

An Integration and Synthesis of Current Implementation Frameworks

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Implementation science has developed to support the use of innovations in individual fields within human services and business. As knowledge about evidence-based innovations has grown, so too has knowledge about implementation. Unique implementation frameworks have been developed to guide research and practice in given fields within human services. The proposition put forward for examination is that implementation is universal. If the parsimonious assumption regarding universal implementation principles is true, then each unique framework emphasizes some parts of the universal. An in-depth qualitative examination of individual frameworks has been conducted. By identifying and combining fragments of the whole contained within unique frameworks, an integrated implementation framework can be established to serve the interests of all fields.

The following summaries are based on the work of Fixsen and Fixsen (in preparation). The 32 distinct implementation frameworks identified in reviews by Tabak, Khoong, Chambers, and Brownson (2012) and Meyers, Durlak, and Wandersman (2012) are listed alphabetically in the following table. As noted in the table, the frameworks are drawn from work in a number of fields, such as mental health, health care, business, corrections, substance abuse, education, and violence, drug use, and injury prevention. Source documents are noted in the table with a designation indicating whether documents were available in a form suitable for further qualitative analysis. Source documents were not available or not suitable for data entry and further analysis for seven (7) frameworks.

The number of frameworks presents a challenge for implementation researchers and potential users of innovations supported by research evidence. Frameworks developed in individual sectors add confusion to a field that has lacked coherence and definition. Researchers in different fields with different traditions and interests use different language to describe a common concept, or use common language to describe different concepts. The lack of agreed upon language for concepts and the lack of commonly used measures of implementation variables hinder reviews and prevent quantitative meta-analyses. The modest overlap among the frameworks (5 of 37) in two major reviews published in the same year provides a glimpse of the conundrum facing implementation researchers and potential users of innovations supported by research evidence. Nevertheless, the frameworks represent 32 views of implementation. In this regard, the 32 frameworks offer information about a range of perspectives from a variety of human service fields and identify components considered important to using research evidence in human services.

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Review	Framework and Source Documents	Primary Focus
Tabak	4E's Process Theory Pronovost, Berenholtz, and Needham (2008)	Health
Both	Active Implementation Frameworks Fixsen, Naoom, Blase, Friedman, and Wallace (2005) and sisep.fpg.unc.edu/learning-zone/science-of-implementation/implementation-frameworks	Transdisciplinary
Both	Availability, Responsiveness & Continuity (ARC): An Organizational & Community Intervention Model Glisson and Schoenwald (2005) and Glisson et al. (2010)	Delinquency and mental health
Meyers	Blueprints - Evidence-based violence and drug prevention programs Hawkins, Catalano, and Arthur (2002); Mihalic et al. (2004)	Corrections and substance abuse
Meyers	Community-based prevention services Sandler et al. (2005)	Community development
Meyers	Community-based programs for violence prevention and substance abuse prevention Stith et al. (2006)	Community development and substance abuse
Tabak	Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors Aarons, Hurlburt, and Horwitz (2011)	Human services and child welfare
Both	Consolidated Framework for Implementation Research (CFIR) Damschroder et al. (2009)	Health
Meyers	Diffusion, dissemination, and sustainability of innovations in health care Greenhalgh et al. (2004)	Transdisciplinary
Meyers	Framework to implement strategies in organizations (management) Okumus (2003)	Business
Meyers	Getting To Outcomes (GTO): Community-based substance abuse prevention planning Chinman et al. (2008) and Chinman, Imm, and Wandersman (2004)	Substance Abuse
Meyers	Health promotion and disease prevention (Guldbrandsson, 2008)	Health
Both	Implementation Effectiveness Model Klein and Sorra (1996) and Klein, Conn, and Sorra (2001)	Business

Review	Framework and Source Documents	Primary Focus
Meyers	Interactive Systems Framework - Injury and violence prevention Wandersman and Florin (2003) and Wandersman et al. (2008) and Wandersman, A., & Florin, P. (2003)	Corrections, delinquency, and injury prevention
Tabak	Normalization Process Theory May and Finch (2009) and Murray et al. (2010) and www.normalizationprocess.org .	Transdisciplinary
Tabak	Organizational Theory of Innovation Implementation Weiner, Lewis, and Linnan (2009)	Human services
Meyers	PARIHS Evidence-based healthcare Rycroft-Malone (2004)	Health
Tabak	PARIHS - Promoting Action on Research Implementation in Health Services Kitson, Harvey, and McCormack (1998) and Kitson et al. (2008) and Rycroft-Malone (2004)	Health
Meyers	Prevention and health promotion programs Durlak and DuPre (2008)	Health
Meyers	PRISM Evidence-based health care Feldstein and Glasgow (2008)	Health
Meyers	PROSPER Population-based youth development and reduction of youth problem behaviors (e.g., substance use, violence, and other conduct problems). Spoth and Greenberg (2005) and Spoth, Greenberg, Bierman, and Redmond (2004)	Delinquency and education
Meyers	QUERI Evidence-based health care United States Veterans Administration Stetler, McQueen, Demakis, and Mittman (2008)	Health
Both	Replicating Effective Programs Plus Framework Kilbourne, Neumann, Pincus, Bauer, and Stall (2007)	Health
Meyers	School-based preventive and mental health promotion interventions Greenberg, Domitrovich, Graczyk, and Zins (2005)	Education and mental health
Tabak	Sticky Knowledge Elwyn, Taubert, and Kowalczyk (2007) and Elwyn et al. (2007) and Szulanski (1996)	Business
Meyers	CASEL http://www.cdc.gov/globalaids/support-evidence-based-programming/implementation-science.html	Education

Tabak	Conceptual Model of Implementation Research Proctor et al. (2009)	Health
Meyers	Diffusion of innovations in organizations Rogers (2003)	Agriculture and communications
Meyers	School-based innovations Hall and Hord (2011)	Education
Meyers	Community-based prevention planning www.pfsacademy.org	Community development
Meyers	Technological innovations Van de Ven, Angle, and Poole (2000)	Business
Meyers	Comprehensive, individualized, family-driven mental health services Walker and Koroloff (2007)	Child welfare and mental health

All source documents were entered into the Atlas.ti software program and analyzed using the coding function in the software. For example, in Atlas.ti text in a source document (a “quotation”) can be highlighted and coded with one or more codes. Coding is recursive and allows a researcher to go back through the data to alter codes to better suit the content. Based on the data coding process, operational definitions of codes may be refined and the number of codes may be expanded (Miles & Huberman, 1994). The power of the Atlas.ti software allows all of the text associated with a single code to be accessed readily. This function pulls the text out of the context of a document and allows the researcher to focus on the accumulated text associated with each code. This makes it practicable to check for consistency and to extract information within and across multiple codes. By focusing on the text out of context, commonalities across documents can be discerned and oddities can be identified.

As coding proceeded, emerging “code families” readily fit the key components of the Active Implementation Frameworks. Thus, the key components of the Active Implementation Frameworks are used to organize the codes for each framework. The following table provides a summary of the number of quotations coded in 31 source documents related to 25 implementation frameworks. The quotations are organized into categories related to the Active Implementation Frameworks. (Reprinted with permission from Dean L. Fixsen & Amanda A.M. Fixsen, in preparation.)

Reviewed Frameworks	Active Implementation Frameworks						TOTALS
	Effective Innovation	Enabling Context	Impl. Drivers	Impl. Stages	Impl Team	Improvement Cycles	
4E's Process Theory	3	0	5	2	2	3	15
Availability, Responsiveness, Continuity (ARC)	1	7	3	5	6	2	24
Blueprints Evidence-based violence and drug prevention programs	2	2	5	6	5	0	20
Community-based prevention services	8	4	6	7	6	14	45
Community-based programs for violence prevention and substance abuse prevention	6	9	18	13	3	7	56
Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors	3	17	15	21	4	2	62
Consolidated Framework for Implementation Research (CFIR)	4	13	10	7	5	9	48
Diffusion, dissemination, and sustainability of innovations in health care	7	14	12	9	5	4	51
Framework to implement strategies in organizations (management)	0	13	11	8	3	6	41
GTO Community-based substance abuse prevention planning	5	5	9	6	4	5	34
Health promotion and disease prevention	0	0	0	1	1	0	2
Implementation Effectiveness Model	7	16	16	13	2	5	59
ISF Injury and violence prevention	2	10	9	3	8	3	35
Normalization Process Theory	7	2	2	2	1	1	15
Organizational Theory of Innovation Implementation	3	14	8	12	0	2	39
PARIHS Evidence-based healthcare	3	8	5	1	6	1	24
Prevention and health promotion programs	3	8	14	4	2	3	34

Reviewed Frameworks	Active Implementation Frameworks						TOTALS
	Effective Innovation	Enabling Context	Impl. Drivers	Impl. Stages	Impl Team	Improvement Cycles	
PRISM Evidence-based health care	4	6	7	6	3	2	28
Promoting Action on Research Implementation in Health Services-PARIHS	0	2	0	0	2	0	4
PROSPER Population-based youth dev	1	8	5	7	5	4	30
QUERI Evidence-based health care	0	6	4	1	1	0	12
Replicating Effective Programs Plus Framework	1	0	2	4	1	2	10
School-based preventive and mental health promotion interventions	1	2	6	5	4	2	20
Sticky Knowledge	3	4	6	9	6	4	32
CASEL	Source documents related to these 7 frameworks were not examined. Some source documents were in a format (books or internet content, e.g., Rogers, 2003; Hall & Hord, 2011) that could not be entered readily into Atlas.ti qualitative analysis software. Other source documents were summaries of the literature or descriptions of studies and not intended to be frameworks (e.g. Proctor et al., 2009; Walker & Koroloff, 2007).						
School-based innovations							
Community-based prevention planning							
Conceptual Model of Implementation Research							
Diffusion of innovations in organizations							
Technological innovations							
Comprehensive, individualized, family-driven mental health services							
TOTALS:	74	170	178	152	85	81	740

As noted in the Table above, each framework emphasizes different factors and there is substantial overlap among the frameworks. However, two categories of codes emerged that were emphasized heavily in the frameworks other than the Active Implementation Frameworks. The code for “Recipients” included the practitioners who are being asked to use an innovation and the patients/intended beneficiaries of an innovation. Their psychological state and willingness to participate are noted by other frameworks in a prominent way. By contrast, the Active Implementation Frameworks include the willingness of recipients to participate fully as part of the Selection Driver and the Usable Intervention inclusion/exclusion criteria.

The code for “Fit” was given great emphasis in nearly all of the other frameworks. The psychological fit between practitioners and innovations and the cultural fit between organizations and innovations were coded multiple times for each framework. In contrast, the Active Implementation Frameworks includes fit in Exploration (organization) or Selection (practitioner) where fit is discussed, assessed, and created. The Active Implementation Frameworks also include fit in the Implementation Drivers where alignment is developed between practitioners, organization practices, and the use of innovations with fidelity.

For Recipients and Fit, the Active Implementation Frameworks assume readiness and fit must be created and assured prior to beginning the work of attempting to use an innovation. Other frameworks are not clear about how to create the complex dimensions of Recipient readiness or Fit if they are lacking.

Integrating implementation frameworks

This summary is a quote from Fixsen, Boothroyd, Blase, Fixsen, and Metz (in press).

For current purposes, it is apparent that health-related frameworks are not unique in some way – the concepts and operations described by Damschroder et al. (2009), Kitson et al. (1998), Kitson et al. (2008), and Feldstein and Glasgow (2008) are very similar to the other frameworks and fit equally well into the key components of the Active Implementation Frameworks. As noted in the totals at the bottom of the table, the frameworks overall included more coded information related to Implementation Drivers, Enabling Contexts, and Implementation Stages. Implementation Teams, Improvement Cycles, and Effective Innovations also were well represented although there were fewer coded quotations related to these three components.

The summary presented in the table is important for advancing implementation science, practice, and theory. The Active Implementation Frameworks (AIF) are based on a thorough review of the implementation evaluation literature (Fixsen et al., 2005), analysis of best practices as described by expert purveyor and user groups (Blase, Fixsen, Naoom, & Wallace, 2005; Blase, Naoom, Wallace, & Fixsen, 2015), and evaluations in organization and system change efforts (Fixsen, Blase, Metz, & Van Dyke, 2013; Metz, Naoom, Halle, & Bartley, 2015; Sullivan, Blevins, & Kauth, 2008). The research base and best available practice evidence base provide a comprehensive foundation for the AIF. As a comprehensive and evidence-based framework, the AIF offers a comfortable fit with the 25 frameworks subject to review and a place to begin to integrate core elements of implementation across disciplines and fields of study in health and other human services.

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