What are Implementation Frameworks & Strategies?

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Implementation Frameworks and Strategies

- Implementation *Framework*:
  - A proposed model of factors likely to impact implementation and sustainment of EBP
    - (Aarons, Hurlburt, & Horwitz, 2011; Damschroder et al., 2009; Tabak et al., 2012)

- Implementation *Strategy*:
  - Systematic *processes* to adopt and integrate evidence-based innovations into usual care.
    - (Powell et al., 2011)

Review of Models

(Tabak, et al., 2012)

- Reviewed 61 models
  - Models (aka "theories" or "frameworks")
  - Frameworks evaluated on:
    - Construct flexibility
      - Broad → highly operationalized
    - Focus on dissemination vs. implementation
      - D-only → D+I → I-only
    - Socioecologic framework level
      - Individual → Community → System

Source: Tabak, R. G., Khoong, E. C., Chambers, D. A., & Brownson, R. C. (2012). Bridging research and practice: models for dissemination and implementation research. *American journal of preventive medicine*, *43*(3), 337-350.

Table 2. Categorization of D&I models for use in research studies *(continued)*

Model	Dissemination and/or Implementation	Construct flexibility: broad to operational	Socioecologic Level					References
			System	Community	Organization	Individual	Policy	
Pronovost's 4E's Process Theory	I-only	3		x	x	x		101
Sticky Knowledge	I-only	3		x	x	x		102, 103
Consolidated Framework for Implementation Research	I-only	4		x	x			104, 105
Replicating Effective Programs Plus Framework	I-only	4		x	x			106
Availability, Responsiveness & Continuity (ARC): An Organizational & Community Intervention Model	I-only	5		x	x			107, 108
Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors EPIS	I-only	5		x	x			109

D&I, dissemination and implementation; DHAP, Division of HIV/AIDS Use, and HIV Testing in Reducing HIV Risk Behavior and Prevention; 4E, exposure, experience, expertise, embedding; OPTIONS, OutPatient Treatment in Ontario Services; Precede-Proceed, predisposing, reinforcing, and enabling constructs in educational diagnosis and evaluation—policy, regulatory, and organizational constructs in educational and environmental development; Pronovost's 4E's, engage, educate, execute, evaluate; RAND, research and development; RE-AIM, reach, effectiveness, adoption, implementation, and maintenance

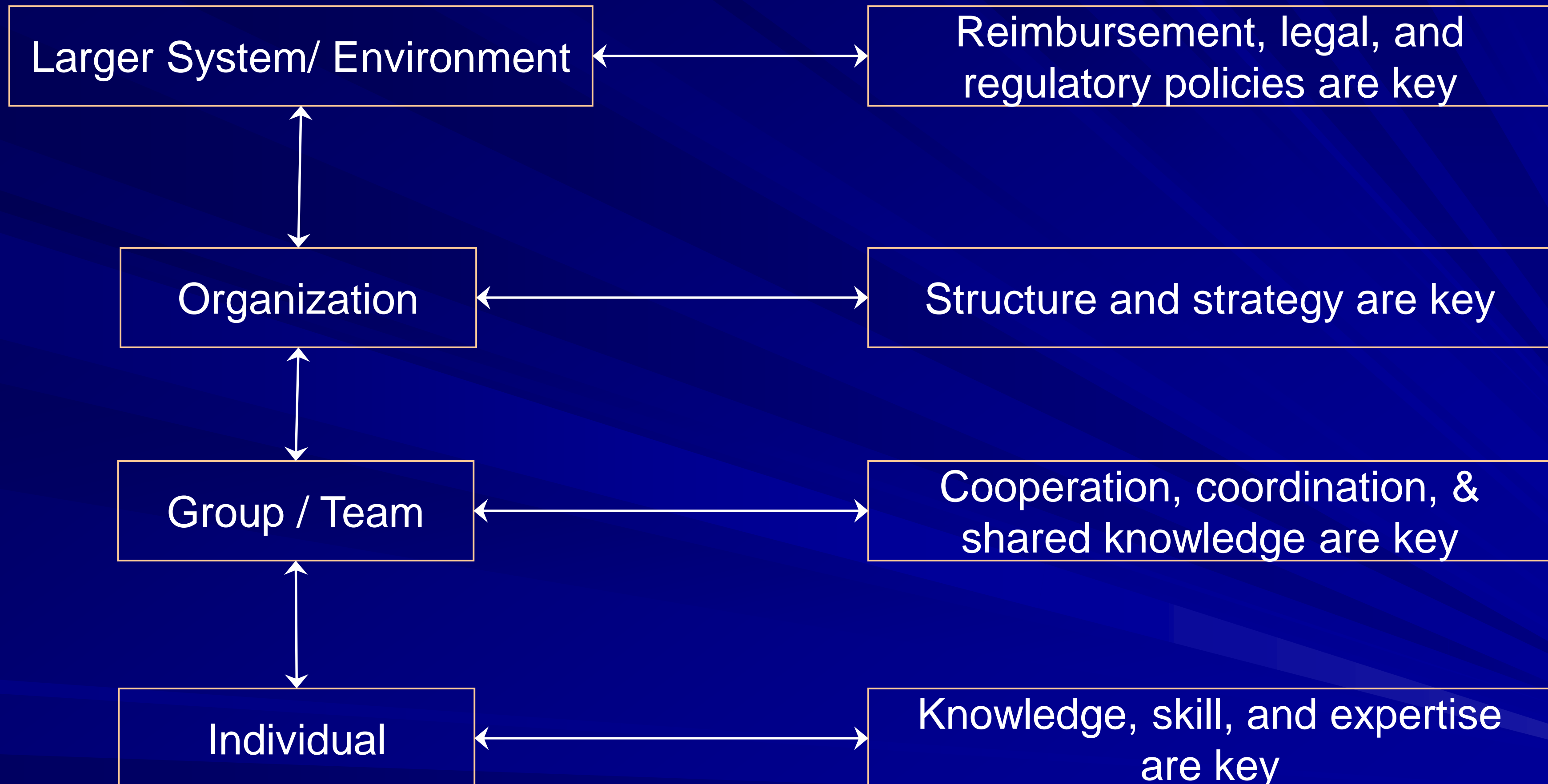
Most frameworks also are adapted or modified in practice

Source: Tabak, R. G., Khoong, E. C., Chambers, D. A., & Brownson, R. C. (2012). Bridging research and practice: models for dissemination and implementation research. *American journal of preventive medicine*, *43*(3), 337-350.

Common Elements of Frameworks

- Multiple Levels
  - Implementation occurs in complex systems
  - Need to identify concerns at different levels
    - System
    - Organization
    - Provider
    - Patient
- Multiple phases
  - Implementation occurs over time
  - There may be relatively discrete phases or stages

Multiple Levels in Quality Improvement



Shortell, S. M. (2004). Increasing value: a research agenda for addressing the managerial and organizational challenges facing health care delivery in the United States. *Medical Care Research and Review*, *61*(3 suppl), 12S-30S.

Ferlie, E. B., & Shortell, S. M. (2001). Improving the quality of health care in the United Kingdom and the United States: a framework for change. *Milbank Quarterly*, *79*(2), 281-315.

Outer Context

- System
  - Leadership
  - Policy
  - Packaging and use of research evidence
  - Communications
  - Collaboration/Negotiation
  - Funding strategies

Aarons, G. A., Hurlburt, M., Willging, C., Fettes, D., Gunderson, L., Chaffin, M., & Palinkas, L. (In press). Collaboration, Negotiation, and Coalescence for Interagency-Collaborative Teams to Scale-up Evidence-Based Practice. *Journal of Clinical Child and Adolescent Psychology.*

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci*ence *4*(1), 50.

Grimshaw, J. M., Eccles, M. P., Lavis, J. N., Hill, S. J., & Squires, J. E. (2012). Knowledge translation of research findings. *Implementation Science*, *7*(1), 50.

Lavis, J. N., Røttingen, J. A., Bosch-Capblanch, X., Atun, R., El-Jardali, F., Gilson, L., ... & Haines, A. (2012). Guidance for evidence-informed policies about health systems: linking guidance development to policy development. *PLoS medicine*, *9*(3), e1001186.

Inner Context

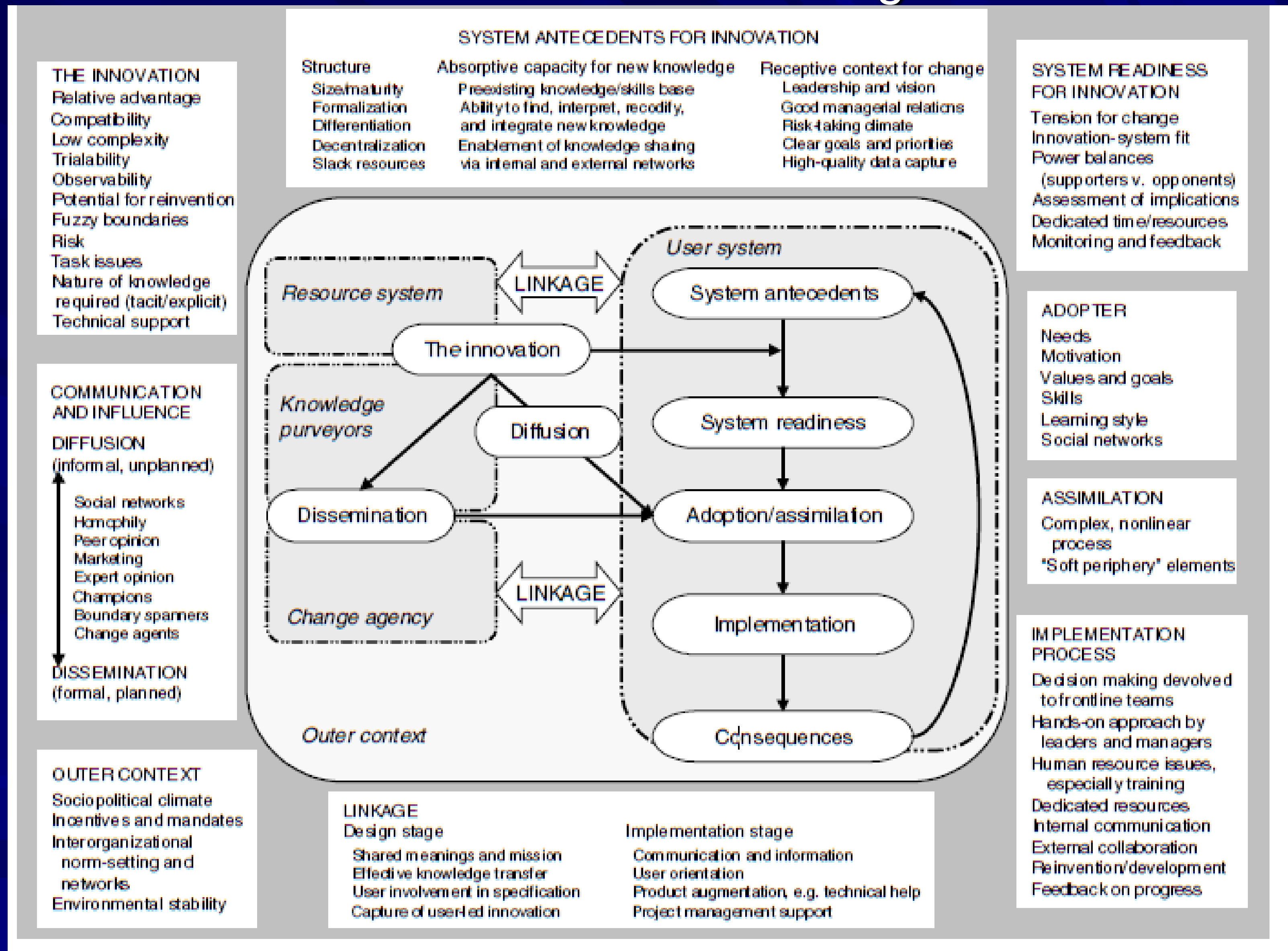
- Organization
  - Congruence of leadership
  - Culture/climate for evidence-based care
- Provider
  - Local opinion leaders (formal/informal)
  - Individual attitudes
  - Perceptions of what is “expected, supported, rewarded”
- Patient
  - Advocacy/empowerment
  - Competing demands
  - Co-morbidities

Aarons, G.A., Hurlburt, M. & Horwitz, S.M. (2011). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. *Administration and Policy in Mental Health and Mental Health Services Research.38*, 4-23.

Borntrager, C. F., Chorpita, B. F., Higa-McMillan, C., & Weisz, J. R. (2009). Provider attitudes toward evidence-based practices: Are the concerns with the evidence or with the manuals? *Psychiatric Services, 60*(5), 677-681.

Jacobs, S. R., Weiner, B. J., & Bunger, A. C. (2014). Context matters: measuring implementation climate among individuals and groups. *Implementation Science*, *9*(1), 46.

Diffusion Model for Service Organizations



Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Quarterly*, *82*(4), 581-629.

Source: Damschroder et al., 2009

QUERI-DM Implementation Framework

CONTEXT

ADDITIONAL FILE 2: Matrix of Constructs from Models in the Literature to CFIR Constructs

Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC: Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science

See Table 1 in main paper for full citations:

Code	Topic/Description	1 Greenhalgh et al.	2 Klein, Conn & Sorra	3 Pettigrew & Whipp	4 Leeman	5 PARiHS Model	6 Ottawa Model	7 Simpson	8 Kochevar & Yano	9 Stetler	10 Edmondson et al.	11 Kilbourne et al.	12 VanDeusen Lukas et al.	13 Grol et al.	14 Mendel et al.	15 Fixsen et al.	16 Rabin et al.	17 Glisson et al.	18 Feldstein & Glasgow	19 Frambach & Schillewaert
I. INTERVENTION CHARACTERISTICS				√																
A	Intervention Source									√	√			√						
B	Evidence Strength & Quality				√	√	√			√		√					√		√	
C	Relative advantage	√				√				√	√			√	√		√		√	√
D	Adaptability	√	√	√	√	√				√		√		√			√		√	
E	Trialability	√	√		√	√				√		√		√					√	√
F	Complexity	√	√						√	√	√			√	√		√		√	√
G	Design Quality and Packaging		√				√					√		√						
H	Cost						√					√		√	√		√		√	
II. OUTER SETTING				√						√					√	√				
A	Patient Needs & Resources					√	√					√	√		√			√	√	
B	Cosmopolitanism	√		√				√							√			√		√
C	Peer Pressure	√		√								√	√		√				√	√
D	External Policies & Incentives	√		√									√		√		√		√	
III. INNER SETTING				√						√		√			√	√				
A	Structural Characteristics	√		√											√					√
B	Networks & Communications	√	√	√		√	√	√					√		√		√	√	√	√
C	Culture	√	√	√		√	√	√					√		√			√	√	
D	Implementation Climate			√											√			√		√
1	Tension for Change	√		√						√		√	√				√			
2	Compatibility	√	√					√	√	√	√			√	√		√		√	√
3	Relative Priority		√							√					√				√	
4	Organizational Incentives & Rewards		√	√	√							√	√		√				√	
5	Goals and Feedback	√		√		√		√	√			√	√		√				√	
6	Learning Climate	√	√			√		√					√						√	
D	Readiness for Implementation			√															√	
1	Leadership Engagement	√	√	√	√	√		√		√	√		√				√		√	√
2	Available Resources	√	√	√		√		√		√	√		√		√		√			
3	Access to knowledge and information	√	√		√		√		√			√					√		√	√
IV. CHARACTERISTICS OF INDIVIDUALS				√			√													
A	Knowledge & Beliefs about the Intervention	√											√	√	√		√		√	√
B	Self-efficacy	√	√										√	√	√				√	
C	Individual Stage of Change	√	√											√	√				√	
D	Individual Identification with Organization														√		√	√		
E	Other Personal Attributes												√	√						√
V. PROCESS				√		√														
A	Planning	√		√						√		√		√	√	√	√	√	√	
B	Engaging	√		√						√	√	√	√	√	√	√		√	√	
1	Opinion Leaders	√				√					√	√			√		√		√	√
2	Formally appointed internal implementation leaders			√												√	√	√	√	
3	Champions	√											√				√		√	
4	External Change Agents	√													√		√	√	√	
C	Executing	√		√						√		√		√	√				√	
D	Reflecting & Evaluating	√		√						√	√	√		√	√	√	√	√	√	

Consolidated Framework for Implementation Research (CFIR)

- CFIR domains:
  - – Intervention characteristics
  - – Outer setting
  - – Inner setting
  - – Characteristics of the individuals involved
  - – Process of implementation

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Exploration, Preparation, Implementation, Sustainment (EPIS) Model

- Key phases of the implementation process
- Multilevel
- Frames implementation factors across levels within each phase
- Enumerates common and unique factors across levels and across phases

Source: Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 4-23.

EXPLORATION

OUTER CONTEXT

Sociopolitical Context
- Legislation
- Policies
- Monitoring and review

Funding
- Service grants
- Research grants
- Foundation grants
- Continuity of funding

Client Advocacy
- Consumer organizations

Interorganizational networks
- Direct networking
- Indirect networking
- Professional organizations
- Clearinghouses
- Technical assistance centers

INNER CONTEXT

Organizational characteristics
- Absorptive capacity
  - Knowledge/skills
  - Readiness for change
  - Receptive context
- Culture
- Climate
- **Leadership**

Individual adopter characteristics
- Values
- Goals
- Social Networks
- Perceived need for change

PREPARATION

OUTER CONTEXT

Sociopolitical
- Federal legislation
- Local enactment
- Definitions of "evidence"

Funding
- Support tied to federal and state policies

Client advocacy
- National advocacy
- Class action lawsuits

Interorganizational networks
- Organizational linkages
- **Leadership ties**
- Information transmission
  - Formal
  - Informal

INNER CONTEXT

Organizational characteristics
- Size
- Role specialization
- Knowledge/skills/expertise
- Values

Leadership
- Culture embedding
- Championing adoption

IMPLEMENTATION

OUTER CONTEXT

Sociopolitical
- Legislative priorities
- Administrative costs

Funding
- Training
- Sustained fiscal support
- Contracting arrangements
- Community based organizations.

Interorganizational networks
- Professional associations
- Cross-sector
- Contractor associations
- Information sharing
- Cross discipline translation

Intervention developers
- Engagement in implementation

Leadership
- **Cross level congruence**
- **Effective leadership practices**

INNER CONTEXT

Organizational Characteristics
- **Leadership**
- Structure
- Priorities/goals
- Readiness for change
- Receptive context
- Culture/climate

Innovation-values fit
- EBP structural fit
- EBP ideological fit

Individual adopter characteristics
- Demographics
- Adaptability
- Attitudes toward EBP

SUSTAINMENT

OUTER CONTEXT

Sociopolitical
- **Leadership**
- Policies
  - Federal initiatives
  - State initiatives
  - Local service system
  - Consent decrees

Funding
- Fit with existing service funds
- Cost absorptive capacity
- Workforce stability impacts

Public-academic collaboration
- Ongoing positive relationships
- Valuing multiple perspectives

INNER CONTEXT

Organizational characteristics
- **Leadership**
- Embedded EBP culture
- Critical mass of EBP provision
- Social network support

Fidelity monitoring/support
- EBP Role clarity
- Fidelity support system
- Supportive coaching

Staffing
- Staff selection criteria
- Validated selection procedures

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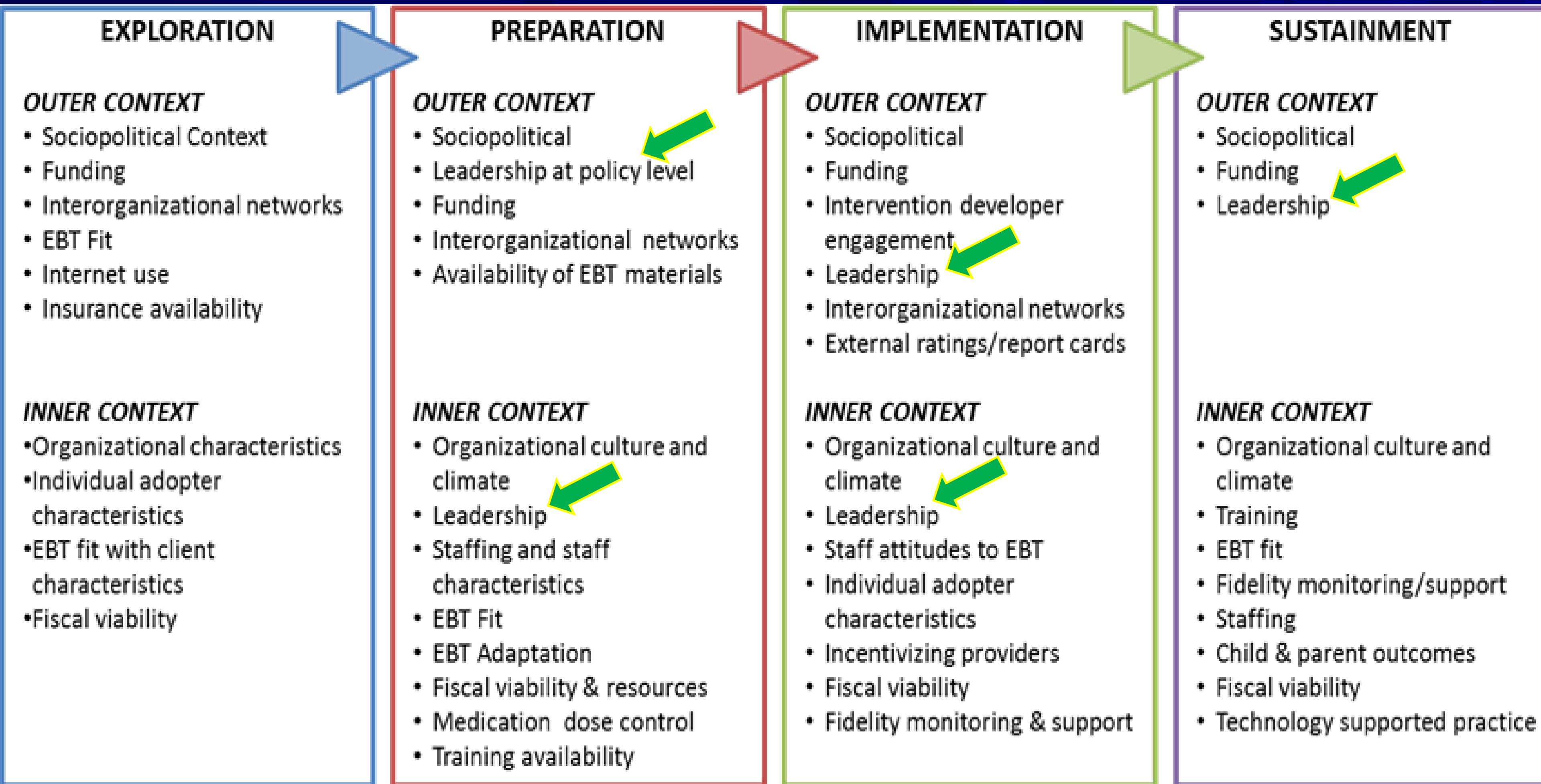
EPIS MODEL



Adapted from: Aarons, G.A., Hurlburt, M. & Horwitz, S.M. (2011). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. *Administration and Policy in Mental Health,38*, 4-23.

Novins, D.K., Green, A.E., Legha, R.K., & Aarons, G.A. (2013). *Dissemination and Implementation of Evidence-Based Practices for Child and Adolescent Mental Health: A Systematic Review. Journal of the American Academy of Child and Adolescent Psychiatry. 52*(10), 1009-1025

Implementation Strategies

- *Address specific factors identified in implementation frameworks*
- *Discrete* implementation strategies
  - Clinical reminders, training only
- *Multifaceted* implementation strategies
  - Training + reminders
  - Training + fidelity monitoring + coaching
- *Blended* implementation strategies (comprehensive)
  - Dynamic Adaptation Process strategy (DAP)
  - Leadership and Organizational Change for Implementation (LOCI)

Powell , McMillen, Proctor et al (2011). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review, 69(*2) 123-157.

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., ... & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation Science*, *7*(32), 1-9.

Domains of Strategies

Type of Strategy	Description	Context Level	N
Planning	Info gathering, leadership, relationships	Outer/Inner	n=17
Education	Training, materials, influence stakeholders	Inner/Outer	n=16
Financing	Incentives, financial support	Inner/Outer	n=9
Restructuring	Change roles, create teams, alter record systems, create relationships	Inner/Outer	n=7
Quality Management	MIS + feedback, clinical reminders, decision support, PDSA cycles	Inner/Outer	n=16
Policy Change	Licensure, accreditation, certification, mandates	Outer/Inner	n=3

Source: Powell , McMillen, Proctor et al (2011). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review, 69*(2) 123-157.

Questions for Discussion

- How are frameworks useful (or not)?
  - Are frameworks important for funding agencies (why or why not)
  - A theory of change or theory of what specific factors impact implementation effectiveness
- Is there a difference between a strategy and an intervention?
  - Clinical
  - Public health
  - implementation
- Fidelity of what?
  - Intervention fidelity vs. implementation fidelity
- Implementation effectiveness vs. Intervention effectiveness
- To what degree is IS defined by what is funded and the perception of those decisions by others in the field

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