity*. 2020;4(1):463-467. [doi:10.1089/heq.2020.0044](https://doi.org/10.1089/heq.2020.0044)

Discussed three ways (figure 1), with recommended actions, in which implementation science can help guide the equitable development and deployment of preventive interventions, testing, and, eventually, treatment and vaccines during the COVID-19 pandemic:

1. quantify and understand disparities;
2. design equitable interventions; and
3. test, refine, and retest interventions.

Riley WT, Mensah GA. Social determinants of health and implementation research: Lessons from the COVID-19 pandemic. *Ethn Dis*. 2021;31(1):5-8. [doi:10.18865/ed.31.1.5](https://doi.org/10.18865/ed.31.1.5)

Highlighted health disparities during the COVID-19 pandemic and discussed how social determinants of health contributed to these disparities. Advocated for the development and application of implementation strategies to reduce health inequity.



## Articles

## Summary of Content

### COVID-19 pandemic

Kwan BM, Sobczak C, Gorman C, Roberts S, Owen V, Wynia MK, Ginde AA, Pena-Jackson G, Ziegler O, Ross DeCamp L. "All of the things to everyone everywhere": A mixed methods analysis of community perspectives on equitable access to monoclonal antibody treatment for COVID-19. *PLoS One*. 2022 Nov 23;17(11):e0274043. [doi: 10.1371/journal.pone.0274043](https://doi.org/10.1371/journal.pone.0274043). PMID: 36417457; PMCID: PMC9683597.

Assessed community perspectives on Monoclonal antibodies (mAbs) treatment for COVID-19 through a mixed methods study using surveys and focus groups. The studies identified little awareness but high interest in getting mAb treatment among participants. Compared with White, non-Hispanic respondents, Hispanic/Latino and non-Hispanic people of color (POC) reported less awareness and trust in mAb safety and effectiveness. Major barriers of using mAb treatment are cost, lacking sources of care, and transportation. Tailored messaging strategies using multiple media and trusted community leaders are needed to improve reach and equitable access to mAb treatment.

### Other topics

Westfall JM, Roper R, Gaglioti A, Nease DE Jr. Practice-based research networks: Strategic opportunities to advance implementation research for health equity. *Ethn Dis*. 2019;29(Suppl 1):113-118. [doi:10.18865/ed.29.S1.113](https://doi.org/10.18865/ed.29.S1.113)

Introduced the history and infrastructure of practice-based research networks (PBRN), and existing work in PBRN that addresses health equity. Described new PBRN opportunities to address health disparities (e.g., serving as an ideal laboratory for studying interventions to address health equity issues).

Baumann A, Woodward E, Adsul P, Singh S, Shelton RC. Assessing researchers' capabilities, opportunities, and motivation to conduct equity-oriented dissemination and implementation research, an exploratory cross-sectional study. *BMC Public Health*. 2022;22(1):731. [doi:10.1186/s12913-022-07882-x](https://doi.org/10.1186/s12913-022-07882-x)

A survey study of 180 participants about aspects of engaging in and conducting equity-oriented dissemination and implementation (D&I) research. Participants reported high motivation but low capability to conduct equity-oriented D&I research (e.g., lack of information needed for promoting health equity and experience in using measures to examine equity in D&I projects). Lack of skills and funding are two major factors perceived to influence ability to conduct equity-oriented D&I research.



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# Community and Partner Engagement

Section lead: Maryum Zaidi, PhD



## Implementation Science Partner Engagement

**This section provides a rationale for why community and partner engagement is important for integrating health equity in implementation science and gives examples of how this has been done effectively.** In this section, we intentionally use “community and partner engagement” over “stakeholder engagement” due to the negative connotations of the word “stakeholder” in some indigenous communities. The choice of terminology depends on the specific context and the relationships between the parties involved. However, the word “stakeholder” is deeply rooted in colonial practices in which these communities had no legal rights. The term “stakeholder” implies that all parties involved have equal rights, which is not the case in all circumstances. Hence, we use language that focuses on building partnerships rooted in community-based participatory research.<sup>1,2,3</sup> “Community” refers to a group of people or organizations defined by function (such as an industry), geography (such as a metropolitan area), shared interests or characteristics (such as ethnicity, sexual orientation, or occupation), or by a combination of these dimensions that facilitates an action at a local level.<sup>4</sup> “Partners” can be defined in the context of a community, industry, or other fields with predetermined roles and responsibilities.<sup>5</sup> Overall, “community partner” tends to emphasize collaboration, cooperation, and a shared sense of purpose with a specific community, while “stakeholders” is a broader term that encompasses all parties with an interest in a given project or organization, regardless of their level of involvement or alignment of goals. Both terms, partner and stakeholder, have their place, and the choice between them depends on the specific context as far as these terms are being used within their specific context. The term “community partner” is preferred when researchers seek equal power sharing and co-production throughout the life cycle of research with their communities of focus.

Equity-focused IS research requires a deep understanding of the assets and needs of populations and communities and of the systems, policies, and other contextual factors that underlie health inequities.<sup>6,7,8</sup> Health inequality is often discussed in relation to economic, social, and racial/ethnic constructs. However, there are many other dimensions of inequities, such as gender, immigration status, sexual orientation, and geographic areas, that require attention. IS-trained investigators wishing to make an impact on advancing health equity will benefit from engaging community partners who can help to ensure that implementation research is grounded in the lived experiences of the populations experiencing inequities.<sup>9</sup>

Equity-focused research depends on actively engaging and partnering with multiple stakeholders, leveraging existing resources, establishing shared objectives, and combining knowledge and action to achieve a more equitable distribution of power and the benefits of an intervention among all involved parties.<sup>8</sup> Implementation science can benefit from community partner engagement to yield better outcomes in EBP, particularly for communities experiencing health inequities.<sup>7,10,11</sup> Insufficiently involving those affected by the issues in health interventions and EBPs can worsen inequities, leading to less acceptable and appropriate interventions with reduced reach and effectiveness. The partners closest to the problems hold the closest solutions for their communities. Engaging them provides valuable insights into issues, risks, and protective factors, leading to relevant strategies and enhancing sustainability, multilevel benefits, external validity, and transferability to other settings.<sup>8</sup>





## Planning Considerations

The next section presents planning considerations for IS researchers interested in developing meaningful community or partner engagement in health equity-focused implementation research.

### 1. What does it mean to have meaningful community or partner engagement?

Community engagement occurs along a spectrum, as shown in *Table 3* (adapted from Facilitating Power).<sup>12</sup>

Implementation researchers in IS can utilize this visual guide to assess how their design actively involves their community partners.

**Table 3. Spectrum of Community or Partner Engagement**

Stance toward community	Ignore	Inform	Consult	Involve	Collaborate	Defer
<b>Impact</b>	Marginalization	Preparation or placation	Limited voice	Voice	Delegated power	Community ownership
<b>Community engagement goals</b>	Deny access to decision-making process	Provide community with relevant information	Gather input from community	Ensure community needs and assets are integrated into process and informed intervention development/planning	Ensure community capacity to play a leadership role in decision-making and the implementation of decisions	Foster democratic participation and equity through community-driven decision-making; bridge divide between community and research governance
<b>Examples of activities</b>	Closed door meetings Misinformation Systemic disenfranchisement	Fact sheets Open houses Presentation Billboards Videos	Focus groups Interviews Community forums Surveys	Community organizing and advocacy Interactive workshops Polling Community forums Open planning forums	Memorandums of understanding (MOUs) with community-based organizations Community advisory committees Collaborative data analysis Co-design and co-implementation Collaborative decision-making	Community-driven planning and ownership Consensus building Participatory action research Cooperative models including participatory budgeting
<b>Resource allocation</b>	100% researchers	70%–90% researchers 10%–30% products	60%–80% researchers 20%–40% consultation	50%–60% researchers 40%–50% community involvement	20%–50% researchers 50%–70% community partners	80%–100% community partners and community-driven processes ideally generate new values and resources that can be invested in solutions



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## 2. What is a useful mindset for engaging communities and/or partners in implementation science that integrates a focus on health equity?

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Researchers should be interested in incorporating community perspectives into their IS research, particularly to improve equity. For example, consider taking the following actions:

- **Check with community partners to see if the problems they face are being addressed in the proposed research.**
- **Take the time to build trust and relationships—do not go into a new community and expect your ideas to be embraced immediately as an outsider.**
- **Seek to understand other experiences a community may have had with research or with your institution.**
- **Consider the bi-directional relationship: What are the benefits, skills, or resources that you bring? How can the community partners benefit from participation or engagement?**
- **Analyze the team and consider the diversity of viewpoints that may be needed to reach the community.**
- **Consider ways to redistribute power and resources.**

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## 3. What are useful approaches to defining and determining the meaningfulness, relevance, and impact of the research, and to whom?

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- **Consider the role of belonging, trust, and power.** Low levels of trust between the community partners and local institutions are an enormous barrier to engagement and transformation. Community engagement across the life cycle of research, from design to implementation to evaluation, creates the best possible conditions for change in meaningful and effective ways. Feelings of belonging to collective and cultural identity are a powerful source of motivation for active involvement and leadership and sustainability of research initiatives. IS researchers can take into account the following:
  - If you are not a part of the community/partner group you are working with, what are you doing to meaningfully engage, hire, compensate, and build trust with those communities?
  - Inclusion of diverse perspectives and groups in research partnerships goes beyond mere representation. True inclusions include clearly stated intention, culturally appropriate actions, and deliberate creation of welcoming environments that foster a sense of belonging. Explore innovative options for involvement that go beyond the usual methods of participation, such as meetings, conference calls, and Zoom calls. Embrace the idea of accommodating constraints by offering adaptable and imaginative alternatives to engagement, like prerecorded videos or opportunities after meetings to share further thoughts and ideas.<sup>13</sup>



## Consideration of Implementation Science in Health Care Context vs. Other Settings

Even though implementation science is the scientific study of the methods to promote the uptake of research findings into routine health care in clinical, organizational, or policy contexts, there can be differences in health care versus other settings in the community. In health care, implementation science has to be tailored to the target population, cultural settings, and goals. It is similar to patient care, in which a diagnosis precedes treatment choice.<sup>14</sup> Therefore, the principle of partner engagement is of utmost importance in health-care-related implementation science to select the EBP to achieve health equity. This may not be the case in other settings, such as in education or environmental policy sectors, where partner engagement may be desirable; however, relevant evidence-based practices from other settings may be implemented to achieve desired outcomes.<sup>15,16</sup>

### Types of Community and Partner Engagements to Consider

Among various approaches, two prominent methods, namely community-based participatory research (CBPR) and the Patient-Centered Outcomes Research Institute's (PCORI) Engagement Rubric, provide principles and best practices to assist researchers in effectively engaging with communities and partners during their research process. As researchers develop community and partner engagement plans, these principles can serve as a foundation. These different kinds of engagement strategies are listed at [DICEMethods.org](https://www.dicemethods.org),<sup>17</sup> where researchers can explore various approaches, methods, and tools for meaningful community and partner engagement according to their budget and time.

A few other categories of consideration in community and partner engagement are suggested by Boaz et al.<sup>18</sup> The authors have indicated that community and partner engagement can be organized into three groups for implementation science researchers to consider: organizational-based, value-based, and practice-based. Organizational-based engagement will revolve around specific objectives such as organizational learning or resource development. Values-based engagement will entail a shared commitment to the values with the community and partners. Lastly, practice-based engagement will incorporate the identification and involvement of partners in the iterative and ongoing research process.<sup>18</sup>

Community and partner co-creation with the researchers is emphasized by Perez Jolles et al.<sup>19</sup> The authors suggested that such an approach to collaboration is critical to achieving meaningful implementation and offers a synergistic approach to goal attainment. They explained the co-creation process for IS researchers as working with community partners willing to share their knowledge, skill sets, and resources to work toward a goal they plan, design, test, and implement. They emphasized that such collaborations can be nurtured by addressing the power imbalance and trust among the involved partners. Their article presents three federally funded examples based on the EPIS framework (Exploration, Preparation, Implementation, and Sustainment).



## Other Community Partner Engagement Examples

### 1. Use of community collaborative advisory board for serious mental illness in a new population provider group<sup>20</sup>

This study was conducted in partnership with a public mental health clinic that serves predominantly Hispanic/Latino clients to incorporate mental health managers. A community advisory board (CAB) composed of researchers and potential implementers (e.g., social workers, primary care physicians) used the collaborative intervention planning framework, an approach that combines community-based participatory research principles and intervention mapping (IM) procedures, to inform intervention adaptations. The adaptation process included fostering collaborations between community advisory board members, understanding the needs of the local population through mixed methods needs assessment (literature review and group discussions), reviewing interventions objectives to identify targets for adaptation and eventually developing the adapted intervention. By using this approach, an existing intervention (mental health care manager) was adapted by using community partner engagement.

### 2. Community-based, participatory-research-based design of community health worker breast cancer training program<sup>21</sup>

A community-based participatory research (CBPR) study conducted from 2017 to 2019 informed the design of a training curriculum for community health workers (CHWs) and educational dissemination materials. Twenty-two CHWs were trained, and knowledge gains were measured using a one-group pre- and post-test design. Triangulated evaluation consisted of field observations of CHW-client interactions, CHW self-reports, and rapid assessment surveys of community members. The training curriculum resulted in significant, sustained breast cancer knowledge gains among CHWs when comparing pre-, post-, and 4- to 6-month post-training follow-up test scores. Field observations of educational materials dissemination, CHW self-reported evaluations, and community rapid assessment surveys at three health fairs demonstrated that this was an effective strategy to engage female Hispanic/Latino farmworkers in breast cancer education.

### 3. CBPR-based project conducted in three Massachusetts communities to build capacity among community-based organizations to find, adapt, and evaluate EBPs systematically<sup>22</sup>

Researchers and community-based organizations co-created a training intervention to build capacity among community-based organization staff members to systematically find, adapt, and evaluate EBPs. PLANET MassCONNECT is a CBPR project conducted in three Massachusetts communities. The community advisory committee and study team co-developed and refined the capacity-building training intervention and evaluations. They employed local community health educators in each partner community. The Participatory Approach to Knowledge Translation (PaKT) Framework guided the PLANET MassCONNECT intervention. Community organizations can use the website (<https://planetmassconnect.org>) to find the EBP that can be applicable to their communities and learn how to make a plan for implementation.

### 4. Enhancing capacity among faith-based organizations to implement evidence-based cancer control programs: A community-engaged approach<sup>23</sup>

In this qualitative study, 18 community key informants were interviewed to understand existing capacity for health programming among Catholic parishes, characterize parishes' resource gaps and capacity-building needs implementing cancer control EBPs, and elucidate strategies for delivering capacity-building assistance to parishes to facilitate implementation of EBIs.



## Conclusion

Implementation of evidence-based interventions needs to be considered from the partners' perspective. Researchers may need to develop new interventions or adapt existing interventions with the help of community and clinical partners. This approach ensures that the intervention becomes more pertinent, efficient, and enduring when applied to the target community. By actively involving community partners as equal collaborators in the research process, they gain empowerment and an enhanced sense of self-efficacy.



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# Reflexivity in Research Practice

Section lead: Rachel Shelton, ScD, MPH

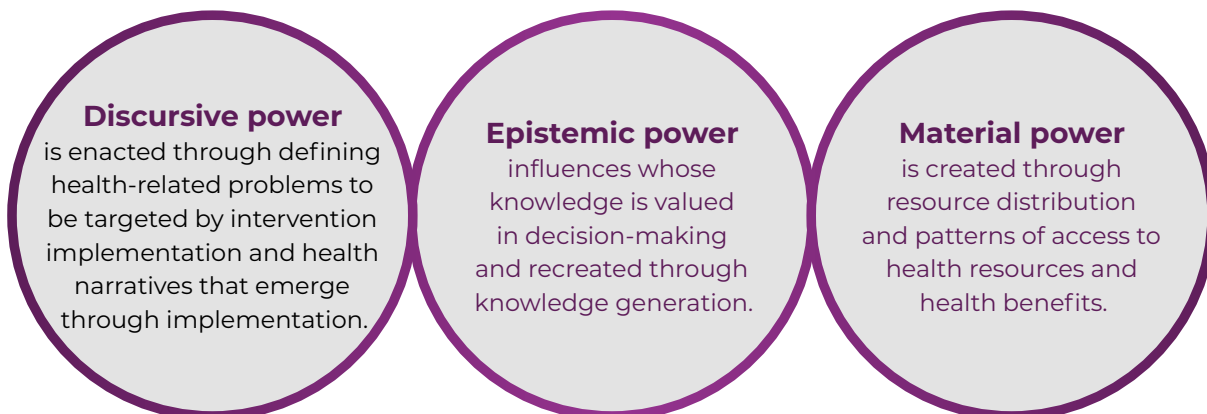




**Conducting IS research focused on promoting health equity requires ongoing self-reflection on how issues of equity are addressed and considered in one’s own research, research teams, and institutions.** Such reflection helps recognize the economic, cultural, racial, and other biases and assumptions we bring to the work, as well as how the broader historical and social context in which we live and conduct research shapes how we approach health inequities and our explanations for why they exist.

In the context of racial equity research, The Public Health Critical Race Praxis has been used to help guide consideration and analysis of how racism-related factors influence research questions, assumptions, methods, frameworks, and the unequal power and resources in shaping the research agenda and what is valued as solutions.<sup>1,2,3,4</sup> Such grounding can help understand and contextualize the broader systems that create inequities in our research and research institutions.

Aligned with the section in this toolkit on Community and Partner Engagement, this includes reflection on whose voices are represented at the table, how community values are being centered, how community partners benefit from participation in IS research, and potential unintended consequences. Additionally, in the context of implementation science, Stanton and colleagues<sup>5</sup> have put forth suggestions on how to identify and analyze three types of power working through implementation:



Reflexivity and positionality are always important in the conduct of equity-focused research. Reflexivity relates to the perspective that all researchers influence all aspects of the research process,<sup>6,7</sup> and positionality refers to the potential biases based on the researcher’s position, which may include social position and characteristics within a social context. Such reflection can help researchers acknowledge their own positions and their understanding of how they approach phenomena of inquiry, and it can help facilitate a research environment that supports and promotes respect for a range of voices and values in the context of IS research.

Woodward and Ball<sup>8</sup> provide an excellent example of consideration of reflexivity for managing power imbalances and effective collaborative work to promote equity when conducting implementation science as a team new to community engagement. The authors describe and reflect on their application of methods to practice reflexivity in applying CBPR principles as part of a new community-academic partnership for and with US veterans living in rural Arkansas. They provide guidance and discuss the value and some considerations in applying these five methods to practice reflexivity, which included identifying positionality, writing field notes, obtaining mentorship on technical aspects, comparing headnotes, and consulting reference materials.



## Reflectivity Questions in the Context of Teams

Shelton and colleagues<sup>9</sup> propose a series of key questions for considering positionality and reflexivity in the context of their research, research teams, and institutions, which are provided below. While focused on racism and racial inequities, such questions can be extended to include and address other forms of social inequities and oppression (e.g., sexism, classism, heterosexism):

- In considering positionality and reflexivity, how is racism, power, and privilege operating here—on my research team, in my research, within my research institution, and within funding institutions?
- How are racist policies and processes operating in the context of my research and research environment?
- How has racism influenced the research questions that I ask or not?
- How has racism influenced the solutions and interventions that I select and the methods I prioritize?
- How are we framing and explaining health inequities (their causes and solutions)?
- How are we being accountable to communities experiencing racism?
- Am I using my voice and privilege to address racism? If so, how am I doing so?
- How can research findings be used to inform collective action?
- How can research and knowledge be shared with communities? And have I done this equitably?
- What is the extent to which we are prioritizing the inclusion of populations and settings experiencing inequities, and what are the impacts of structural racism in these contexts?



## 10 Simple Rules for Building an Antiracist Lab

Relatedly, Chaudhary and Berhe<sup>10</sup> propose 10 simple rules for building an antiracist lab:

1. Lead informed discussion about antiracism in your lab regularly.
2. Address racism in your lab and field safety guidelines.
3. Publish papers and write grants with Black, Indigenous, and people of color (BIPOC) colleagues.
4. Evaluate your lab's mentoring practices.
5. Amplify voices of BIPOC scientists in your field.
6. Support BIPOC colleagues in their efforts to organize.
7. Intentionally recruit BIPOC students and staff.
8. Adopt a dynamic research agenda.
9. Advocate for racially diverse leadership in science.
10. Hold the powerful accountable and don't expect gratitude.

## Questions for Considerations for Antiracist Approaches in Community and Partner Engagement

Additionally, Shelton et al.<sup>9</sup> provide reflection questions and considerations related to health equity and antiracism in the context of community or partner engagement in implementation science. These questions include:

- Who are the community members, researchers, and stakeholders that would benefit from or be influenced by the proposed research?
- How do we (researchers and their teams) engage with racially/ethnically diverse communities?
- How are communities defined (e.g., geography, racial identity, sexual and gender identity)?
- How often and how early in the process are we engaging with communities?
- Who is included and who is excluded when important decisions are made?
- How are power and resources distributed among researchers and communities?
- What unintentional biases do researchers bring to the research with community partnerships?

Implementation science researchers can shift the culture of academic workplaces to intentionally implement equitable and inclusive policies, set norms for acceptable workplace conduct, and provide opportunities for mentorship and networking.



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# Implementation Science Frameworks

Section lead: Kelly Aschbrenner, PhD

This section is designed to help investigators consider how to frame an equity-focused approach to implementation research, whether the goal is to study determinants (What are barriers and facilitators?), process (How will we implement?), or outcomes (Did it work?). It contains a review of implementation determinants, processes, and outcomes with examples of how equity has been integrated into related implementation frameworks.

## Implementation Context

Implementation context is the set of circumstances or factors (i.e., determinants) that help explain why EBI implementation was or was not successful.<sup>1</sup> Within implementation science, determinant frameworks help implementation researchers identify factors that influence implementation outcomes by guiding data collection, analysis, and interpretation of barriers and facilitators to implementation efforts.<sup>2</sup> Organizational support, financial resources, social relationships and support, leadership, and organizational culture and climate are among the most common dimensions of contextual determinants.<sup>3</sup>

Integrating health equity into determinant frameworks can bring greater attention to understanding how upstream determinants (e.g., reliable transportation, stable housing, economic stability) independently influence, or interact with, other contextual dimensions to shape implementation outcomes.<sup>4</sup>

## Consolidated Framework for Implementation Research

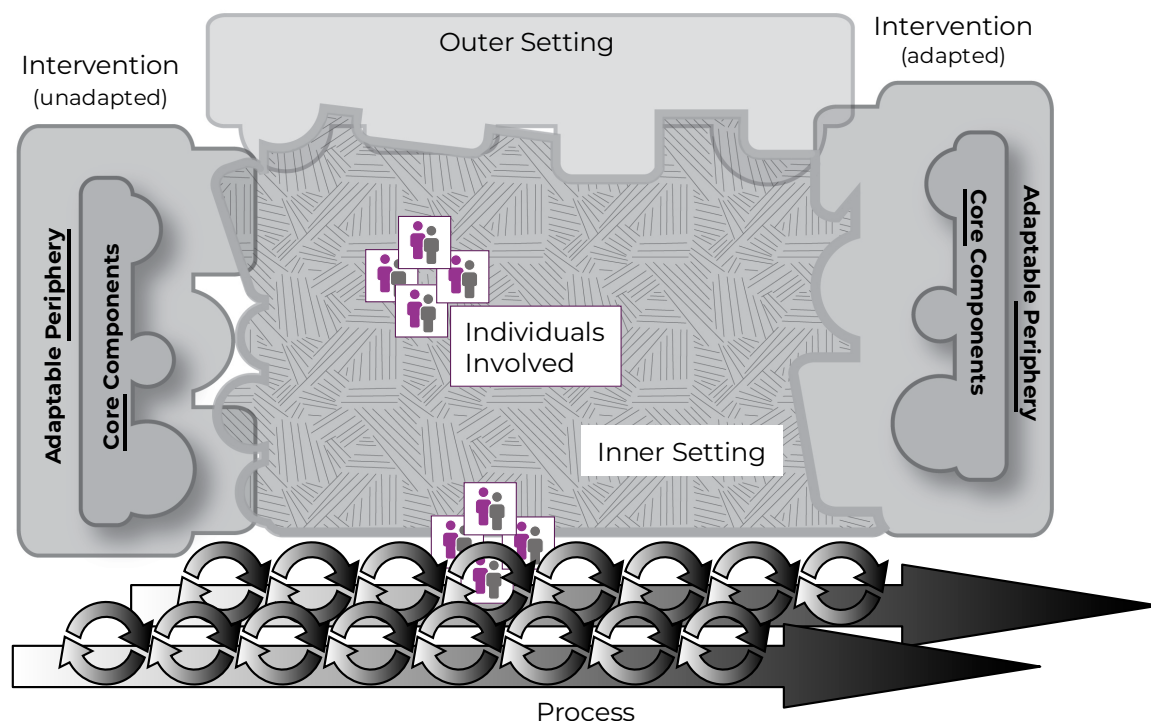


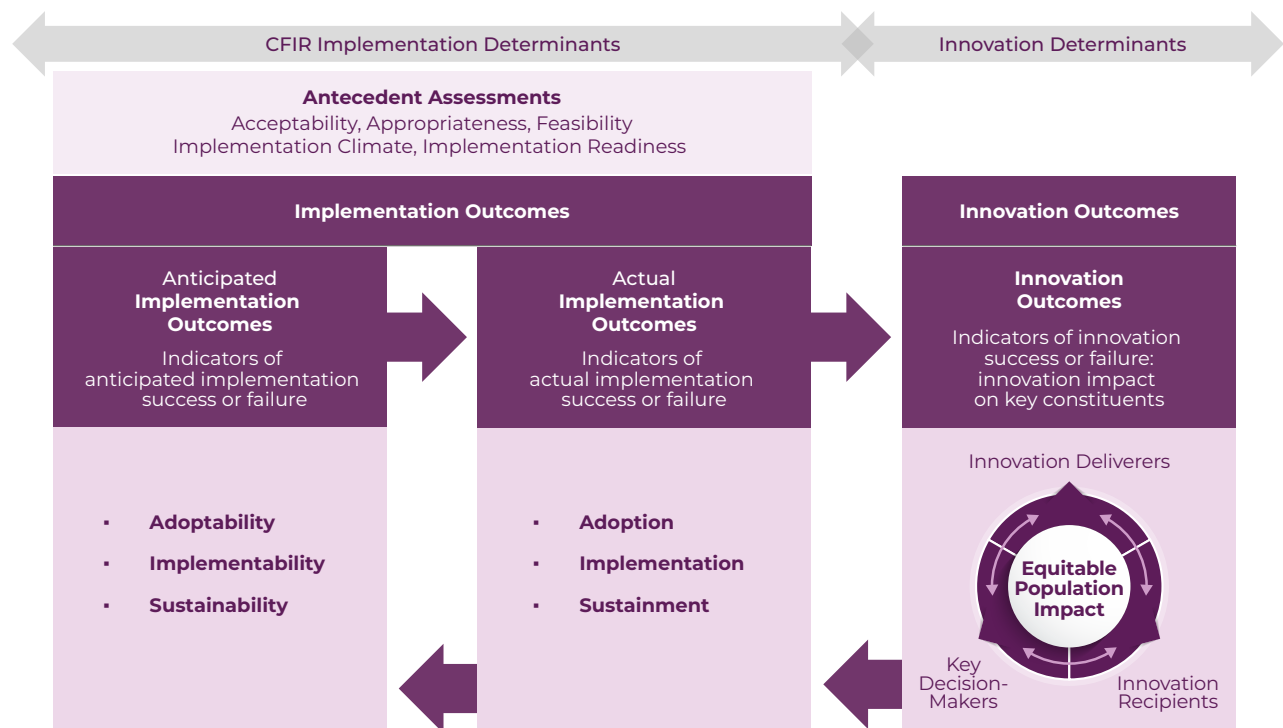
Figure 1. Consolidated Framework for Implementation Research

The Consolidated Framework for Implementation Research (CFIR), developed over a decade ago,<sup>5</sup> is one of the most widely used determinant frameworks for studying context within implementation science.<sup>6</sup> The original CFIR is a comprehensive, empirically based multi-level determinant framework that organizes 39 constructs across five domains (intervention, outer setting, inner setting, individual, and processes), all of which interact to influence intervention and implementation effectiveness.<sup>5</sup> Recommendations for applying CFIR in implementation research have included:

1. justifying the selection of specific CFIR constructs among the 39 described in the framework;
2. integrating CFIR constructs throughout the research process (e.g., study design, data collection, and analysis); and
3. appropriately using CFIR given the phase of implementation research (e.g., pre-implementation needs assessment, post-implementation linking determinants to implementation outcomes).<sup>6</sup>

As a generalized framework designed to be a repository of standardized implementation-related constructs, health equity was not an explicit focus of the original CFIR.<sup>5</sup> However, recommendations in the recently updated CFIR 2.0 (*Figure 2*) include centering equity as a determinant and an outcome.<sup>7</sup> Specific recommendations include:

1. sharing power with members of historically excluded groups in implementation and evaluation and
2. integrating equity-focused theories (e.g., equity, justice, and discrimination) with CFIR to evaluate implementation outcomes.<sup>8</sup>



**Figure 2. CFIR Outcomes Addendum Diagram**



### Example: Integrating Health Equity into CFIR

Allen and colleagues<sup>9</sup> used an analytic approach known as the Public Health Critical Race Praxis<sup>10</sup> to adapt the original CFIR to identify the ways that structural racism interacts with intervention implementation and uptake of equity-oriented school-based interventions in a hybrid effectiveness–implementation trial at 10 schools across one urban school district. The researchers conducted secondary analysis of qualitative longitudinal data including observational field notes, youth and parent reflections, and semi-structured interviews with community-academic researchers and school-based partners. The researchers found that adapting CFIR with a health equity lens that explicitly considered how structural racism influenced CFIR outcomes enabled them to identify barriers to implementation uptake not previously recognized using standard race-neutral definitions.

## Integrated-Promoting Action on Research Implementation in Health Services

The original Promoting Action on Research Implementation in Health Services (PARIHS) is a conceptual framework designed to help explain why the implementation of evidence into practice is or is not successful.<sup>11,12</sup> As a determinant framework, it specifies determinants that act as barriers and facilitators influencing implementation outcomes. The original PARIHS framework proposed that successful implementation (SI) of evidence into practice was a function of the quality and type of evidence (E), the characteristics of the setting or context (C), and the way in which the evidence was introduced or facilitated (F) into practice.<sup>11</sup> The Integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS)<sup>12</sup> is a revised version of the original PARIHS framework that positions facilitation as the active ingredient (i.e., how component) of implementation.

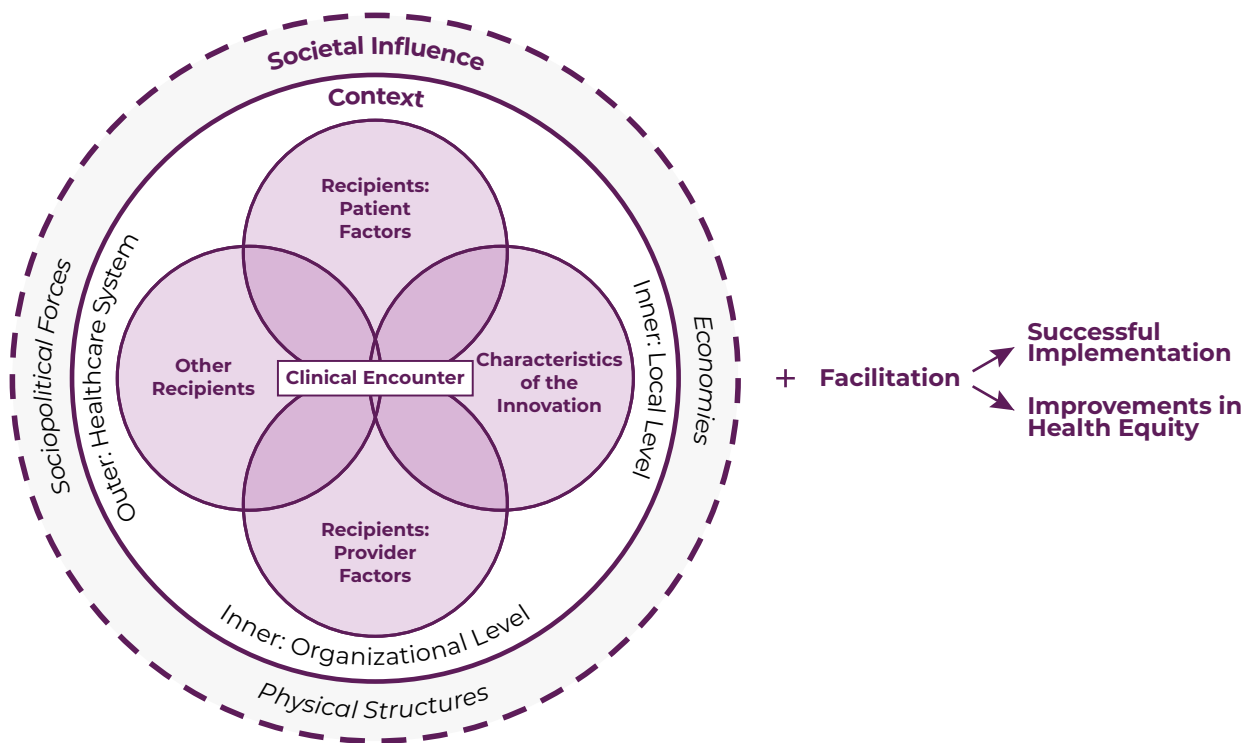
Facilitation helps implementers navigate complex change processes and contextual challenges encountered during implementation. The i-PARIHS framework focuses on different layers of context, differentiating between inner context at the local and organizational level and outer context at wider system and policy levels. As specified in i-PARIHS,<sup>13</sup> implementation context includes the following:

- **Local level:** Formal and informal leadership support, culture, past experience of innovation and change, mechanisms for embedding change, and evaluation and feedback
- **Organizational level:** Organizational priorities, senior leadership and management support, culture, structure and systems, history of innovation and change, absorptive capacity, and learning networks
- **External health-system level:** Policy drivers and priorities, incentives and mandates, regulatory frameworks, environmental (in)stability, inter-organizational networks and relationships



### Example: Integrating Health Equity into i-PARIHS

To fill a gap in determinant frameworks that explicitly incorporate health equity factors, Woodward and colleagues integrated and modified two frameworks—one from implementation science (i-PARIHS)<sup>13</sup> and one from health care disparities research (Health Care Disparities Framework)<sup>14</sup>—to develop the Health Equity Implementation Framework (Figure 3).<sup>15</sup> The Health Equity Framework helps to identify factors relevant to both implementation and disparities in health care. The Health Equity Framework is designed to help implementation researchers identify barriers and facilitators at all levels, including the patient, provider (recipients), patient–provider interaction (clinical encounter), characteristics of treatment (innovation), and health care system (inner and outer context). The framework focuses on societal influences when assessing all other factors because of the impact society can have on health care disparities. Implementation facilitation is adapted to address factors relevant to both implementation and disparities in health care. Since the original Health Equity Framework was published, Woodward and colleagues have published additional guidance describing specific steps to integrate health equity into implementation frameworks.<sup>16</sup>



**Figure 3. The Health Equity Implementation Framework**

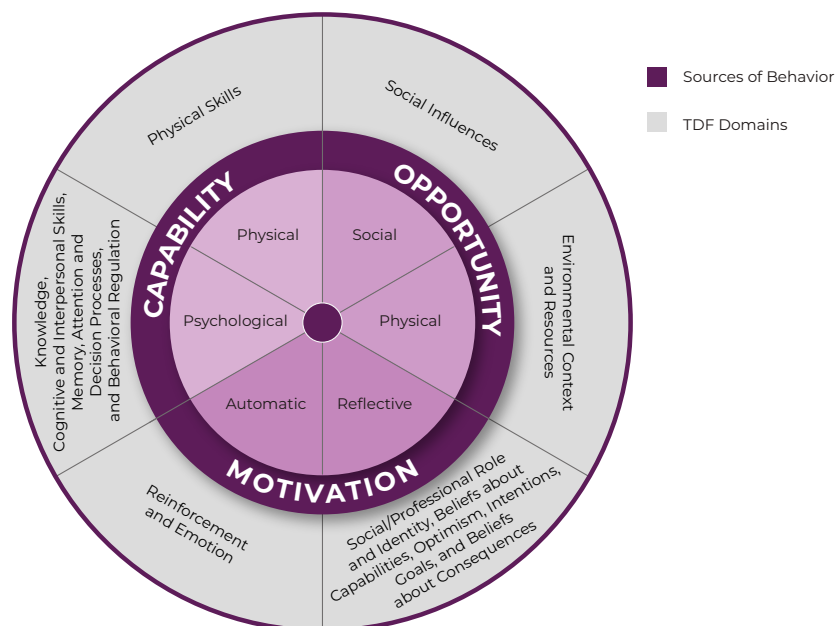
## Theoretical Domains Framework

The Theoretical Domains Framework (TDF) is a determinant framework designed to help investigators understand barriers and facilitators to behavior change required by health professionals, patients, and organizations to implement new practices and/or change existing practices.<sup>17,18</sup> The TDF was developed by behavioral scientists and implementation researchers who identified theories relevant to implementation and grouped constructs from these theories into domains. The overarching goal was to make theories more accessible to those working in implementation.

The TDF synthesizes theories of behavior and behavior change clustered into the following 12 domains:

- |  |   |
|--|---|
| 1. knowledge                             | 7. reinforcement                              |
| 2. skills                                | 8. intentions                                 |
| 3. social/professional role and identity | 9. goals                                      |
| 4. beliefs about capabilities            | 10. memory, attention, and decision processes |
| 5. optimism                              | 11. environmental context and resources       |
| 6. beliefs about consequences            | 12. social influences <sup>18</sup>           |

Atkins and colleagues published practical guidance for those who wish to apply the TDF to assess implementation problems and support intervention design (*Figure 4*).<sup>19</sup> The guide addresses methodological considerations for using the TDF, including selecting and specifying a target behavior, selecting study design, deciding the sampling strategy, developing an interview schedule, and collecting and analyzing data.



**Figure 4. Theoretical Domains Framework**



### Example: Integrating Health Equity into the TDF

Etherington and colleagues<sup>20</sup> led a subgroup of an interdisciplinary Frameworks Committee to enhance the TDF with an intersectional lens through a modified delphi approach. The authors explain that intersectionality, which accounts for the interface between social identity factors (e.g., age, gender) and structures of power (e.g., ageism, sexism), offers a novel approach to understanding how context shapes individual decision-making and behavior. Through the expert-consensus approach, the team developed a tool for applying an intersectionality lens alongside the TDF that includes considerations and prompts designed to assist users to reflect on how individual identities and structures of power may play a role in barriers and facilitators to behavior change and subsequent intervention implementation.

## Implementation Process

Implementation process models provide a structure for describing and/or guiding the process of translating evidence into practice,<sup>21</sup> and in this way they provide a roadmap for implementation. Implementation process models break down implementation into a series of phases or stages prior to and throughout implementation.<sup>22</sup>

Different process models are best suited for different implementation situations. Process models for designing for implementation include Implementation Mapping<sup>23</sup> and Knowledge-to-Action.<sup>24</sup> Process models for implementation, spread, and scale include the Quality Implementation Framework<sup>25</sup> and the Exploration, Preparation, Implementation, and Sustainment (EPIS) model.<sup>26</sup> Process models are often adapted when applied to a new context, and process models can be informed by integrating other models or frameworks (e.g., explore contextual domains in more depth).



### Example: Integrating Health Equity into the Dynamic Adaptation Framework

Aschbrenner and colleagues<sup>26</sup> developed a Stakeholder and Equity Data-Driven Implementation (SEDDI) process to advance equitable implementation and sustainment of evidence-interventions. SEDDI was modeled on elements of the Dynamic Adaptation Process (DAP),<sup>27</sup> a data-informed, collaborative, stakeholder-engaged approach to guiding adaptations to improve the fit of an EBI in a new context. DAP elements applied to SEDDI included a pre-implementation assessment of system, organization, provider, and client characteristics to identify potential barriers and enablers to promoting equitable outreach, access, and use of the EBI; using results from the assessment to inform the selection of health equity targets; planning adaptations needed in the service context to address gaps and how such adaptations will be accomplished; and rapidly implementing and evaluating adaptations and making ongoing refinements as needed.

In the pilot study, community health centers used data to identify gaps in outreach and completion of colorectal cancer screening with respect to race/ethnicity, gender, age, and language. Adaptations to improve access and use of the paired screening intervention included cultural, linguistic, and health literacy tailoring. SEDDI was acceptable and feasible to implement. Community health center teams reported that facilitation and review of data was helpful in identifying and prioritizing gaps. The research team is conducting additional human-centered design of SEDDI to improve usability of rapid cycle testing components.

## Implementation Outcomes

Implementation outcomes have been defined as the effects of deliberate and purposive actions to implement new treatments, practices, and services. They are distinct from, but related to, health outcomes.<sup>28</sup> Implementation outcomes include acceptability, reach, adoption, appropriateness, feasibility, fidelity, and implementation cost, penetration, and sustainability. RE-AIM is one of the most frequently used frameworks for planning and evaluation in implementation research.<sup>28</sup> RE-AIM addresses five individual and setting-level outcomes important to program impact and sustainability: Reach, Effectiveness, Adoption, Implementation, and Maintenance. Shelton and colleagues<sup>29</sup> have extended the RE-AIM framework to integrate sustainability with a focus on addressing dynamic context and promoting health equity. Specifically, the extended RE-AIM framework was developed to guide planning, measurement/evaluation, and adaptations focused on enhancing sustainability.



In applying the RE-AIM extension, the authors recommended consideration of:

1. extension of “maintenance” within RE-AIM to include recent conceptualizations of dynamic, longer-term intervention sustainability and “evolvability” across the life cycle of EBIs, including adaptation and potential de-implementation in light of changing and evolving evidence, contexts, and population needs;
2. iterative application of RE-AIM assessments to guide adaptations and enhance long-term sustainability;
3. explicit consideration of equity and cost as fundamental, driving forces that need to be addressed across RE-AIM dimensions to enhance sustainability; and
4. use or integration of RE-AIM with other existing frameworks that address key contextual factors and examine multi-level determinants of sustainability, including health equity-focused determinant frameworks.

The article on the RE-AIM extension includes testable hypotheses and detailed research questions to inform future empirical research in these areas. The article also includes example qualitative questions and evaluation metrics to help explicitly track equity considerations within each of the RE-AIM domains (see table 1 in article), including when and where along the translational continuum health inequities were exacerbated or reduced, or when and where implementation, reach, adoption, or other implementation indicators were inequitable.

### **Example: Integrating Health Equity into RE-AIM**

Glasgow and colleagues<sup>30</sup> applied the original RE-AIM framework to focus the design, evaluation, and reporting of an intervention targeting an at-risk population. The study was conducted in the context of a randomized, pragmatic weight loss and hypertension self-management intervention. RE-AIM was used to both plan and evaluate the “Be Fit Be Well” program for urban community health center patients. The authors describe the health disparities implications for each of the five key RE-AIM dimensions and assess how “Be Fit Be Well” addressed these issues.

For example, the researchers designed the intervention to decrease commonly found burdens of transportation, time, and access to services by delivering content by phone and internet (reach). To allow for maintenance, the researchers planned to make the website and resources available after the study ended and to address social–environmental determinants of obesity. The study provides an example of how the RE-AIM model can be used to design and evaluate pragmatic trials intended for populations disproportionately experiencing social and health inequities.



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# Measurement and Evaluation

Section lead: Jinying Chen, PhD





## Identifying Relevant Methods and Study Designs for Investigating Health Equity in Implementation Science

This section gives a brief overview of methods and study designs that were used or recommended for use by investigators that integrate a primary or secondary focus on health equity in implementation science. It is not an exhaustive list and is meant to be a resource for people new to this research area. Following McNulty and colleagues' guidance in "Implementation Research Methodologies for Achieving Scientific Equity and Health Equity,"<sup>1</sup> we categorized methods and study designs in *Table 4* into three paradigms:

1. research using existing data to assess health inequity and related factors,
2. research including populations experiencing health inequities, and
3. research focusing on addressing health equity.

Some study designs and methods may apply to all the three research paradigms, while others may be more relevant to a single paradigm than others.

**Table 4. Methods and Study Designs for Investigating Health Equity in Implementation Science**

Methods/ Designs	Definition or Representative Methods	Uses	Citations for Example Studies
<b>Quantitative methods: Mostly applied in paradigm 1 and outcome evaluation in paradigms 2 and 3</b>			
Descriptive analysis	Presenting the adoption rates of EBIs or outcomes from IS studies for underrepresented population against a standard or a control group	Assess the extent of population-level disparities	Glasgow et al., 2013 <sup>2</sup> Neighbors et al., 2007 <sup>3</sup>
Analytic epidemiologic methods	Regression analysis to assess the association between social determinants of health and outcomes from IS studies; includes regression model, mixed effects model, moderated regression, and mediation analysis	Assess factors associated with health disparities or mechanisms that can explain them	Morgan et al., 2018 <sup>4</sup>
Agent-based modeling	Building computational models to simulate the actions and interactions between entities (called "agents") of a complex system	Assess the likely impact of specific implementation strategies on reducing disparities	Brown et al., 2015 <sup>5</sup> Brown et al., 2013 <sup>6</sup> Janulis et al., 2018 <sup>7</sup>



Methods/ Designs	Definition or Representative Methods	Uses	Citations for Example Studies
<b>Methods for community input/needs assessment: Mostly used in paradigms 2 and 3</b>			
Qualitative evaluation	Semi-structured interviews, focus-group discussions	Understand the needs of marginalized communities or contextual factors that contributed to health disparity	Shelton et al., 2022 <sup>8</sup>  Ramanadhan et al., 2021 <sup>9</sup>  Allen et al., 2021 <sup>10</sup>
Community- based participatory research (CBPR)	A collaborative approach that involves community partners in all phases of the research process, aiming to increase local relevance and reduce health disparities <sup>11</sup> ; CBPR adopted a variety of research methods, such as intervention mapping, transcreation, and implementation mapping	Understand the health equity- related issues in the local context and identify strategies or interventions to address these issues	Tomayko et al., 2019 <sup>12</sup>
Intervention mapping	A planning framework that “provides a systematic process and detailed protocol for effective, step-by-step decision- making for intervention development, implementation, and evaluation” <sup>13</sup>	Provide guidance on how and when to use evidence, theory, and community-based participation during the implementation process	Holcomb et al., 2021 <sup>14</sup>
Implementation mapping	A systematic process, by extending intervention mapping, for planning or selecting implementation strategies <sup>15</sup>	Same as above	Ibekwe et al., 2022 <sup>16</sup>



Methods/ Designs	Definition or Representative Methods	Uses	Citations for Example Studies
<b>Study designs: Paradigms 2 and 3</b>			
Hybrid effectiveness–implementation trial	A study design that “takes a dual focus <i>a priori</i> in assessing clinical effectiveness and implementation,” including three hybrid types I-III <sup>17</sup>	Assess effectiveness and the implementation process and outcomes of interventions that address health disparities	Smith et al., 2018 <sup>18</sup>
Pragmatic non-randomized trial	Quasi-experimental study designs that compare effects of interventions between non-randomized intervention group and control group	Compare effects of implementation programs or interventions that aim to address health disparity in the clinical setting	Cykert et al., 2020 <sup>19</sup>
Sequential multiple assignment randomized trial (SMART)	A randomized experimental design for building time-varying adaptive interventions <sup>20</sup>	Compare combinations of interventions and implementation strategies for underserved populations	Johnson et al., 2018 <sup>21</sup>
Mixed methods design	A study design that combines quantitative and qualitative research methods <sup>22</sup>	Assess barriers and facilitators to the implementation of EBI or adaptation of implementation programs in underserved populations	Shelton et al., 2021 <sup>23</sup>

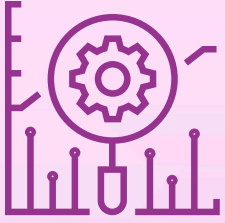


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# Data Collection and Analysis

Section lead: Sonja Likumahuwa-Ackman, MID, MPH



To conduct IS research, researchers must use existing data or prospectively collect data.

**This section examines the equity considerations a researcher must use when evaluating common data sources and preparing to collect data.**

Racial Equity Tools [SL1] has a useful 2-pager on possible equity concerns about using available (existing) data. This guide suggests reviewing five areas of potential issues:

- **Coverage:** How much of the target group is included in the available data
- **Currency or timeliness:** How recently the data were collected
- **Disaggregation:** For what subgroups the data can be presented
- **Detail:** How specific the information is in the areas of interest
- **Bias:** What factors might potentially lead to misleading or inaccurate information

**Table 5. Equity Considerations for Data**

Types of Data	Equity Considerations	Specific Equity Considerations for Types of Data
<b>Electronic Health Record</b> (also called electronic medical record, EMR)	Coverage	EHR data are secondary data and include a person’s record of care, typically either inpatient or outpatient. Depending on how many visits a person has, the EHR record may be more or less complete. EHR data include a high level of detail about health care delivery. They also include demographics, though these are entered by clinical staff who may guess at a patient’s gender, race, or ethnicity, for example. There is a typically a high percentage of unknown race/ethnicity data.
	Currency	Usually very timely, though it may take time to request and receive data.
	Disaggregation	Data can be disaggregated to many subpopulations of interest, including by date of visit, visit type, diagnosis, treatment, medication prescribed, and screening conducted.
	Detail	Follow-up to care is not available: for example, the EHR records medications prescribed, but we do not know whether the patient filled the prescription. A procedure or referral may be made, but we do not know whether the patient attended the appointment if it is outside the specific health care system (e.g., referral for mammogram at a standalone radiology center).
	Bias	EHR data reflects the many well-documented biases in the health care system, such as under- or over-diagnosis, and disparities in access based on income, language, transportation, and insurance status. There is bias in how clinic staff enter data, for example, assuming gender, race, or ethnicity without asking the patient how they identify. <sup>1</sup>



Types of Data	Equity Considerations	Specific Equity Considerations for Types of Data
<p style="text-align: center;"><b>Insurance Claims Data</b></p> <p style="text-align: center;">Examples: Medicare or Medicaid claims data; private insurance claims</p>	<p>Coverage</p> <p>Currency</p> <p>Disaggregation</p> <p>Detail</p> <p>Bias</p>	<p>Claims data are secondary data and include a person’s whole system of care (primary care, hospital, labs, potentially mental health, and dental). Claims data leave out people who are uninsured, and are incomplete for people who are discontinuously insured, because they do not generate insurance claims for their health care without insurance. Demographic data are included and usually thorough and accurate.</p> <p>Usually very timely, though it may take time to request and receive data.</p> <p>Data can be disaggregated to many subpopulations of interest. Insurance claims data are not generated for research purposes, so they can be difficult to analyze.</p> <p>Claims data include the insurance-related information, such as billing codes, for the procedures and visits performed. They also reflect other claims, such as when a prescription is filled.</p> <p>Similar to EHR data, claims data reflect the biases of the health care system. The uninsured and discontinuously insured who are missing from claims data are disproportionately people of color, low-income, less English proficient, and less stably housed.<sup>2</sup></p>
<p style="text-align: center;"><b>Patient/Disease Registries</b></p>	<p>Coverage</p> <p>Currency</p> <p>Disaggregation</p> <p>Detail</p> <p>Bias</p>	<p>Registries are databases of secondary data that are limited to a specific disease, but within that disease they may be quite complete. Data registries such as state immunization registries are considered the gold standard for data on certain topics.<sup>3,4</sup></p> <p>Varies, but for well-established registries such as state cancer registries, typically hospitals and clinics send data to registries in near real time. Others rely on patient-reported data and may be less timely.</p> <p>High, depending on the demographic and disease data collected.</p> <p>Population registries may have very detailed data on an individual, standardized across the population with that disease. Details include date of diagnosis, severity of disease (e.g., cancer stage), biological samples (e.g., tumor, genetic sample), medical history, treatments, procedures, and medications.</p> <p>Due to biases in the health care system, some patients have unequal access to diagnoses and procedures that would qualify them for a registry, which can lead to bias within the registry. Registries can also shed light on rare diseases that impact a small number of people.</p>





Types of Data	Equity Considerations	Specific Equity Considerations for Types of Data
<b>Health Surveys</b>	Coverage	Health surveys are primary data collected for research purposes, so the data are relatively easy to analyze. Coverage often excludes non-English speakers, people without telephones or internet, and people with low literacy. Non-federal health surveys typically have low response rates, lower than 10%, meaning that they may not be representative of the general population.
	Currency	Large federal survey data typically are collected at least 2–3 years before becoming available to researchers. Smaller surveys may be available more quickly.
	Disaggregation	Survey data can be disaggregated to a few subpopulations of interest depending on the questions. Whether a survey is cross-sectional or longitudinal will impact what types of analyses can be done and what types of conclusions can be drawn.*
	Detail	Depends on the questions asked and the response scale provided. Data are standardized across respondents, which makes comparison easier, but may miss details of differences between respondents.
	Bias	There is bias in how health survey questions are written. Interviewers may differ slightly in how they ask questions, leading to different responses.
	Trusted surveys	The most trusted surveys are federal: National Health Interview Survey (Centers for Disease Control and Prevention), Medical Expenditure Panel Survey (Agency for Healthcare Research and Quality), Behavioral Risk Factor Surveillance System, National Health and Nutrition Examination Survey, National Immunization Survey, National Survey on Drug Use and Health, Medicare Current Beneficiary Survey, and Current Population Survey Annual Social and Economic Supplement. These have response rates of 50%–75%.



Types of Data	Equity Considerations	Specific Equity Considerations for Types of Data
<b>Focus Groups</b>	Coverage	Focus groups are a type of primary data collection. <a href="https://drive.google.com/file/d/123ZUB6XDqDk79i6bAm_FDktmwg49UvR/view">https://drive.google.com/file/d/123ZUB6XDqDk79i6bAm_FDktmwg49UvR/view</a>
	Currency	Data are collected in real time. Focus groups generally are recorded and transcribed, or extensive notes are taken, then analyzed. This can take time depending on the complexity.
	Disaggregation	Limited to the sample of participants.
	Detail	Limited to the questions asked and the skill of the facilitator in getting participation from everyone in the group.
	Bias	The design of a focus group can have bias, from the power dynamics within the participants (will everyone feel comfortable speaking up?) to the location of the group (is it a neutral location?). The facilitator brings their individual bias to the question design and facilitation methods. There is also a bias within groups to agree with the most outspoken person, which may produce inaccurate results of what participants really think.
<b>Interviews</b>	Coverage	Interviews are primary data collection and are limited to the specific people who are interviewed.
	Currency	Data are collected in real time. Interviews generally are recorded and transcribed, then analyzed. This can take time depending on the complexity.
	Disaggregation	Data can be disaggregated based on the sample that was interviewed.
	Detail	A structured interview will give more comparability between respondents, while a semi-structured interview gives room for follow-up questions, which can yield important details.
	Bias	Like surveys, interviews are limited by access based on language, interview mode (telephone, internet, in-person), and literacy level. Sampling can also have bias.



Types of Data	Equity Considerations	Specific Equity Considerations for Types of Data
<b>Direct observation/ field notes</b>	Coverage	Limited in scope, but potentially very rich in detail. Usually limited to a single setting and possibly a single location within that setting.
	Currency	Data are collected in real time during the observation; analysis of field notes may take time depending on complexity.
	Disaggregation	Using qualitative analysis software, disaggregation by code is possible, and themes may be pulled out from across multiple data collection sites. From a single site, there is limited disaggregation.
	Detail	Observation yields a very high level of detail.
	Bias	The observer/researcher brings their biases to the observation.

\* For example, see: <https://www.urban.org/sites/default/files/publication/43741/2000146-Nonfederal-Surveys-Fill-a-Gap-in-Data-on-ACA.pdf>

**Brief descriptions of many of these types of data:** <https://guides.lib.uw.edu/hsl/data/findclin>



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# Implementation Trials

Section lead: Kelly Aschbrenner, PhD



**This section provides a brief overview of approaches to addressing, measuring, and evaluating health equity in implementation trials.** There is no standard in the field for measuring health equity. This presents both challenges and opportunities for implementation researchers. Importantly, investigators must identify the health disparity or inequity they are targeting to advance health equity and then design a measurement and evaluation approach that will show whether the planned research reduced the disparities or inequities. In this section, we provide an overview of three approaches investigators have used to address, measure, and evaluate health equity outcomes. We then provide two examples of how investigators have applied each of these approaches in implementation research.

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## **Below are three approaches to addressing, measuring, and evaluating the impact on health equity:**

- 1. Focusing on a subpopulation that experiences health disparities or inequities in health or health care.** Measuring health service access, use, and/or health outcomes within the subpopulation; and evaluating the impact of intervention efforts on health service access, use, and/or health outcomes in the subpopulation (e.g., increasing colorectal cancer screening in rural primary care patients; improving mental health of persons with substance use disorders).
  - 2. Monitoring equitable outcomes of a trial.** Measuring health services access, use, and/or health outcomes and comparing the impact of the intervention on health services access, use, and/or health outcomes across different subpopulations in the sample based on factors such as race/ethnicity, sexual orientation, and gender identity and disability status.
  - 3. Focusing on social determinants of health known to contribute to health disparities in persons who experience or are at risk for health disparities;** measuring the social determinants of health (SDoH) that are the target of the intervention (e.g., reducing food insecurity); and evaluating the impact of the intervention on SDoH factors.
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## Approach 1

### Focusing on a subpopulation that experiences health disparities or inequities in health or health care

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Healthy People 2030 defines a health disparity as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”<sup>1</sup> Health disparities are known differences in outcomes or disease burden between groups. With a health disparity, there is a higher burden of illness, injury, disability, or mortality in one group relative to another.

With respect to the relationship between health disparities and health equity, Dr. Paula Braveman<sup>2</sup> asserted that “Health disparities are the metric we use to measure progress toward achieving health equity. A reduction in health disparities (in absolute and relative terms) is evidence that we are moving toward greater health equity.”

#### Example 1

An example of implementation research targeting a several health disparity groups at once is a (type II) hybrid effectiveness–implementation trial testing the Family Check-Up 4 Health (FCU4Health) program.<sup>3</sup> FCU4Health was designed to target health behavior change in children by improving family management practices and parenting skills, with the goal of preventing obesity and excess weight gain. The investigators planned to enroll 350 families with children aged 6 to 12 years who are identified as overweight or obese (BMI  $\geq$  85th percentile for age and gender) and will be enrolled at three primary care clinics (two Federally Qualified Healthcare Centers [FQHCs] and a children’s hospital). All clinics serve predominantly Medicaid patients and a large ethnic minority population, including Latinos, African Americans, and American Indians who face disparities in obesity, cardiometabolic risk, and access to care. This type II trial is designed to address the lack of penetration of evidence-based programs into the primary health care system, particularly those that reach health disparity groups.



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## Approach 2

### Monitoring equitable outcomes of a trial

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Another approach to research addressing health disparities to advance health equity involves targeting a diverse sample of participants; measuring health services access, use, and/or health outcomes; and comparing the impact of the intervention on health services access, use, and/or health outcomes across different subpopulations in the sample based on factors such as race/ethnicity, sexual orientation and gender identity, and disability status. Braveman and colleagues<sup>4</sup> developed a systematic approach to studying and monitoring disparities and other indicators of health and health care that involves comparing groups based on social disadvantage and advantage. Specifically, this approach involves:

1. categorizing participants into groups with different levels of underlying social advantage (e.g., groups defined by family income, education, neighborhood poverty, and race/ethnicity);
2. describing and graphically displaying rates of the indicator and relative size for each social group;
3. identifying and measuring disparities, and calculating relative risks and rate differences to compare each group with its a priori most advantaged counterpart;
4. examining changes in rates and disparities over time; and
5. conducting multivariate analyses for the overall sample and at-risk groups to identify particular factors that contribute to the disparity. Examples of this approach include examining colorectal cancer screening rates by disability status, attendance at counseling sessions by socio-economic status, and weight loss outcomes by race and ethnicity.

#### Example 2

Hoskins and colleagues<sup>5</sup> evaluated signals of inequities in the context of a pilot study of equitable implementation of a firearm safety promotion—S.A.F.E., Suicide and Accident Prevention Through Family Education—in pediatric primary care prior to an effectiveness–implementation trial in two large health systems. Clinician-documented program delivery, or reach, was the primary implementation outcome. The independent variables were patients' medical complexity, race and ethnicity, and sex. The investigators hypothesized that clinicians would have higher odds of delivering S.A.F.E. Firearm to parents of youth classified as medically non-complex compared to parents of youth classified as medically complex. They also hypothesized that clinicians would have higher odds of delivering S.A.F.E. to parents of youth in non-Hispanic/Latino (NH) white groups compared to parents of youth from NH-Black/African American and Hispanic/Latino groups. The final sample comprised 694 patients and 47 clinicians across five clinics in two health systems. The investigators found greater odds of documented reach, discussions, and lock offers for NH-White than the NH-Other group. They also discovered that clinicians were more likely to deliver the program to parents of male than female patients. The investigators concluded that the pilot identified differences in critical for equity-informed implementation trials.





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## Approach 3

### Focusing on social determinants of health

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A third approach involves focusing on social determinants of health known to contribute to health disparities in persons who experience or are at-risk for health disparities, measuring the social determinants of health (SDoH), and evaluating the impact of the intervention on SDoH factors. Social determinants of health are the conditions in which people are born, grow, live, work, and age that shape health.<sup>6</sup>

Examples of SDoH include:

- housing, transportation, and neighborhoods
- racism, discrimination, and violence
- education, job opportunities, and income
- access to nutritious foods and physical activity opportunities
- polluted air and water
- language and literacy skills

#### Example 3

Gold and colleagues<sup>7</sup> are conducting a 5-year, mixed-methods, stepped-wedge trial designed to test the impact of providing 30 community health centers with step-by-step guidance on implementing electronic health record-based social determinants of health documentation. Results will inform how to tailor implementation strategies to help community health centers adopt social determinants of health documentation and action. Secondary analyses will assess impacts of social determinants of health documentation and referral-making on diabetes outcomes. This study addresses the pressing need for implementation strategies that support adoption of social determinants of health documentation and action using electronic health and interventions.



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### Approach 1

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