

**Opportunities to Improve Mental Health Services Through Adaptive and Tailored Approaches to Implementation** 

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# **Growing Body of Evidence for a Range of Interventions**

- Programs (e.g., cognitive behavioral therapy)
- Practices (e.g., "catch them being good")
- Principles (e.g., prevention before treatment)
- Procedures (e.g., screening for depression)
- Products (e.g., mHealth app for exercise)
- Pills (e.g., PrEP to prevent HIV infection)
- Policies (e.g., limit prescriptions for narcotics) Brown et al. (2017)



## **Multilevel & Multiphase Determinants (Barriers and Facilitators)**



Aarons et al. (2011); Powell et al. (2016; 2020); Raghavan et al. (2008)

Determinant	Implementation Strategy	Mechanism	Implementation Outcome
Provider knowledge deficit	Education (provision of information)	Awareness-building, knowledge-acquisition	Feasibility, acceptability, appropriateness, adoption
Provider skill deficit	Training (teaching & practice with corrective feedback)	Skill acquisition, refinement, mastery	Fidelity to EBP
Turnover	Train-the-trainer	Continuous on-site expertise available for consultation	Sustainability
Provider engagement	Clinical champion-led implementation team	Implementation climate	Feasibility, acceptability, appropriateness
Unstandardized clinical care options	Guidelines	Clarity of clinical care	Fidelity



## **Potential Pitfalls in Designing, Selecting, & Tailoring Strategies**



Bosch et al. (2007); Grimshaw et al. (2004); Henggeler et al. (2002); Squires et al. (2014); Wensing and Grol (2019)



# "There is often little association between the type of problem and the approach to change taken. More particularly, organizational and system-related problems tend to be ignored, even when these were detected, favoring individual educational and psychological approaches."



#### **ImpleMentAll Project Process of Context-Specific Tailoring**



Bührmann et al. (2020)



## Leverage Systematic Reviews to Understand Broader Context

JMIR MENTAL HEALTH	Vis et al
Review	
Improving Implementation of eMental Health for Mood Disord in Routine Practice: Systematic Review of Barriers and Facilita Factors	ders ating
Christiaan Vis <sup>1,2</sup> , MA; Mayke Mol <sup>2,3</sup> , MSc; Annet Kleiboer <sup>1,2</sup> , PhD; Leah Bührmann <sup>1,2</sup> , BSc; Tracy Finch <sup>4</sup> , Ph Smit <sup>2,3</sup> , PhD; Heleen Riper <sup>1,2,3,5</sup> , PhD	hD; Jan
	Administration and Policy in Mental Health and Mental Health Services Research (2020) 47:705–719 https://doi.org/10.1007/s10488-019-01003-3
	ORIGINAL ARTICLE
	Determinants of Implementing Evidence-Based Trauma-Focused Interventions for Children and Youth: A Systematic Review
	Byron J. Powell <sup>1</sup> Sheila V. Patel <sup>2,3</sup> · Amber D. Haley <sup>2</sup> · Emily R. Haines <sup>2,3</sup> · Kathleen E. Knocke <sup>2</sup> · Shira Chandler <sup>2</sup> · Colleen Cary Katz <sup>4</sup> · Heather Pane Seifert <sup>5</sup> · George Ake III <sup>6</sup> · Lisa Amaya-Jackson <sup>5,6</sup> · Gregory A. Aarons <sup>7</sup>
	Published online: 7 December 2019 © Springer Science+Business Media, LLC, part of Springer Nature 2019



## **Develop and Apply Psychometrically Strong & Pragmatic Measures**



https://journals.sagepub.com/topic/collections-irp/irp-1-systematic\_reviews\_of\_methods\_to\_measure\_implementation\_constructs/irp



#### **Use Qualitative and Mixed Methods**





NATIONAL CANCER INSTITUTE Division of Cancer Control & Population Sciences

#### QUALITATIVE METHODS IN IMPLEMENTATION SCIENCE

Review

A scoping review of the use of ethnographic approaches in implementation research and recommendations for reporting

Alex K Gertner<sup>1</sup>, Joshua Franklin<sup>2</sup>, Isabel Roth<sup>3</sup>, Gracelyn H Cruden<sup>4</sup>, Amber D Haley<sup>1</sup>, Erin P Finley<sup>5,6</sup>, Alison B Hamilton<sup>7,8</sup>, Lawrence A Palinkas<sup>9</sup> and Byron J Powell<sup>10</sup> Implementation Research & Practice

Implementation Research and Practice Volume 2: Jan-Dec 2021 I-17 © The Author(s) 2021 Article reuse guidelines: sagepub.com/journals-permissions DOI: 10.1177/033149521492743 journals.sagepub.com/home/irp SAGE



#### **Advance Use of Systems Science Methods**





Bunger et al. (2016); Hovmand & Gillespie (2010); Powell, Beidas, et al. (2017)



#### **ImpleMentAll Project Process of Context-Specific Tailoring**



Bührmann et al. (2020)



#### Brown School at Washington University in St. Louis

#### Prevention Science (2019) 20:914–935 https://doi.org/10.1007/s11121-019-01017-1 **Compilations of Strategies** Adapting a Compilation of Implementation Strategies to Advance Check for Powell et al. Implementation Science (2015) 10:21 updates DOI 10.1186/s13012-015-0209-1 IMPLEMENTATION SCIENCE School-Based Implementation Research and Practice Clayton R. Cook<sup>1</sup> · Aaron R. Lyon<sup>2</sup> · Jill Locke<sup>2</sup> · Thomas Waltz<sup>3</sup> · Byron J. Powell<sup>4</sup> RESEARCH **Open Access** A refined compilation of implementation strategies: Medical Care Research and Review 69(2) 123–157 © The Author(s) 2012 A Compilation of Strategies Reprints and permission sagepub.com/journalsPermissions.nav DOI: 10.1177/1077558711430690 results from the Expert Recommendations for for Implementing Clinical Original Empirical Research Innovations in Health and http://mcr.sagepub.c (\$)SAGE Implementing Change (ERIC) project Mental Health Implementation Research and Practice Volume 1: Jan-Dec 2020 1 --21 © The Author(s) 2020 DOI: 10.1177/2633489520939980 A scoping review of strategies for financing the implementation of Byron J Powell<sup>1\*</sup>, Thomas J Waltz<sup>2</sup>, Matthew J Chinman<sup>3,4</sup>, Laura J Damschroder<sup>5</sup>, Jeffrey L Smith<sup>6</sup>, iournals.sagepub.com/home/irp (\$SAGE Byron J. Powell, J. Curtis McMillen<sup>2</sup>, Enola K. Proctor, evidence-based practices in behavioral . Monica M Matthieu<sup>6,7</sup>. Enola K Proctor<sup>8</sup> and JoAnn F Kirchner<sup>6,5</sup> Christopher R. Carpenter<sup>3</sup>, Richard T. Griffey<sup>3</sup>, health systems: State of the literature Alicia C. Bunger<sup>4</sup>, Joseph E. Glass<sup>1</sup>, and Jennifer L. York<sup>3</sup> and future directions Waltz et al. Implementation Science (2015) 10:109 DOI 10.1186/s13012-015-0295-0 IMPLEMENTATION SCIENCE Abstract Efforts to identify, develop, refine, and test strategies to disseminate and implen Alex R Dopp<sup>1</sup>, Marie-Rachelle Narcisse<sup>2</sup>, evidence-based treatments have been prioritized in order to improve the quality Peter Mundev<sup>3</sup> , Jane F Silovskv<sup>4</sup>, Allison B Smith<sup>5</sup>. of health and mental health care delivery. However, this task is complicated by an David Mandell<sup>6</sup>, Beverly W Funderburk<sup>4</sup>, Byron JPowell<sup>7</sup>, implementation science literature characterized by inconsistent language use and Susan Schmidt<sup>4</sup>, Daniel Edwards<sup>8</sup>, Douglas Luke<sup>7</sup> SHORT REPORT inadequate descriptions of implementation strategies. This article brings more depth **Open Access** and clarity to implementation research and practice by presenting a consolidated and Peter Mendel<sup>9</sup> compilation of discrete implementation strategies, based on a review of 205 sources published between 1995 and 2011. The resulting compilation includes 68 CrossMark Use of concept mapping to characterize implementation strategies and definitions, which are grouped according to six key implementation processes: planning, educating, financing, restructuring, managing quality, and attending to the policy context. This consolidated compilation can serve American Psychologist relationships among implementation as a reference to stakeholders who wish to implement clinical innovations in health and mental health care and can facilitate the development of multifaceted, multilevel © 2020 American Psychological Association ISSN: 0003-066X 2020, Vol. 75, No. 8, 1080-1092 mplementation plans that are tailored to local contexts strategies and assess their feasibility and Implementation Strategies for Digital Mental Health Interventions in Health This article, submitted to Medical Care Research and Review on July 11, 2011, was revised and accepted for importance: results from the Expert lication on October 20, 20 Care Settings Vashington University in St. Louis, St. Louis, MO, USA The University of Chicago, Chicago, IL, USA **Recommendations for Implementing** Vashington University School of Medicine, St. Louis, MO, USA he University of North Carolina at Chapel Hill, Chapel Hill, NC, USA Andrea K. Graham and Emily G. Lattie Byron J. Powell Change (ERIC) study responding Author: Northwestern University Washington University in St. Louis ron J. Powell, George Warren Brown School of Social Work, Washington University in St. Louis, Can Box 1 196, One Brookings Drive, St. Louis, MO 63 30, USA Email: bjpowell@wustl.edu Aaron R. Lvon Justin D. Smith Thomas J. Waltz<sup>1,2\*</sup>, Byron J. Powell<sup>3</sup>, Monica M. Matthieu<sup>4,5,10</sup>, Laura J. Damschroder<sup>2</sup>, Matthew J. Chinman<sup>6,7</sup>, University of Washington Northwestern University Jeffrey L. Smith<sup>5,10</sup>, Enola K. Proctor<sup>8</sup> and JoAnn E. Kirchner<sup>5,9,10</sup> Stephen M. Schueller Nicole A. Stadnick Northwestern University and University of California, Irvine University of California, San Diego

C. Hendricks Brown and David C. Mohr Northwestern University



# **Ongoing and/or Planned Work**

- Linking ERIC implementation strategies with behavior change techniques (Michie et al., 2013) led by Sheena McHugh (Fulbright Ireland & Health Research Board; HRB-RLA-2020-004)
- Identifying mechanisms through which ERIC (and other strategies) operate (AHRQ R13HS025632 [Lewis, PI] and proposed NCI R01 [Lewis & Weiner, MPIs])
- How do these strategies apply to sustainment (Alix Ivers & Nicole Nathan)
  and de-implementation (Sara Ingvarsson)
- Examining ERIC (and identifying additional strategies) using a racial justice and health equity lens (Expert Panel convened by Debra Bingham, University of Maryland)



#### **ImpleMentAll Project Process of Context-Specific Tailoring**



Bührmann et al. (2020)



# 1) Identify, Develop, and Refine Better Methods for Linking Determinants and Strategies



#### Methods to Improve the Selection and Tailoring of Implementation Strategies

Byron J. Powell, PhD Rinad S. Beidas, PhD Cara C. Lewis, PhD Gregory A. Aarons, PhD J. Curtis McMillen, PhD Enola K. Proctor, PhD David S. Mandell, ScD

Colquhoun et al. Implementation Science (2017) 12:30 DOI 10.1186/s13012-017-0560-5

Implementation Science

#### SYSTEMATIC REVIEW

**Open Access** 

( CrossMark

Methods for designing interventions to change healthcare professionals' behaviour: a systematic review

Heather L. Colquhoun<sup>1\*</sup>, Janet E. Squires<sup>2,3</sup>, Niina Kolehmainen<sup>4</sup>, Cynthia Fraser<sup>5</sup> and Jeremy M. Grimshaw<sup>2,6</sup>



#### **CFIR-ERIC Matching Tool**





#### **Use of Intervention Mapping to Design and Tailor Strategies**





#### 2) Optimize Strategies that are Inherently Adaptive

Using Implementation Facilitation to Improve Healthcare



IMPLEMENTATION FACILITATION TRAINING MANUAL

DECEMBER 1, 2020

Facilitation: "A process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship" (Powell et al., 2015, p. 9)

https://www.queri.research.va.gov/tools/implementation.cfm



### 3) Develop and Test Adaptive Strategies

The Multiphase Optimization Strategy (MOST) and the Sequential Multiple Assignment Randomized Trial (SMART)

New Methods for More Potent eHealth Interventions

Linda M. Collins, PhD, Susan A. Murphy, PhD, Victor Strecher, PhD





#### 4) Move Toward Common Elements Approaches



Shamelessly stolen from Thomas Engell without permission. Sorry, Thomas! (Subsequently, Thomas granted permission via Twitter.)



#### **ImpleMentAll Project Process of Context-Specific Tailoring**



Bührmann et al. (2020)



# **Priorities for Enhancing the Impact of Implementation Strategies**



- 1) Enhance methods for designing and tailoring
- 2) Specify and test mechanisms of change
- 3) Improve tracking and reporting of strategies
- 4) Conduct more effectiveness research
- 5) Increase economic evaluations



#### **Recent Guidance on Conducting Randomized Implementation Trials**

	RES	SEARCH METHODS AND REPORTING		
	Designing and undertaking randomised implementation trials:			
Check for updates	Check for updates guide for researchers			
	Luke Wolfenden, <sup>1,2</sup> Robbie Foy, <sup>3</sup> Justin Presseau, <sup>4,5</sup> Jeremy M Grimshaw, <sup>4,6</sup> Noah M Ivers, <sup>7,8,9,10</sup> Byron J Powell, <sup>11</sup> Monica Taljaard, <sup>4,5</sup> John Wiggers, <sup>1,2</sup> Rachel Sutherland, <sup>1,2</sup> Nicole Nathan, <sup>2</sup> Christopher M Williams, <sup>1,2,12</sup> Melanie Kingsland, <sup>1,2</sup> Andrew Milat, <sup>12</sup> Rebecca K Hodder, <sup>1,2</sup> Sze Lin Yoong <sup>13</sup>			
For numbered affiliations see end of the article. Correspondence to: L Wolfenden Luke.Wolfenden@hnehealth.nsw. gov.au (ORCID 0000-0002-6178-3868) Additional material is published online only. To view please visit the journal online. Cite this as: <i>BMJ</i> 2021;372:m3721 http://dx.doi.org/10.1136/bmj.m3721	Implementation science is the study of methods to promote the systematic uptake of evidence based interventions into practice and policy to improve health. Despite the need for high quality evidence from implementation research, randomised trials of	recruitment and retention strategies, randomised design selection, use of implementation science theory and frameworks, measures, sample size calculations, ethical review, and trial reporting. It also focuses on topics requiring special consideration or		
Accepted: 10 August 2020	implementation strategies often have	adaptation for implementation trials.		



# **Contact Information**

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