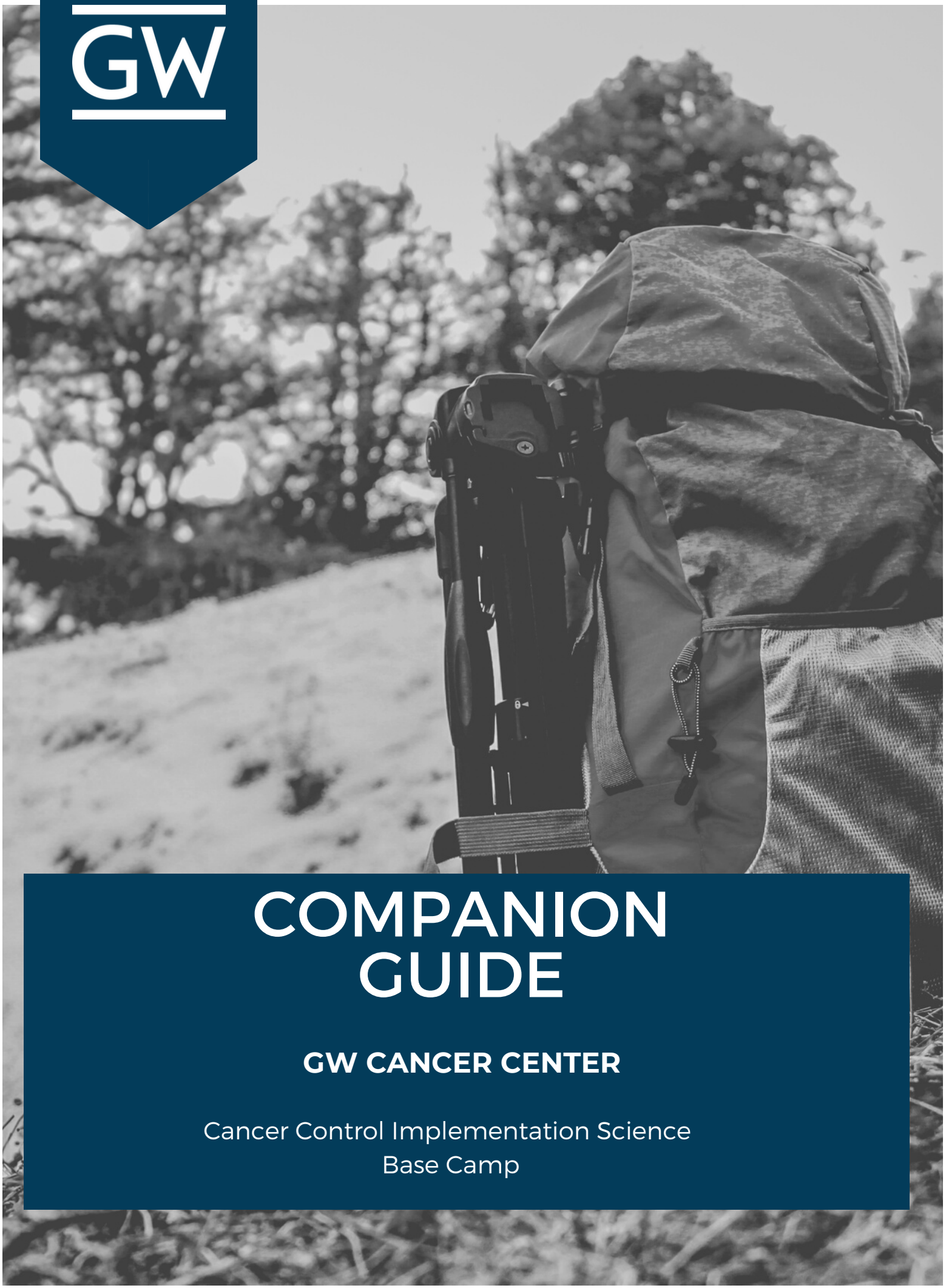
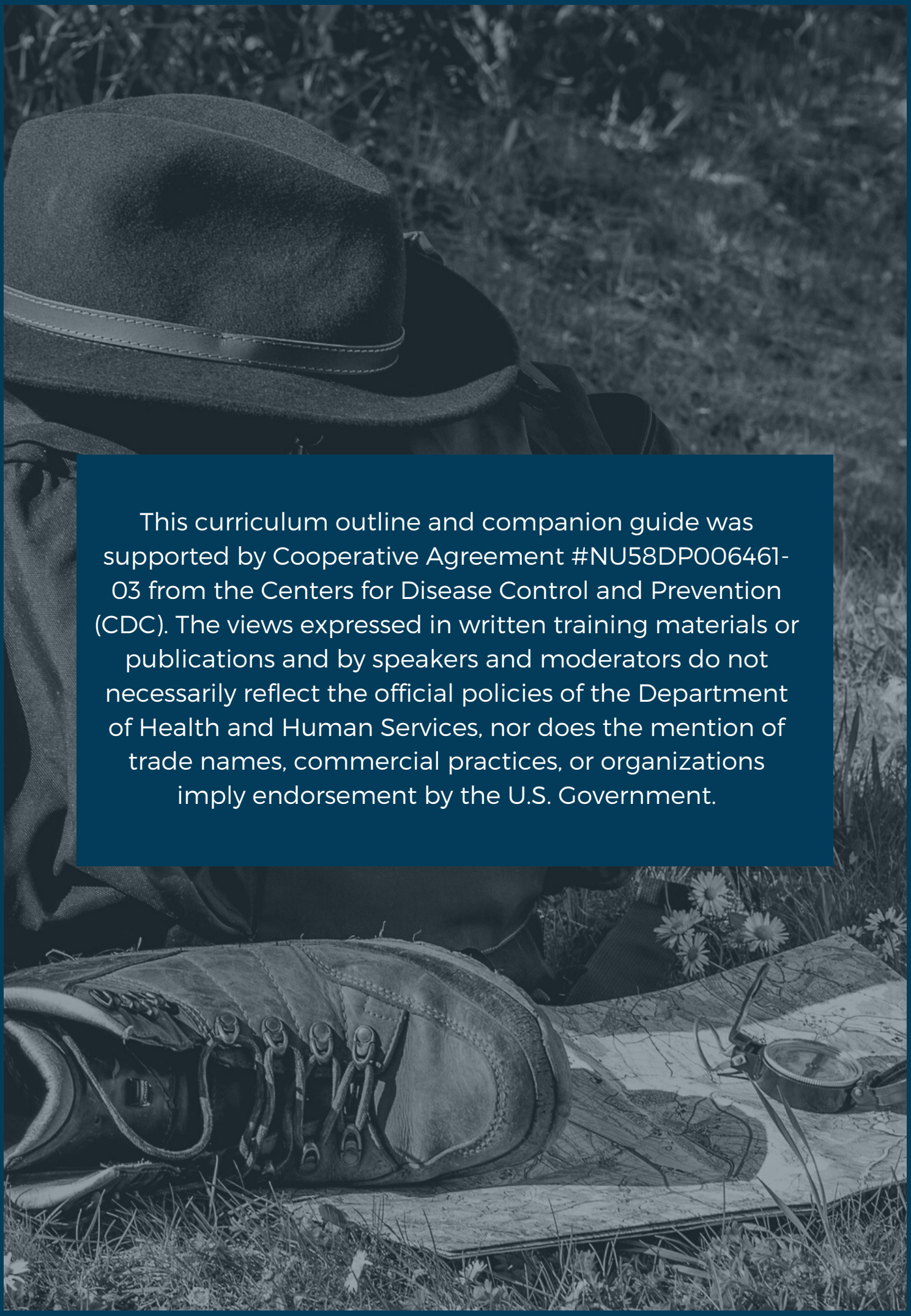


COMPANION GUIDE

GW CANCER CENTER

Cancer Control Implementation Science
Base Camp



This curriculum outline and companion guide was supported by Cooperative Agreement #NU58DP006461-03 from the Centers for Disease Control and Prevention (CDC). The views expressed in written training materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

TABLE OF CONTENTS

Appendices

INTRODUCTION

The Cancer Control Implementation Science Base Camp is driven by twenty competencies to introduce cancer control practitioners to implementation science. Competencies include: Assessing context, using evidence and theories, facilitating implementation, evaluating implementation, and sustaining interventions. To keep lessons applied and streamlined, Base Camp weaves a fictional case study throughout the entire training, along with real case studies and panel discussions. This companion learner guide was created to include supplemental learning materials and to guide you and your teammates throughout the training.

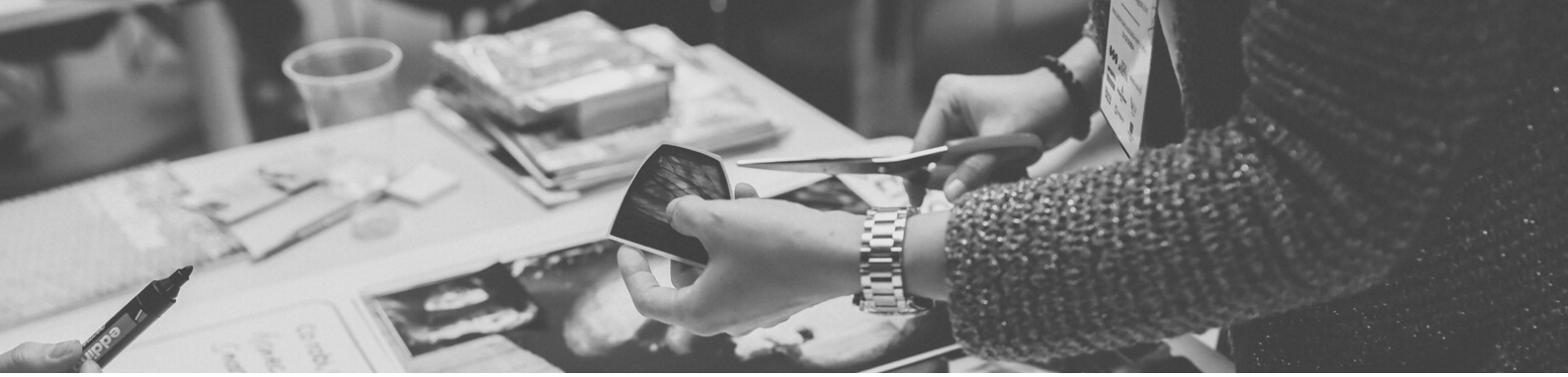
There are several online modules to complete, pre- and post-training quizzes, video lectures, recordings and supplemental resources.

Various concepts and frameworks are referenced throughout the training. To identify the concepts and frameworks being discussed refer to the ten icons described on the next page. Icons are found in both the presentation slides and companion learner guide. Appendix A includes a glossary of commonly used terms. Do not worry about memorizing or being specific about these definitions. Think generally about how to apply these principles to improve your projects.

If you have any questions please email us at gwcanceradmin@gwu.edu.

ICONS

Topic	Visual	Description
Equity		A goal for every person to have the opportunity to attain their full health potential
Partner Engagement		Tips on recruiting and maintaining relationships
Consolidated Framework for Implementation Research (CFIR)		Context considerations when planning your initiative
Evidence-Based Interventions (EBIs)		Evidence for an intervention
Adaptation		Considerations for how you might change flexible components of the intervention to best fit your context



ICONS

Topic	Visual	Description
Implementation Science Strategies		Specific strategies to optimize implementation of your initiative
RE-AIM Framework (reach, effectiveness, adoption, implementation, maintenance)		A framework to organize the process of evaluating implementation outcomes
PSAT (Program Sustainability Assessment Tool)		A tool to identify factors relating to sustaining an intervention after initial adoption
FLU-FIT Case Study		Increases colorectal cancer screening rates by providing a take-home test (FIT) to eligible patients with their annual flu shot
Poll Question / Games		Interactive group activities

CANCER CONTROL IMPLEMENTATION SCIENCE BASE CAMP LOGISTICS

Companion Guide:
Use this companion guide to follow along, take notes, review case study narratives, and complete an implementation blueprint.

Online Academy:
The asynchronous modules are hosted on George Washington University's learning management system called the Online Academy. Please create an account here and then register for the Cancer Control Implementation Science Base Camp course. The link to this online component of the Base Camp should be shared with any clinical, coalition or executive partners that you are working with on your implementation project.

Community of Practice:
As resources allow, GW hosts a virtual community of practice to allow peer sharing and reinforce concepts from the training. These sessions are led by GW technical assistance providers and comprehensive cancer practitioners that co-created and/or participated in the training. As additional learners complete the training, they can also volunteer to co-lead these sessions to further advance their knowledge on implementation science. Conversation topics will likely include: how to develop an implementation blueprint, peer sharing of successes and challenges, how tools are used, and how to run your own Base Camp training to further extend the reach of the training. Contact us at gwcanceradmin@gwu.edu if you would like to know more about the Community of Practice.

PROJECT TEAM

Mandi L. Pratt-Chapman (she/ her)

mandi@gwu.edu

Mandi Pratt-Chapman, MA, PhD, Hon-OPN-CG is the Associate Director of Community Outreach, Engagement, & Equity at GW Cancer Center. Her research focuses on workforce capacity to advance patient-centered care and health equity in oncology. Dr. Pratt-Chapman's background is in translational health sciences, and she has seventeen years of experience as a comprehensive cancer control technical assistance provider.

Joseph A. Astorino (he/ him)

jastorino@gwu.edu

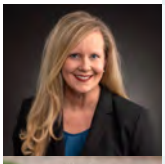
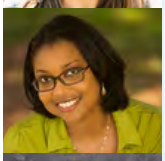
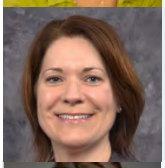
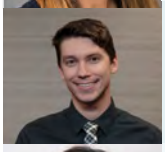
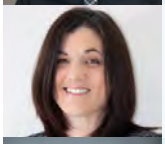
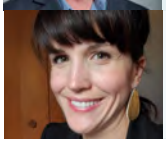
Joseph Astorino, PhD is a post-doctoral scientist for the GW Cancer Center. His research focuses on health equity outcomes and the synergy between social sciences, community engagement and implementation science. Dr. Astorino's background is in the sociology of science and technology, as well as non-profit program development and evaluation.

Sarah Kerch (she/ her)

skerch@gwu.edu

Sarah Kerch, MPH, is the Comprehensive Cancer Control Technical Assistance Program Director for the GW Cancer Center. Sarah works with other GW Cancer Center staff to provide high quality technical assistance and support to CDC-funded comprehensive cancer control programs. Sarah previously served as director of Wisconsin's comprehensive cancer control program and coalition, the Wisconsin Cancer Collaborative.

STEERING COMMITTEE

	Members	Area of Expertise
	**Heather Brandt** Director HPV Cancer Prevention Program, Co-Associate Director of Outreach, St. Jude Children's Research Hospital & Comprehensive Cancer Center	Dissemination and implementation science research; Community-engaged research; Human papillomavirus (HPV) vaccination; Cancer-related health disparities
	**Christi Cahill** Executive Director, Colorado Cancer Coalition	Coalition building; Program planning; Coalition communications
	**David Chambers** Deputy Director for Implementation Science, Office of the Director in the Division of Cancer Control and Population Sciences at the National Cancer Institute	Implementation Science; Integrating research, practice and policy; Organizational behavior
	**Gloria Coronado** Distinguished Investigator Health Disparities, Kaiser Permanente Center for Health Research	Health disparities; Pragmatic research; Delivery system science; Patient activation; Engagement; Cancer prevention
	**Shauntay Davis-Patterson** Program Director, Comprehensive Cancer Control Program, California Department of Public Health	Coalition building; Facilitation; Comprehensive cancer control; Colorectal cancer screening; HPV vaccination; Cancer survivorship
	**Polly Hager** Cancer Prevention and Control Section Manager, Michigan Department of Health and Human Services	Comprehensive cancer control; Cancer coalition maintenance; Colorectal cancer screening; Program planning and implementation; Program integration
	**Erin Hahn** Research Scientist, Division of Health Sciences Research and Implementation at Kaiser-Permanente	Dissemination and implementation science; Cancer care delivery system research; Cancer survivorship
	**Caleb Levell** Strategic Director, National Partnerships and Roundtables, American Cancer Society	Cancer Screening; Cancer control; Coalition building
	**Tamara Robinson** Program Director, Nebraska Cancer Coalition NC2	Stakeholder engagement; Facilitation
	**Randy Schwartz** President, Public Health Systems, Inc.	Cancer prevention and control implementation; Community interventions; Community-clinical linkages; Policy intervention strategies; Tobacco control implementation; Practitioner engagement in implementation science
	**Kelly Wells Sittig** Executive Director, Iowa Cancer Consortium	Collaborative cancer control; State cancer control coalitions; Network development

The views expressed in this training do not represent or reflect the steering committee's organizational viewpoints, positions or policies.

UNIT 1

INTRODUCTION TO CANCER CONTROL IMPLEMENTATION SCIENCE

Take your time - implementation can be hard.

We will focus on introducing implementation science.

During this session:

- Take Pre-training quiz for Module 1
- Read Implementation Science at a Glance Resource
- Read Appendix B: Fictional FLU-FIT Case Study in Companion Guide
- Browse supplemental resources
- Watch Module 1 recording
- Complete **Unit 1 Discussion** activities and questions within this guide as a team (see following pages)
- Take Post-training quiz

Goals

Context Map

EBI Libraries

Evaluation Surveys

Blueprints

UNIT 1 DISCUSSION

INTRODUCTION TO IMPLEMENTATION SCIENCE

Team Huddle: Introductions, SMARTIE Objectives, Debrief

What are you hoping to get out of the training?

_____

_____

_____

_____

Write down one challenge you are facing or anticipate as you explore addressing cancer outcomes in your community:

_____

_____

_____

UNIT 1 DISCUSSION

INTRODUCTION TO IMPLEMENTATION SCIENCE

With your team members, introduce yourselves, describe what you are hoping to get out of the training, and your one challenge. Write them below:

Team Member Name, Role, Org	**Hope & Challenge**

As a group, decide what the three top challenges are for your team and write them here:

1. _____
   _____
2. _____
   _____
3. _____
   _____

UNIT 1 DISCUSSION

INTRODUCTION TO IMPLEMENTATION SCIENCE

With your team, turn your expectations into an agreed-upon SMARTIE objective and document it in your Implementation Blueprint.

Be sure to create your SMARTIE objective with a health equity lens. Review this Health Equity Tip Sheet for guidance.

Specific – **M**easurable – **A**chievable – **R**ealistic – **T**imely-
Inclusive – **E**quitable

_____

_____

_____

_____

As a group, decide on a day, time, and venue to meet and collaboratively develop your project:

_____

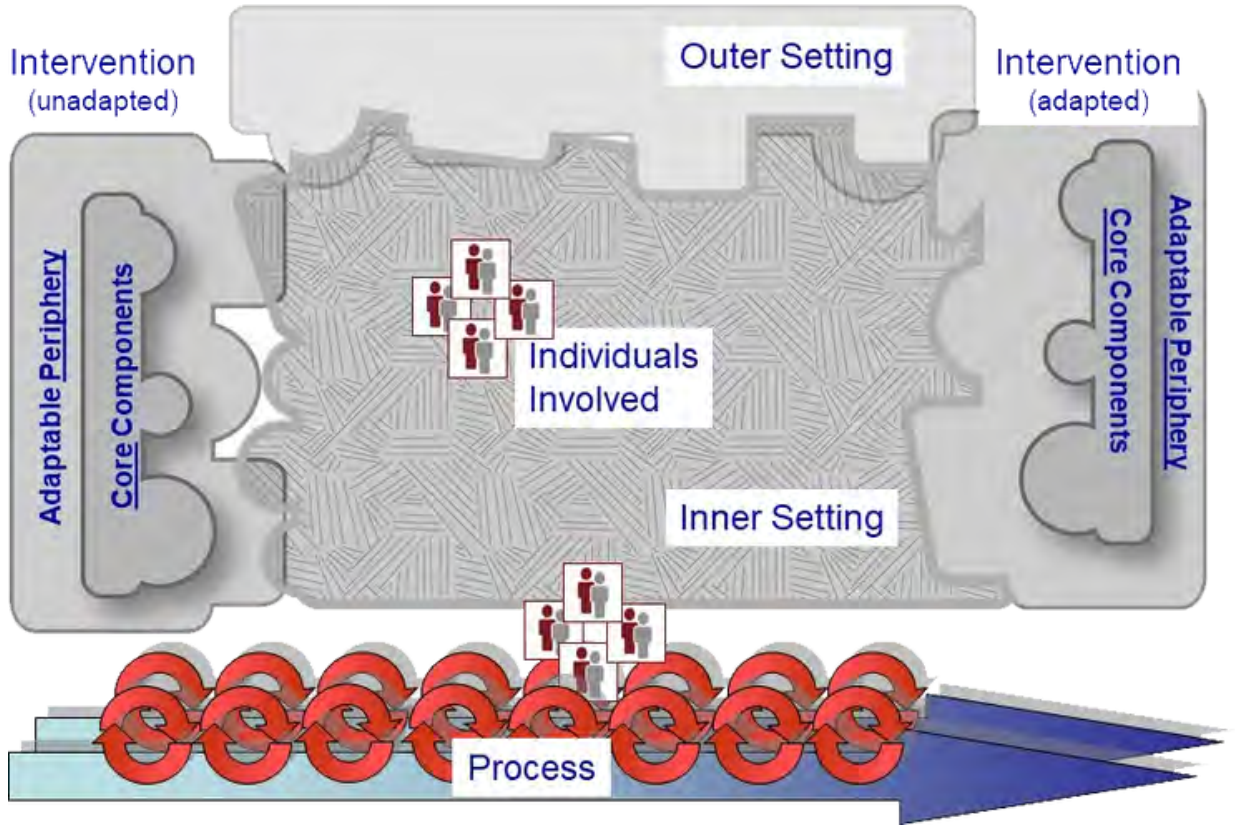
_____

UNIT 2

ASSESS THE CONTEXT

Tasks to complete:

- Take Pre-training quiz for Module 2
- Watch Module 2 recording
- Browse CFIR Tool and other supplemental resources
- Complete **Unit 2 Discussion** activities and questions within this guide as a team (see following pages)
- Take Post-training quiz



UNIT 2 DISCUSSION

ASSESS THE CONTEXT

Without context words and actions have no meaning at all

Team Huddle: Mapping Your Context

What contextual factors do you think are most important to consider when addressing your cancer problem?

_____

_____

_____

_____

As a team, what do you collectively believe to be the most important contextual factors to consider when addressing your cancer problem?

_____

_____

_____

_____

With your team, list the most common contextual factors in your Implementation Blueprint

Critical Reflection: How has your understanding of the problem evolved?

_____

_____

_____

_____

UNIT 3

HOW TO FIND EVIDENCE-BASED INTERVENTIONS FOR CANCER CONTROL

What is an EBI?

A health-focused intervention, practice, program, or guideline with evidence demonstrating the ability of the intervention to change a health-related behavior or outcome

Tasks to complete:

- Take Pre-training quiz for "How to Find Evidence-Based Interventions for Cancer Control"
- Watch recording
- Browse evidence-based intervention links from the supplemental resources
- Take Post-training quiz
- Complete **Unit 3 Discussion** activities and questions (see following page)
- Plan team huddle to review EBIs for your cancer control goal at the Evidence Based Cancer Control Programs (EBCCP) or Community Guide site

"No research without action, no action without research". - Kurt Lewin

UNIT 3 DISCUSSION

HOW TO FIND EVIDENCE-BASED INTERVENTIONS FOR CANCER CONTROL

Team Huddle: Choosing an EBI and Large Group Debrief

Browse through the Evidence-Based Cancer Control Program (EBCCP) website for an EBI that addresses your cancer problem.

What EBIs do you and your teammates think fit the goals of your project?

_____

_____

_____

With your team, identify the EBI that best matches your goals. List your chosen EBI in the Implementation Blueprint.

Critical Reflection: What characteristics of this intervention should be considered given the contextual fit you previously identified?

_____

_____

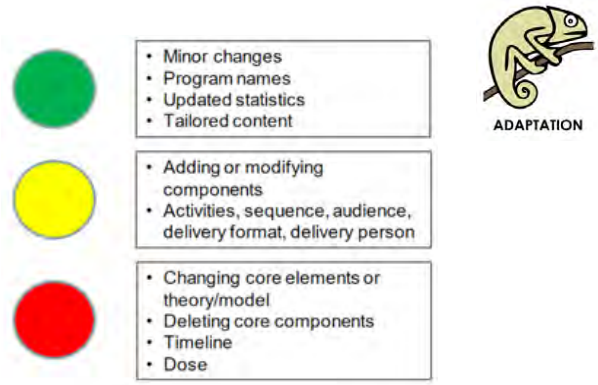
_____

UNIT 4

USING EVIDENCE AND THEORIES TO INFORM ADAPTATION

Adaptation

The degree to which an EBI is changed or modified by a user during adoption and implementation to suit the needs of the setting or to improve the fit to local conditions



Tasks to complete:

- Take Pre-training quiz for "Using Evidence and Theories to Inform Adaptation"
- Watch recording
- Browse associated supplemental resources
- Take Post-training quiz
- Complete **Unit 4 Discussion** activities and questions (see following pages)
- Plan team huddle to design adaptations for your evidence-based intervention

UNIT 4 DISCUSSION

USING EVIDENCE AND THEORIES TO INFORM ADAPTATION

Mini-Huddle: Adapting EBI

What are the core and adaptable components from the EBI you previously selected?

_____

_____

_____

With your team, list the core and adaptable components in your Implementation Blueprint.

UNIT 5

USING EVIDENCE AND THEORIES TO INFORM IMPLEMENTATION

In this unit you will explore a range of implementation strategies that can be included as part of an intervention design to optimize outcomes.

"The best big idea is only going to be as good as its implementation" -Jay Samit

Before This Session Starts the Following Should be COMPLETED:

- Take Pre-training quiz for Module 5
- Watch Black Corals Program video
- Watch Module 5 recording
- Browse Implementation Strategies grid (Appendix E in companion guide) and other supplemental resources
- Take Post-training quiz
- Complete **Unit 4 Discussion** activities and questions (see following page)
- Plan team huddle to discuss the implementation strategies that best fit your intervention and project plan

UNIT 5 DISCUSSION

USING EVIDENCE AND THEORIES TO INFORM IMPLEMENTATION

See Appendix E for Implementation Strategies Grid

Team Huddle: Implementation Strategies

What implementation strategies could be included in your plan?

_____

_____

_____

What implementation strategies did your teammates determine to be the best strategies to implement your intervention?

_____

_____

_____

_____

With your team, list the implementation strategies in your Implementation Blueprint.

UNIT 6

FACILITATING IMPLEMENTATION

We will focus on facilitating implementation.

Before this session starts the following should be COMPLETED:

- Read Case Studies in Appendix C
- Watch recording of the panel on the Online Academy
- Complete **Unit 5 Discussion** activities and questions (see following page)
- Plan team huddle to discuss this week's topics together

UNIT 6 DISCUSSION

FACILIATING IMPLEMENTATION

What topics from the panel do you want to discuss with your team?

_____

_____

_____

_____

_____

_____

_____

_____

Remember!

Model humility, transparency, and accountability in your implementation work.

UNIT 7

EVALUATION

This block of time will focus on implementation outcomes and evaluation.

Before finalizing your project plans, the following should be COMPLETED:

- Take Pre-training quiz for Module 7
- Watch Module 7 recording
- Browse RE-AIM framework website and other supplementary resources
- Take Post-training quiz for Module 7
- Use **Unit 7 discussion** on the following page to discuss as a team

UNIT 7 DISCUSSION

EVALUATION

Remember!

If you get stuck during implementation, remember to refer to your original blueprint to get back on track!

Link to [RE-AIM Tool]

Team Huddle: Evaluation Planning

What RE-AIM outcomes do you think are most important for your coalition to capture to show the value of your initiative to key stakeholders?

_____

_____

_____

_____

_____

UNIT 7 DISCUSSION

EVALUATION

How will you evaluate whether your intervention moved the needle on health equity?

_____
_____
_____
_____

As a team, what outcomes do you collectively think should be included?

_____
_____
_____
_____

With your team, list the most common RE-AIM dimensions and outcomes in your Implementation Blueprint.

UNIT 8

PLANNING FOR SUSTAINABILITY

This block of time will focus on sustaining your intervention over the long term.

Sustainability	**To what extent an evidence-based Intervention can deliver its programming and its intended benefits over an extended period of time after external support ends**

Before finalizing your project plans the following should be COMPLETED:

- Take Pre-training quiz for Module 8
- Watch Module 8 recording
- Take Post-training quiz for Module 8
- Meet as team and take PSAT and review results
- Use **Unit 8 Discussion** on the following page to discuss as a team

UNIT 8 DISCUSSION

PLANNING FOR SUSTAINABILITY

Team Huddle: PSAT Assessment

What sustainability factors should you consider when planning for your intervention's sustainability?

_____
_____
_____
_____

What sustainability factors does your team believe should be considered?

_____
_____
_____
_____

With your team, list the PSAT factors that are considered strengths for your project and those that are considered weaknesses in your Implementation Blueprint.

CONCLUSION

WRAPPING UP

Tasks to complete at the end of the training:

- Browse and download supplementary resources that will help you with future work
- Take Post-training quiz
- Incorporate all components, including evaluation and sustainability elements into your final blueprint
- Meet as team using the **Unit 9 Discussion** on the following page to debrief about the learning experience

DISCUSSION

WRAPPING UP

What are your key takeaways from the training?

_____

_____

_____

_____

What are your team's next steps in moving your Implementation Blueprint to action?

_____

_____

_____

_____

APPENDIX A
IMPLEMENTATION BLUEPRINT

Please refer to the Implementation Blueprint on the next page throughout the Base Camp. Below are definitions of some of the key terms used in the Blueprint:

Context: The people and places involved in implementing the intervention

EBI: The intervention

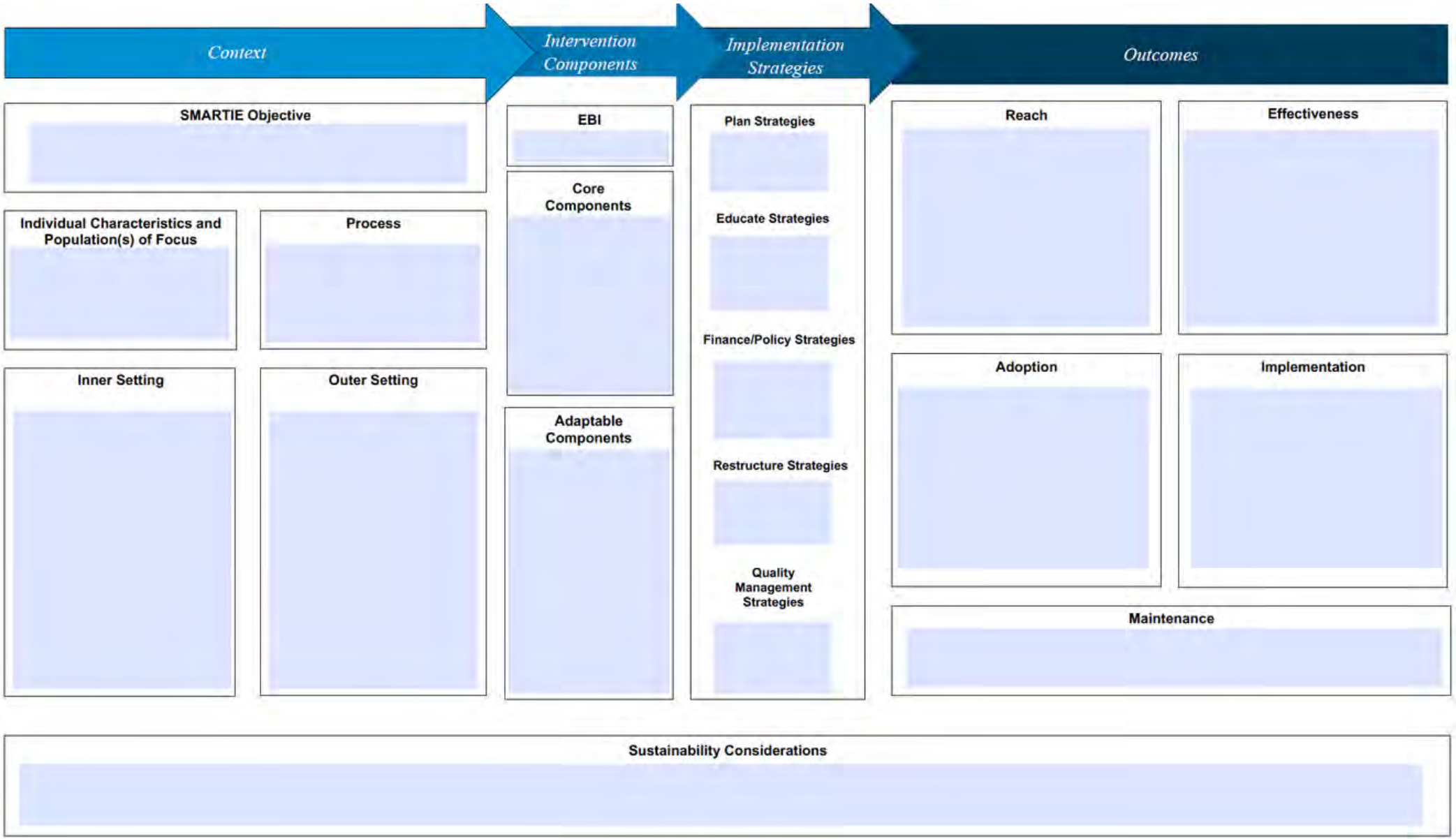
Core components: Parts of the intervention not able to be changed

Adaptable components: Parts of the intervention that could be changed

Strategies: How the intervention works

Outcomes: If the intervention works

Sustainability: Sustaining the intervention


Context
Intervention Components
Implementation Strategies
Outcomes
SMARTIE Objective
Individual Characteristics and Population(s) of Focus
Process
Inner Setting
Outer Setting
EBI
Core Components
Adaptable Components
Plan Strategies
Educate Strategies
Finance/Policy Strategies
Restructure Strategies
Quality Management Strategies
Reach
Effectiveness
Adoption
Implementation
Maintenance
Sustainability Considerations

APPENDIX B
FICTIONAL CASE STUDY

A group of stakeholders in Washington D.C. decide to focus on cancer screening through a health equity lens. The racial demographics for Ward 7 in the district are 91.7% Black, with a rate of 23.3% of people below the poverty line. They discover that the colorectal cancer screening rate in Ward 7 is typically less than 50% while the target rate is 80%. The planning process they develop includes engagement and across many sectors. The health centers serving the area do not have the capacity to take on new interventions. Engagement events are uncovering that many pharmacies in the neighborhood are currently more accessible than other healthcare sites and that people in Ward 7 are more accepting of new preventive interventions when implemented in pharmacies.

The team considers these factors and identifies the FLU-FIT intervention as an evidence-based intervention. A clinical champion from the team searches the EBI library to find a bundled package for new FLU-FIT programs to help make implementation more efficient. After finding one on the EBCCP website, the team determines which of the parts of the program to adapt. The team decides to design an implementation strategy built around a train-the-trainer model with local champions becoming the backbone of the intervention. This intervention increases the reach of FLU-FIT from 501 to 871 Black patients. Data also demonstrates an increase in the percentage of kits returned, rising from 48% to 60%. Eight (8) pharmacists nested in three (3) pharmacies adopt the program.

Initial evaluation data show that patients find the intervention acceptable and it takes minimal extra time for the technicians to implement. The team realizes they will need to implement new strategies to share data between providers and pharmacies to increase the reach and adoption of the program in the future to help institutionalize the change. The team decides to perform a sustainability assessment and discovers that there is strong environmental support for the program in the form of policy support with partnerships organically forming across pharmacist champion networks, which is promising for sustainability. Multiple stores are also running shared public service announcements describing the program and pharmacy schools are starting to include information about the program in their curricula.

APPENDIX C
PANEL CASE STUDIES

Lung Cancer

The implementation of lung cancer screening remains limited in many low resource settings, despite evidence demonstrating it is both effective and safe. The partners developed a pilot study using care coordination to streamline referrals to screening. In the end, Site A resulted in successfully implementing a sustainable lung cancer screening program, while Site B struggled to do so. Site A developed a plan that included process mapping, which led to scaling up the changes involved. Site B lacked an initial investment in the planning process, and participating individuals were not confident in their knowledge of the changes being introduced.

Some of the other differences included Site A prioritizing the intervention and identifying it as an ideal fit. In contrast, Site B was undergoing significant organizational restructuring. Site A had dedicated resources to lung cancer screening such as staff time and ability to quickly add fields in the electronic health record, while Site B described itself as lacking internal resources to make the intervention work well. This investment in resources was critical in navigating the complex external policies of Medicare that require data such as smoking history to be recorded for referrals. Strategies used across both sites for the implementation process included training, technical assistance, financial support, engaged leadership, champions, and learning collaboratives.

The results of this pilot project helped determine the factors to seek out when considering implementing a complex intervention in Federally Qualified Health Centers, as well as other limited resource settings, in diverse geographic locations.

Original Source:
https://academic.oup.com/tbm/advance-article/doi/10.1093/tbm/ibaa121/6027417

APPENDIX C
PANEL CASE STUDIES

Colorectal Cancer

Low colorectal cancer screening rates throughout rural Appalachia are a common and serious problem. An eleven-clinic health center in the area began to develop a change effort to address this issue. Stakeholder partners started with the exploration phase of mapping the barriers and facilitators in their unique setting that could be changed and leveraged to promote the increasing of screening rates above the dismal 22%-30% rate. Appalachia's social determinants of health include high rates of poverty, low employment and insurance, as well as barriers related to transportation. Many people lack access to colonoscopy services because of these factors. Within the health center, there are inefficiencies with the Electronic Health Record, and prevention and early detection of disease has not been identified as a major priority with leadership. Characteristics of the population involved relevant to the effort include reported low levels of self-efficacy.

The implementation team requested feedback from staff from the health center regarding strategies to improve screening rates considering the barriers identified. The staff came up with around seven themes related to improvement and many of these match with documented implementation strategies including patient education, reminder systems, training, quality improvement and restructuring of workflows. This assessment was critical in starting the process of building capacity for quality improvement, evaluation, and research on screening disparities in the region.

Original Source: https://pubmed.ncbi.nlm.nih.gov/33026682/

APPENDIX C
PANEL CASE STUDIES

Breast Cancer:

Racial disparities persist in breast cancer, despite an overall trend of decreasing mortality from the disease in the United States. One collaborative partnership decided to take the challenge head on by developing an intervention that combined screening and navigation into a locally adapted program. By building on their individual strengths, partners, such as a university cancer center and a Federally Qualified Health Center, were able to design a truly multi-level approach that succeeded amidst widespread poverty and a large percentage of patients lacking insurance. Levels focused on through intervention components and implementation strategies included the individual, interpersonal, organizational, community, and policy environments. Without guaranteed funding for coordination, there was a lack of coordinated care between the health center referring patients to be screened, and the sites performing the mammography services. Characteristics of the populations of interest include language and transportation barriers, and a lack of knowledge about the importance of screening to overall healthy living.

This collaborative partnership spent extensive time planning from the beginning, including matching resources to implementation activities, developing protocols for workflows, and training staff. Some of the strategies employed for the implementation process include tailored media, identifying champions, training staff, building new clinical teams, facilitating the relay of data, building a coalition, and changing policy. The RE-AIM framework was used to help evaluate whether this intervention can and should be scaled up in other similar settings.

Original Source: https://pubmed.ncbi.nlm.nih.gov/32348565/

APPENDIX D
COMPLETE RESOURCE LISTS

Resources and references are compiled across all units and listed alphabetically, below. See the footnote to determine where the resource or reference was mentioned.

A Glossary for Dissemination and Implementation Research in Health[1]

A Refined Compilation of Implementation Strategies: Results from the Expert Recommendations for Implementing Change (ERIC) Project[5]

Academy Health Blog Post on Adaptation[4]

Action for PSE Change: Steps 2-4[2]

Advancing Understanding and Identifying Strategies for Sustaining Evidence-based Practices: a Review of Reviews[8]

An Introduction to Implementation Science for the Non-Specialist[1]

Assessing Community Needs and Resources[2]

Assessing Organisational Readiness For Change[2]

Barriers/Facilitators Toolkit[2]

Be a SMARTIE: An Equity-Forward Approach to Goal Setting[1]

Cancer Plan Index: A Measure for Assessing the Quality of Cancer Plans[6]

Cancer Prevention and Control Research Network[1]

Cancer Prevention and Control Research Network: Accelerating the Implementation of Evidence-Based Cancer Prevention and Control Interventions[1]

Center for Health Innovation and Implementation Science[8]

Choosing Implementation Strategies to Address Contextual Barriers: Diversity in Recommendations and Future Directions[5]

Collecting Information about the Problem[2]

Community Toolbox: Planning for Sustainability[8]

Conceptualizing De-Implementation in Cancer Care Delivery[8]

Consolidated Framework for Implementation Research Tool[2]

Developing Strategic and Action Plans[6]

Defining and Assessing Context in Healthcare Implementation Studies: a Systematic Review[2]

Dissemination and Implementation Research Guide from the National Cancer Institute[1]

Dissemination and Implementation Science for Public Health Professionals: An Overview and Call to Action[1]

Effective Interventions to Facilitate the Uptake of Breast, Cervical and Colorectal Cancer Screening: an Implementation Guideline[6]

Evidence-based Cancer Control Programs[3]

Fostering Implementation of Health Services Research Findings Into Practice: a Consolidated Framework For Advancing Implementation Science[2]

FRAME: An Expanded Framework for Reporting Adaptations and Modifications to EBI[4]

APPENDIX D
COMPLETE RESOURCE LISTS

Resources and references are compiled across all units and listed alphabetically, below. See the footnote to determine where the resource or reference was mentioned.

FRAME: Adaptation Tools[4]

Freakonomics Blog: Policymaking Is Not a Science (Yet)[1]

Identifying Strategies to Promote Team Science in Dissemination and Implementation Research[1]

IM Adapt (Intervention Mapping) Adapt[4]

Implementation Context Assessment Organization[2]

Implementation of Cancer Plans in the United States: A Review[6]

Implementation Outcomes Repository[7]

Implementation Outcomes Toolkit[7]

Implementation Science at a Glance 2019[1]

Implementation Science Podcast from the Journal of Public Health Management and Practice[1]

Implementation Science Should Give Higher Priority to Health Equity[1]

Implementation Science: What Is It and Why Should I Care?[1]

Leveraging Implementation Science to Improve Cancer Care Delivery and Patient Outcomes[1]

Make it Your Own[4]

Model for Adaptation Design and Impact Guide[4]

National Cancer Institute Archive of Webinars on Implementation Science[1]

National Cancer Institute: Guidelines for Choosing and Adapting Programs[4]

National Cancer Institute's Implementation Practice Tools[1]

National Cancer Institute's Implementation Science Blog[1]

National Cancer Institute Orientation to the Science of Dissemination and Implementation[1]

National Implementation Research Network: Active Implementation Hub Module 4[6]

Northwestern's Implementation Science: An Introductory Workshop for Researchers, Clinicians, Policy Makers, and Community Members[1]

Oregon Social Learning Center Stages of Implementation Tool[6]

Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda[7]

APPENDIX D
COMPLETE RESOURCE LISTS

Resources and references are compiled across all units and listed alphabetically, below. See the footnote to determine where the resource or reference was mentioned.

Planning Health Promotion Programs: An Intervention Mapping Approach[3]

Practitioner Engagement in Implementation Science: Initiatives and Opportunities[1]

Program Sustainability Assessment Tool [8]

RE-AIM Tool[7]

Resources for Stakeholder and Community Engagement[1]

Selecting a Tool to Assess Readiness[2]

Strategies Toolkit[5]

Theory at a Glance[4]

The Center for Implementation[1]

The Clinical Guide to Preventative Services: US Preventative Services Task Force[3]

The Community Guide: Community Preventative Services Task Force[3]

The Meaning and Measurement of Implementation Climate[2]

The Veterans Affairs Quality Enhancement Research Initiative (QUERI) Program[1]

Training Institute for Dissemination and Implementation in Cancer (TIDIRC) Facilitated Course[1]

University of California San Francisco's Implementation Science Mini Course[1]

University of California San Francisco's Implementation Science Short Course[1]

University of Iowa Hospitals and Clinics: Evidence-Based Practices[3]

University of North Carolina's Active Implementation Hub[1]

Use of Evidence-based Practices and Resources Among Comprehensive Cancer Control Programs[3]

Using the Program Sustainability Assessment Tool to Assess and Plan for Sustainability[8]

Wandersman Center at the University of South Carolina[2]

Washington University of St. Louis Institute of Clinical and Translational Sciences Dissemination and Implementation Research: An Introduction[1]

What Can Implementation Science Do for You? Key Success Stories from the Field [1]

"What is Implementation Science?" University of Washington's Webpage[1]

Resources and references, compiled across all units and listed alphabetically, are mentioned in the following units:
1. Introduction to Implementation Science
2. Assess Context
3. How to Find Evidence-Based Interventions for Cancer Control
4. Using Evidence and Theories to Inform .Adaptation
5. Using Evidence and Theories to Inform Implementation
6. Facilitating Implementation
7. Evaluation
8. Sustainability

APPENDIX E

Resources and references are compiled across all units and listed alphabetically, below. See the footnote to determine where the resource or reference was mentioned.

Implementation Science References

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J., Silovsky, J. F., Hecht, D., & Chaffin, M. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. Implementation Science, 7(32). https://doi.org/10.1186/1748-5908-7-32 [4]

Agency for Healthcare Research and Quality. (2014). Guide to clinical preventive services. https://www.ahrq.gov/prevention/guidelines/guide/index.html [3]

Allen CG, Cotter MM, Smith RA, Watson L. Successes and challenges of implementing a lung cancer screening program in federally qualified health centers: a qualitative analysis using the Consolidated Framework for Implementation Research. *Transl Behav Med*. 2021;11(5):1088-1098. doi:10.1093/tbm/ibaa121 [2, 6]

Balis, L. E., Kennedy, L. E., Houghtaling, B., & Harden, S. M. (2021). Red, yellow, and green light changes: Adaptations to extension health promotion programs. Prevention Science. doi: 10.1007/s11121-021-01222-x [4]

Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. (2015). An introduction to implementation science for the non-specialist. *BMC Psychology*, 3(1):32. doi: 10.1186/s40359-015-0089-9 [1]

Bauer, M.S. & Kirchner, J., (2020). Implementation science: What is it and why should I care? *Psychiatry Research*, 283:112376. doi: 10.1016/j.psychres.2019.04.025 [1]

Beidas, R., Lewis, C., & Powell. B. (2018). Orientation to dissemination and implementation research in health resource guide. https://cancercontrol.cancer.gov/sites/default/files/2020-05/Orientation-to-DI-Research-in-Health-Resource-Guide.pdf [1]

Birken, S. A., Powell, B. J., Shea, C. M. Haines, E. R., Kirk, M. A., Leeman, J., Rohweder, C., Damschroder L.,& Presseau, J. (2017). Criteria for selecting implementation science theories and frameworks: Results from an international survey. *Implementation Science* 12(124). https://doi.org/10.1186/s13012-017-0656-y [1]

Brown, C. H., Curran G., Palinkas, L., Aarons, G. A., Wells, K. B., Jones, L., Collins, L. M., Duan, N., Mittman, B., Wallace, A., Tabak, R., Ducharme, L., Chambers, D., Neta, G., Wiley, T., Landsverk, J., Cheung, K., & Cruden, G. (2017). An overview of research and evaluation designs for dissemination and implementation. *Annual Review of Public Health*, 38:1, 1-22.[1]

Calhoun, A., Mainor, A., Moreland-Russell, S., Maier, R. C., Brossart, L., & Luke, D. A. (2014). Using the Program Sustainability Assessment Tool to assess and plan for sustainability. Preventing Chronic Disease, 11,130185. http://dx.doi.org/10.5888/pcd11.130185 [8]

Cancer Prevention and Research Institute of Texas. (2018). 2018 Texas cancer plan. https://www.cprit.state.tx.us/media/1457/tcp2018_web_09192018.pdf. [8]

Centers for Disease Control and Prevention (CDC). (2012). Black corals cancer education [Video]. YouTube. https://www.youtube.com/watch?v=bn4aATMCfiw. [5]

CFIR Research Team-Center for Clinical Management Research. (n.d.). Consolidated framework for implementation research. https://cfirguide.org.[1, 2]

Chambers, D. A., Glasgow, R. E., & Stange, K. C. (2013). The dynamic sustainability framework: Addressing the paradox of sustainment amid ongoing change. Implementation Science, 8(117). https://doi.org/10.1186/1748-5908-8-117.[4, 8]

Chatterjee S., Chattopadhyay, A., & Levine, P. (2015). Between-ward disparities in colorectal cancer incidence and screening in Washington DC. Journal of Epidemiology and Global Health, 5(4 Supplement 1), S1-S9.doi: 10.1016/j.jegh.2015.08.001.[7]

Community Toolbox. (n.d.) "Chapter 3: Assessing Community Needs and Resources." https://ctb.ku.edu/en/table-of--contents/assessment/assessing-community-needs-and-resources.[2]

Comprehensive Cancer Control National Partnership. (2021). Health equity: Tip sheet. https://www.acs4ccc.org/wp-content/uploads/2021/04/Cancer-Plan-Tip-Sheet_Health-Equity_FINAL.pdf. [2, 7]

Escoffery C, Lebow-Skelley E, Haardoerfer R, et al. A systematic review of adaptations of evidence-based public health interventions globally. Implement Sci. 2018;13(1):125. Published 2018 Sep 26. doi:10.1186/s13012-018-0815-9.[4]

Fernández, M. E., Melvin, C. L., Leeman, J., Ribisl, K. M., Allen, J. D., Kegler, M. C., Bastani, R., Ory, M. G., Risendal, B. C., Hannon, P. A., Kreuter, M. W., & Hebert, J. R. (2014). The cancer prevention and control research network: An interactive systems approach to advancing cancer control implementation research and practice. Cancer Epidemiology, Biomarkers & Prevention, 23(11), 2512–2521. doi: 10.1158/1055-9965.EPI-14-0097.[2,4]

Frieden, T. R. (2010). A framework for public health action: The health impact pyramid. American Journal of Public Health, 100(4):590-5. doi: 10.2105/AJPH.2009.185652.[2]

Gesme, D., & Wiseman, M. (2010). How to implement change in practice. *Journal of Oncology Practice*, 6(5), 257-259. doi: 10.1200/JOP.000089.[2]

Goodman, R. M., McLeroy, K. R., Steckler, A. B., & Hoyle, R. H. (1993). Development of level of institutionalization scales for health promotion programs. Health Education Quarterly, 20(2):161-78 doi: 10.1177/109019819302000208.[7]

Green, L. W. (2008). Making research relevant: If it is an evidence-based practice, where's the practice-based evidence? Family Practice, 25 Suppl 1:i20-4. doi: 10.1093/fampra/cmn055. Epub 2008 Sep 15.[3]

Hamilton, S., McLaren, S. & Mulhall, A. (2007). Assessing organisational readiness for change: Use of diagnostic analysis prior to the implementation of a multidisciplinary assessment for acute stroke care. Implementation Science, 2(21). https://doi.org/10.1186/1748-5908-2-21.[2]

Hannon, P. A., Fernandez, M. E., Williams, R. S., Mullen, P. D., Escoffery, C., Kreuter, M. W., Pfeiffer, D., Kegler, M. C., Reese, L., Mistry, R., & Bowen, D. J. (2010). Cancer control planners' perceptions and use of evidence-based programs. Journal of Public Health Management and Practice, 16(3), E1–E8.doi: 10.1097/phh.0b013e3181b3a3b1.[3]

Hartman, M. A., Stronks, K., Highfield, L. Cremer, S. W., Verhoeff, A. P., & Nierkens, V. (2015). Disseminating evidence-based interventions to new populations: A systematic approach to consider the need for adaptation. Implementation Science 10(49). https://doi.org/10.1186/1748-5908-10-S1-A49.[4]

Henderson, V., Tossas-Milligan, K., Martinez, E., Williams, B., Torres, P., Mannan, N., Green, L., Thompson, B.. Winn, R., & Watson, K. S. (2020). Implementation of an integrated framework for a breast cancer screening and navigation program for women from underresourced communities. Cancer, 126(Suppl 10), 2481-2493 doi: 10.1002/cncr.32843.[6]

Horner, R., Blitz, C., & Ross, S. (2014). The importance of contextual fit when implementing evidence-based Interventions. U.S. Department of Health & Human Services: Office of the Assistant Secretary for Planning and Evaluation. https://aspe.hhs.gov/report/importance-contextual-fit-when-implementing-evidence-based-Interventions.[2]

Holt, C. L., Tagai, E. K., Scheirer, M. A., Santos, S. L., Bowie, J., Haider, M., Slade, J., Wang, M., & Whitehead, T. (2014). Translating evidence-based interventions for implementation: Experiences from Project HEAL in African American churches. *Implementation Science*, 9(1). doi: 10.1186/1748-5908-9-66. [7]

Holt, D. T., Helfrich, C. D., Hall, C. G., & Weiner, B. J. (2010). Are you ready? How health professionals can comprehensively conceptualize readiness for change. Journal of General Internal Medicine, 25(Suppl 1), 50-55. doi: 10.1007/s11606-009-1112-8.[2]

Jacobs, J. A., Duggan, K., Erwin, P., Smith, C., Borawski, E., Compton, J., D'Ambrosio, L., Frank, S. H., Frazier-Kouassi, S., Hannon, P. A., Leeman, J., Mainor, A., & Brownson, R. C. (2014). Capacity building for evidence-based decision making in local health departments: scaling up an effective training approach. *Implementation Science*, 9(124). https://doi.org/10.1186/s13012-014-0124-x.[2, 3]

Jacobs, J. A., Jones, E., Gabella, B. A., Spring, B., & Brownson, R. C. (2012). Tools for implementing an evidence-based approach in public health practice. Preventing Chronic Disease, 9, E116. doi: 10.5888/pcd9.110324. [2]

Khan, S., Timmings, C., Moore, J. E. Marquez, C., Pyka, K., Gheihman, G., & Strauss, S. (2014). The development of an online decision support tool for organizational readiness for change. Implementation Science, 9(56). https://doi.org/10.1186/1748-5908-9-56.[3]

Kilbourne, A. M., Glasgow, R. E. & Chambers, D. A. (2020). What can implementation science do for you? Key success stories from the field. Journal of General Internal Medicine, 35, 783–787. doi: 10.1007/s11606-020-06174-6.[4]

Leeman, J., Birken, S. A., Powell, B. J., Rohweder, C., & Shea, C. M. (2017). Beyond "implementation strategies": Classifying the full range of strategies used in implementation science and practice. Implementation Science 12(1). doi.org/10.1186/s13012-017-0657-x.[5]

Liang, S., Kegler, M. C., Cotter, M., Emily, P., Beasley, D., Hermstad, A., Morton, R., Martinez, J., & Riehman, K. (2016). Integrating evidence-based practices for increasing cancer screenings in safety net health systems: A multiple case study using the Consolidated Framework for Implementation Research. Implementation Science, 11(109). https://doi.org/10.1186/s13012-016-0477-4.[2]

Livet, M., Yannayon, M., Richard, C., Sorge, L., & Scanlon, P. (2020). Ready, set, go!: Exploring use of a readiness process to implement pharmacy services. Implementation Science Communications, 1(52). https://doi.org/10.1186/s43058-020-00036-2.[2]

Looijmans-van den Akker, I., Hulscher, M. E., Looijmans-van den Akker, I., Hulscher, M. E., Verheij, T. J., Riphagen-Dalhuisen, J., van Delden, J. J., & Hak, E. (2011). How to develop a program to increase influenza vaccine uptake among workers in health care settings? Implementation Science 6(47). doi: 10.1186/1748-5908-6-47. [5]

Metz, A., Louison, L., Burke, K., Albers, B., & Ward, C. (2020). Implementation support practitioner profile: Guiding principles and core competencies for implementation practice. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill. https://nirn.fpg.unc.edu/resources/implementation-support-practitioner-profile.[7, 8]

Moore, J. & Metz, A. (2020). Practicing implementation blog: https://nirn.fpg.unc.edu/practicing-implementation/providing-implementation-support-program-adaptations-covid-19-environment.[4]

Movsisyan, A., Arnold, L., Evans, R. Hallingberg, B., Moore, G., O' Cathain, A., Pfadenhauer, L. M., Seegrott J., Rehfuess, E. (2019). Adapting evidence-informed complex population health interventions for new contexts: A systematic review of guidance. Implementation Science, 14(105). https://doi.org/10.1186/s13012-019-0956-5.[4]

National Cancer Institute (n.d). Evidence-based cancer control programs (EBCCP). https://ebccp.cancercontrol.cancer.gov/index.do.[3]

National Cancer Institute. (2012). http://re-aim.org/wpcontent/uploads/2016/09/checklistdimensions.pdf.[7]

National Cancer Institute. (2019). Implementation science at a glance. https://cancercontrol.cancer.gov/sites/default/files/2020-07/NCI-ISaaG-Workbook.pdf.[1,5]

Ory, M. G., Sanner, B., Vollmer Dahlke, D., & Melvin, C. L. (2015). Promoting public health through state cancer control plans: A review of capacity and sustainability. *Frontiers in Public Health*, 3, 40. https://doi.org/10.3389/fpubh.2015.00040. [8]

Powell, B. J., McMillen, J. C., Proctor, E. K., Carpenter, C. R., Griffey, R. T., Bunger, A. C., Glass, J. E., & York, J. L. (2012). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review*, 69(2), 123–157. doi: 10.1177/1077558711430690.[5, 6]

Rabin, B. A., Brownson, R. C., Haire-Joshu, D., Kreuter, M. W., & Weaver, N. L. (2008). A glossary for dissemination and implementation research in health. Journal of Public Health Management and Practice, 14(2):117-23. doi: 10.1097/01.PHH.0000311888.06252.bb.[8]

Ramsey, A., Lawrence, K., Prusaczyk, B., Baumann, A., Kryzer, E., & Proctor, E. (2016) Organizational Measures. St. Louis, MO: Washington University. Eight toolkits related to Dissemination and Implementation. Available from https://sites.wustl.edu/wudandi.[2]

Rohweder, C. L., Laping, J. L., Diehl, S. J., Moore, A. A., Isler, M. R., Scott, J. E., Enga, Z. K., Black, M. C., Dave, G., Corbie-Smith, G., & Melvin, C. L. (2016). Bridging research, practice, and policy: The "Evidence Academy" conference model. *Journal of Public Health Management and Practice*, 22(2), 200–203. doi: 10.1097/phh.0000000000000230.[2]

Rohweder, C., Wangen, M., Black, M., Dolinger, H., Wolf, M., O'Reilly, C., Brandt, H., & Leeman, J. (2019) Understanding quality improvement collaboratives through an implementation science lens. Prevention Medicine, 129S:105859. doi: 10.1016/j.ypmed.2019.105859.[7]

Rubin Means, A., & Wagenaar, B. (2018). An introduction quality improvement. The ImpSci UW Blog. https://impsciuw.org/an-introduction-to-quality-improvement/.[7]

Shelton, R. C., Chambers, D. A., & Glasgow, R. E. (2020). An extension of RE-AIM to enhance sustainability: addressing dynamic context and promoting health equity over time. Frontiers in Public Health, 8(134). doi: 10.3389/fpubh.2020.00134.[8]

Skolarus, T. A., & Sales, A. E. (2016). Using implementation science to improve urologic oncology care. Urologic Oncology, 34(9), 384–387. doi: 10.1016/j.urolonc.2016.05.022.[5]

Smith, J. D., Li, D. H. & Rafferty, M. R. (2020). The Implementation Research Logic Model: A method for planning, executing, reporting, and synthesizing implementation projects. Implementation Science, 16(84). https://doi.org/10.1186/s13012-020-01041-8.[7]

The Community Guide. (n.d.). Search the community guide. https://www.thecommunityguide.org/search/cancer.[5]

The Improved Clinical Effectiveness through Behavioural Research Group (ICEBeRG). (2006). Designing theoretically-informed implementation interventions. Implementation Science, 1(4). https://doi.org/10.1186/1748-5908-1-4.[4]

Tu, S-P., Chun, A., Yasui, Y., Kuniyuki, A., Yip, M., Taylor, V., & Bastani, R. (2014). Adaptation of an evidence-based intervention to promote colorectal cancer screening: A quasi-experimental study. Implementation Science, 9(85). https://doi.org/10.1186/1748-5908-9-85.[4]

Vanderpool, R. C., Moore, S. C., Stradtman, L. R., Carman, A. L., Kurgat, H. L., & Fain, P. (2016). Adaptation of an evidence-based intervention to improve preventive care practices in a federally qualified health center in Appalachian Kentucky. *Journal of Health Care for the Poor and Underserved*, 27(4A), 46–52.doi: 10.1353/hpu.2016.0185.[2]

Walker, T. J., Brandt, H. M., Wandersman, A. Scaccia, J., Lamont, A., Workman, L., Dias, E., Diamond, P. M., Craig, D. W, & Fernandez, M. E. (2020). Development of a comprehensive measure of organizational readiness (motivation × capacity) for implementation: A study protocol. *Implementation Science Communications*, 1(103). https://doi.org/10.1186/s43058-020-00088-4.[2]

Wandersman Center. (n.d). “Readiness Building Center” https://www.wandersmancenter.org/defining-readiness.html.[2]

Wang, V., Maciejewski, M., Helfrich, C., & Weiner, B. (2018). Working smarter not harder: Coupling implementation to de-implementation. *Healthcare*, 6(2), 104-107. doi: 10.1016/j.hjdsi.2017.12.004.[8]

Ward, V., Smith, S., House, A., & Hamer, S. (2012). Exploring knowledge exchange: A useful framework for practice and policy. *Social Science & Medicine*, 74(3):297-304. doi: 10.1016/j.socscmed.2011.09.021[2]

Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation Science*, 4(67). https://doi.org/10.1186/1748-5908-4-67.[2]

Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B., Dorsey, C., Clary, A., Boynton, M., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. Implementation Science, 12(108). https://doi.org/10.1186/s13012-017-0635-3.[7]

Wiltsey Stirman, S., Baumann, A. A. & Miller, C. J. (2019). The FRAME: An Expanded Framework for Reporting Adaptations and Modifications to Evidence-based interventions. Implementation Science, 14(58). https://doi.org/10.1186/s13012-019-0898-y.[4]

University of Washington (n.d). Study design. https://impsciuw.org/implementation-science/research/designing-is-research/. [4]

University of Washington (n.d). What is implementation science? https://impsciuw.org/implementation-science/learn/implementation-science-overview/. [1]

Zoellner J, Porter K, Thatcher E, Kennedy E, Werth JL Jr, Grossman B, Roatsey T, Hamilton H, Anderson R, Cohn W. A Multilevel Approach to Understand the Context and Potential Solutions for Low Colorectal Cancer (CRC) Screening Rates in Rural Appalachia Clinics. *J Rural Health.* 2021 Jun;37(3):585-601. doi: 10.1111/jrh.12522. Epub 2020 Oct 7. PMID: 33026682; PMCID: PMC8238123.[6]

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