

QUERI

Implementation Guide

HSR&D Cyber Seminar

March 6, 2014

<http://www.queri.research.va.gov/implementation/>



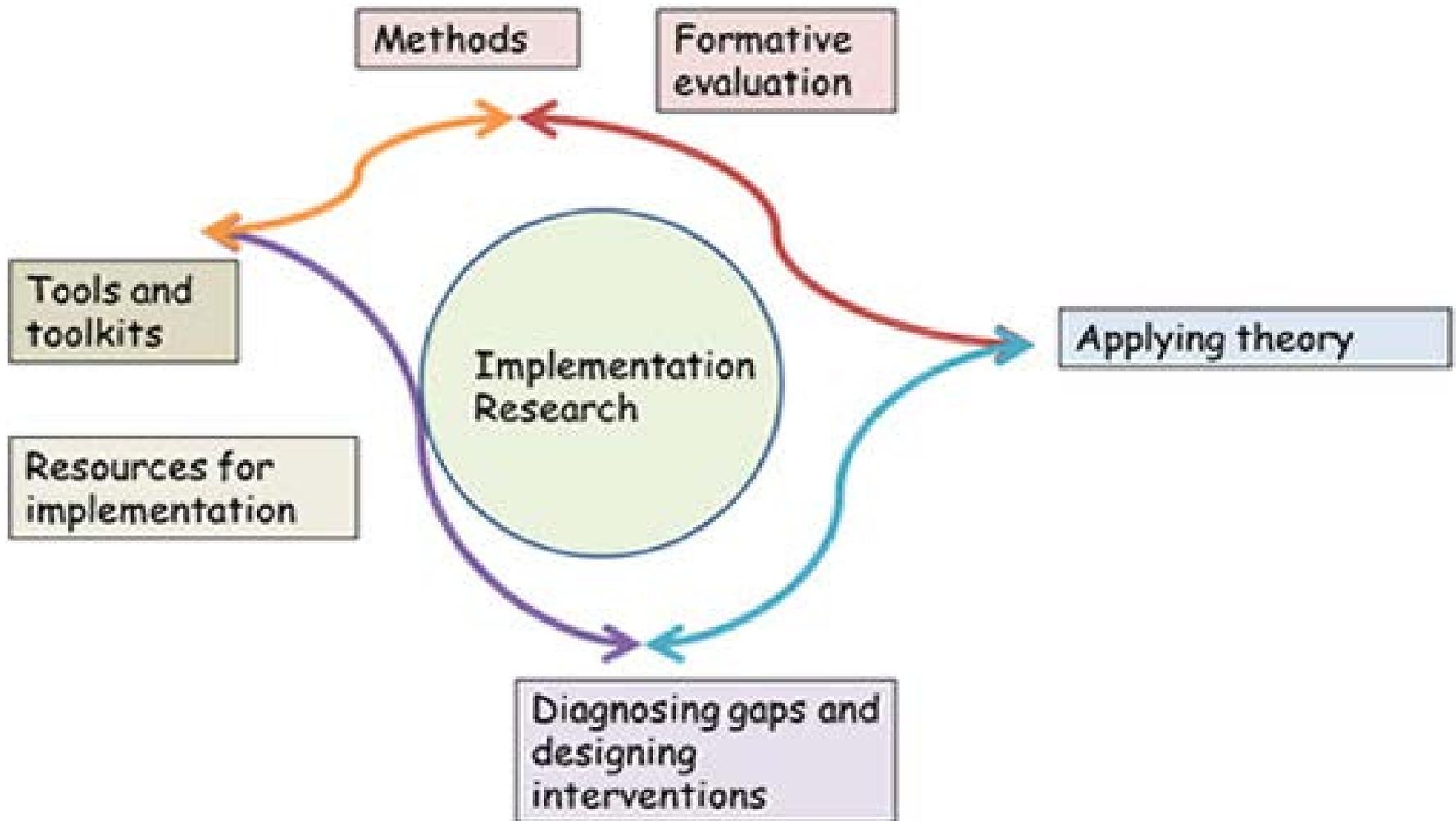
Why is implementation important?

- Pace of innovation in health care is rapid and increasing
- Innovation and evidence are piling up
 - Managing the flow of new knowledge and best practices is very complex
 - Routines of practice and care delivery are complex and difficult to change

Why is implementation research important?

- Understanding reasons for
 - Gaps in performance (suboptimal care delivery)
 - Practice not based on best current evidence
- Developing reliable, effective, and efficient approaches to implementing evidence based care
 - Reducing performance gaps
 - Decreasing time to use of best evidence
 - Improving the capacity of individuals and systems of care to take up new information

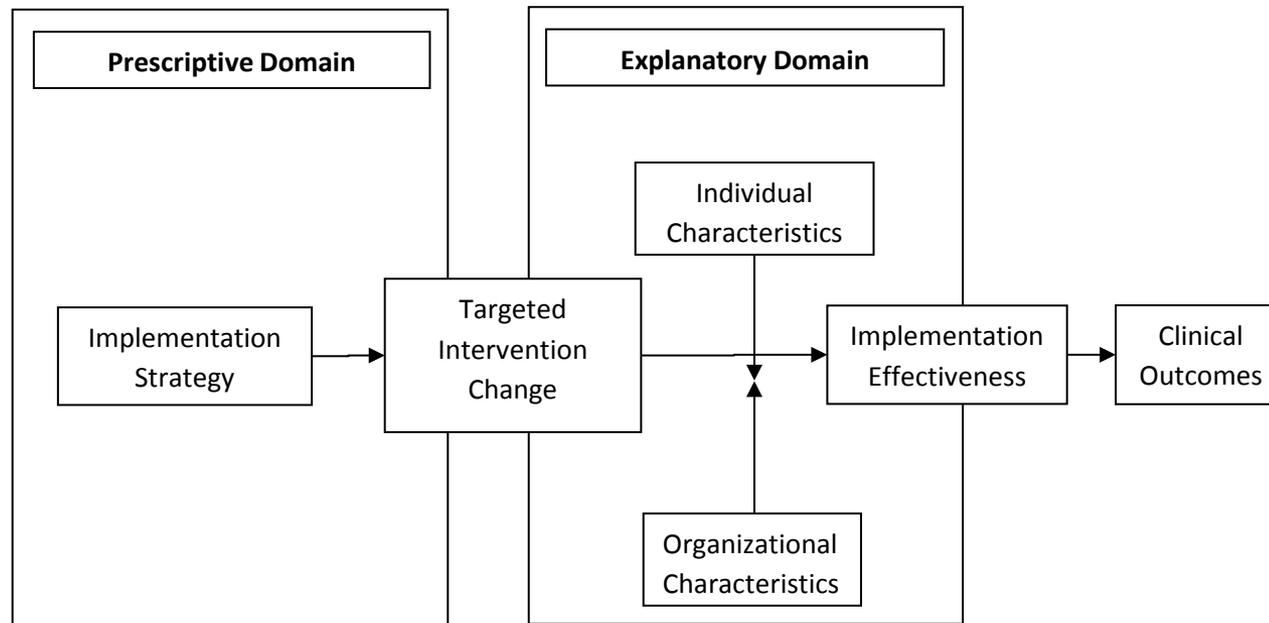
Roadmap to the presentation



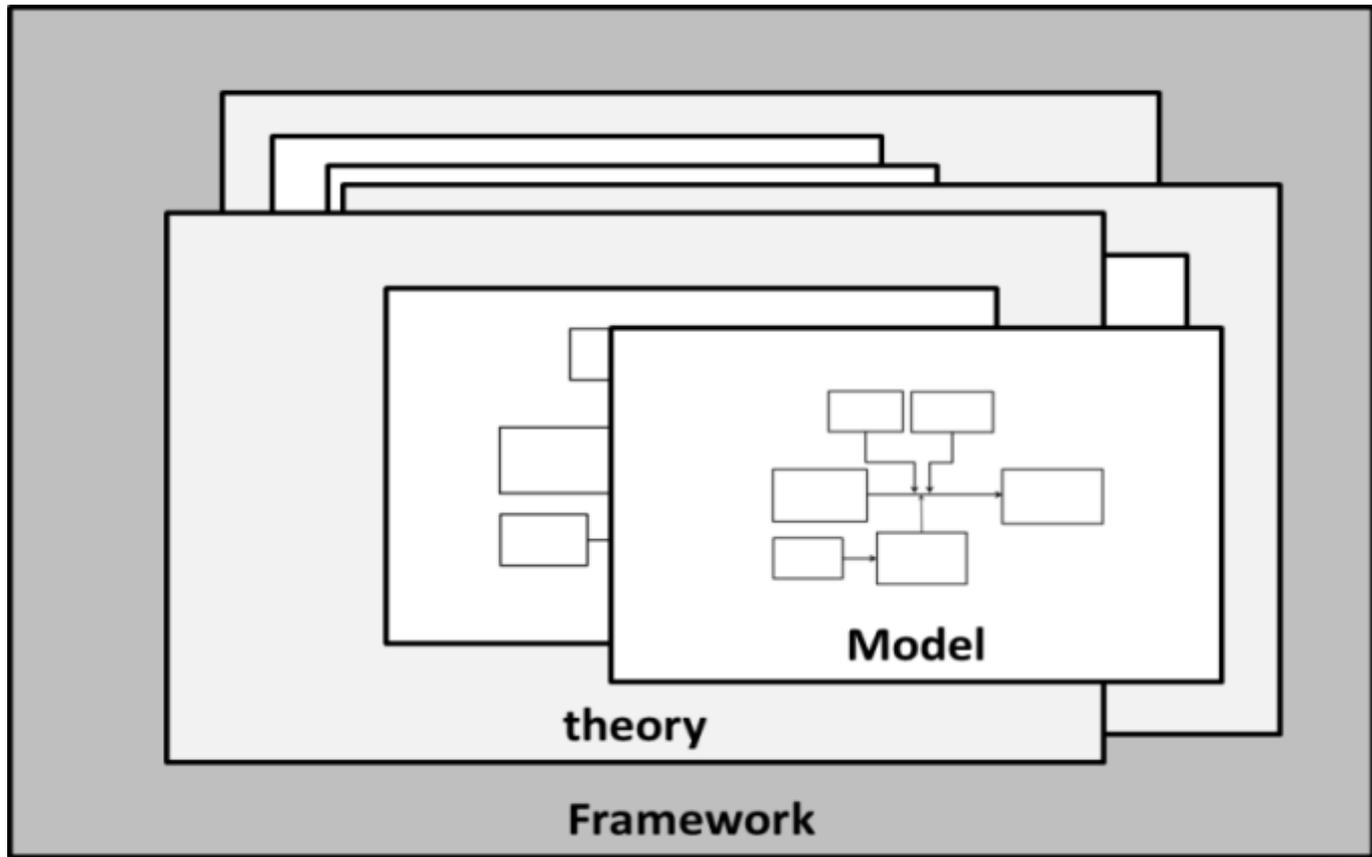
APPLYING FRAMEWORKS, THEORIES, AND MODELS

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Implementation research uses frameworks, theories, and models for both prescriptive and explanatory purposes



Explanatory Frameworks, Theories, and Models



Definitions for the Explanatory Domain

- Framework
 - Broad set of propositions that organize diagnostic and/or prescriptive inquiry
 - “Meta-theoretical” language; promotes comparison across theories
- Middle-range theory
 - Small “t” theory: a set of context-independent propositions that specifies a denser and more logically coherent set of relationships
 - (Big “T” Theory: a well-substantiated explanation of some aspect of the natural world)
- Model
 - A simplified representation of a complex reality; precise assumption about a limited set of variables; context-dependent

Explanatory Domain (continued)

- Frameworks: Consolidated Framework for Implementation Research (CFIR), Theoretical Domains Framework (TDF)
- Theory: Normalization Process Theory (NPT)
- Model: Klein, Conn, & Sorra

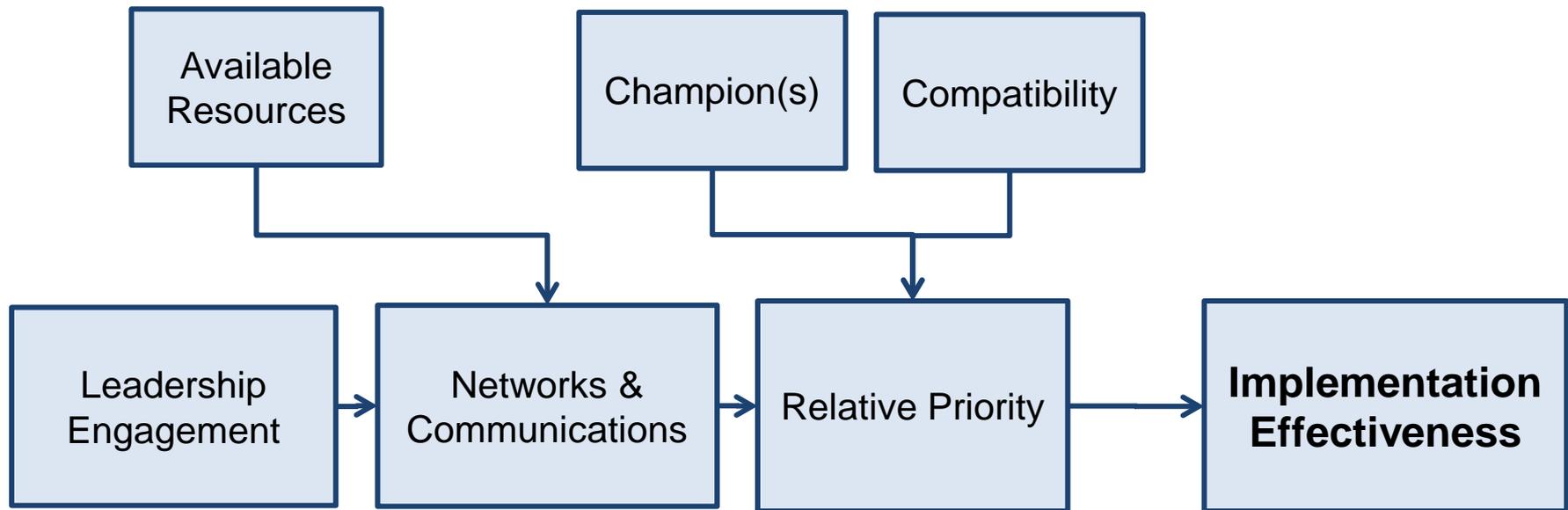
Consolidated Framework for Implementation Research: 5 Domains (focus on the organization)

- **Intervention**
 - 8 Constructs (e.g., evidence strength & quality, complexity)
- **Outer Setting**
 - 4 Constructs (e.g., patient needs & resources)
- **Inner Setting**
 - 14 constructs (e.g., leadership engagement, available resources)
- **Individuals Involved**
 - 5 Constructs (e.g., knowledge, self-efficacy)
- **Process**
 - 8 Constructs (e.g., plan, engage, champions)

Theoretical Domains Framework: 12 Domains (focus on the individual)

- Knowledge
- Skills
- Social/professional role and identity
- Beliefs about capabilities (self-efficacy)
- Beliefs about consequences
- Motivation and goals
- Memory, attention, and decision processes
- Environmental constraints
- Social influences
- Emotion
- Behavioral regulation
- Nature of the behaviors

Model of Implementation Effectiveness: Klein, Conn, & Sorra



Klein, K.J., A.B. Conn, and J.S. Sorra, *Implementing computerized technology: An organizational analysis*. *Journal of Applied Psychology*, 2001. **86(5): p. 811-824**.

Helfrich, C. D., Weiner, B. J., McKinney, M. M., & Minasian, L. (2007). Determinants of implementation effectiveness: adapting a framework for complex innovations. *Med Care Res Rev*, 64(3), 279-303.

Prescriptive Framework: Intervention Mapping

- Step 0: Needs assessment
- Step 1: Creation of a matrix of proximal objectives
- Step 2: Selection of theory-based intervention methodologies, practical strategies, and suggestions from targeted users
- Step 3: Design and organization of the program
- Step 4: Adoption and implementation of the program
- Step 5: Monitoring and program evaluation

If you have questions on the previous section, please contact:

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DIAGNOSING A GAP AND DESIGNING AN INTERVENTION

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Diagnosing Gaps and Designing Interventions

- Teresa M. Damush, Ph.D. & Arlene A Schmid, OTR, Ph.D.
VA Stroke QUERI Center
 - a. **An Introductions to Systems Thinking**
(<http://www.queri.research.va.gov/implementation/section2/partA>)
 - b. **What Does Systems Thinking Contribute to Diagnosis and Intervention Design**
(<http://www.queri.research.va.gov/implementation/section2/partB>)
 - c. **Conducting Diagnosis and Intervention Design**
(<http://www.queri.research.va.gov/implementation/section2/partC>)
 - d. **Tools for Implementation Strategy Design**
(<http://www.queri.research.va.gov/implementation/section2/partD>)
 - e. **Web Resources**
(<http://www.queri.research.va.gov/implementation/section2/partE>)

Introduction to Systems Thinking

FORMAL	INFORMAL
Objective	Subjective
Documented processes, inputs, sub systems (e.g., VISN)	Exist as observer constructs (e.g., informal support on/off job)
Prescribed, mandated organization and processes (e.g., Acute Stroke Care Centers in VHA-Primary, Limited Hours, Supporting Centers)	Interactions among entities and associated behaviors, observed goals (e.g., informal support from academic affiliates and VA neurology services)



Systems Thinking Contributions to Diagnosis and Intervention Design

Allows us to recognize when a system is not functioning as designed

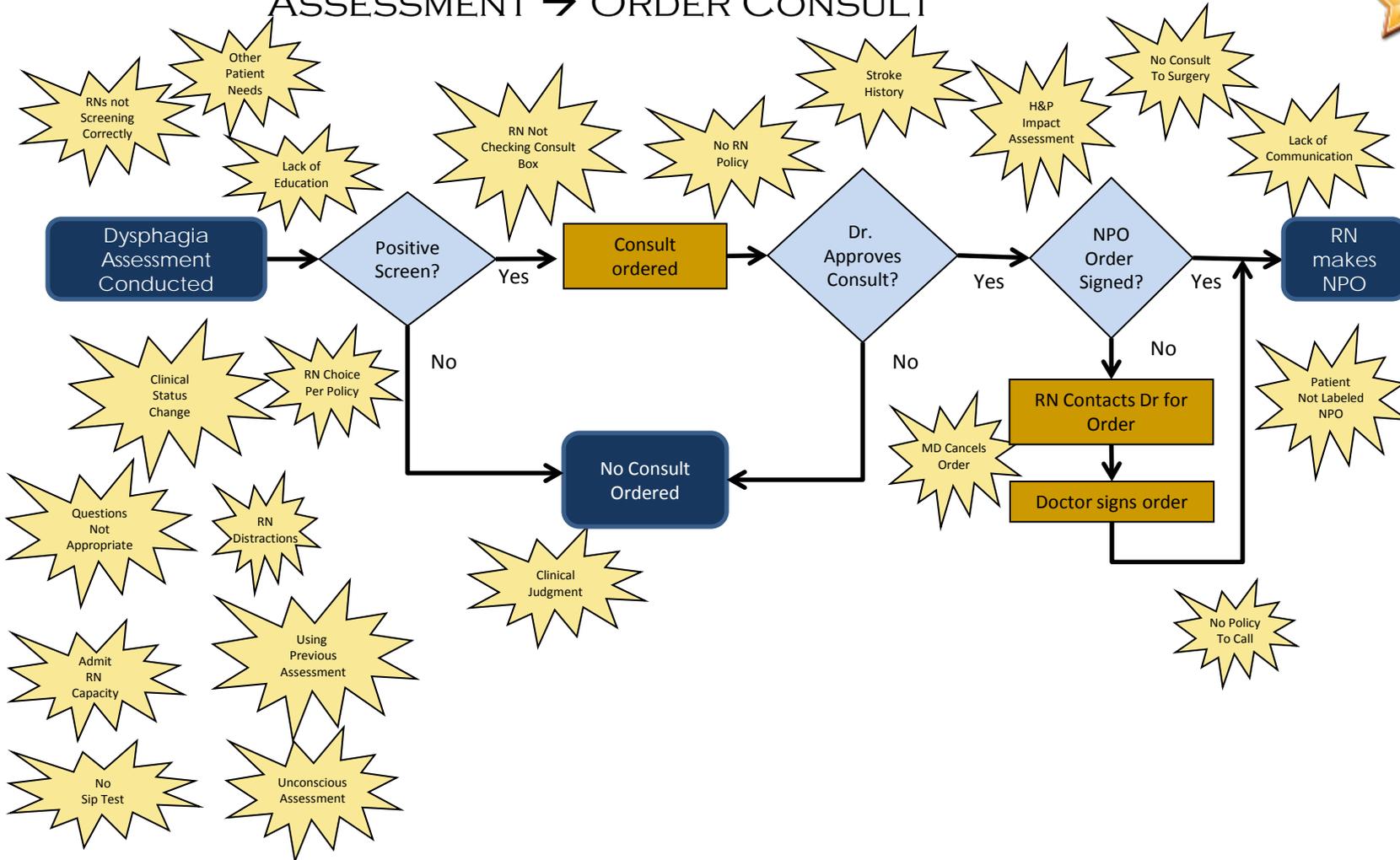
- ✓ Process mapping – map out a task model or performance model to determine the system effectiveness at each point in the system
- ✓ Identify System Gaps
 - ✓ Work Flow
 - ✓ Users of the system – process owner
 - ✓ Process transfers across users
- ✓ Design Interventions to Fix Gaps



PROCESS FLOW MAPPING

CURRENT STATE PROCESS MAP

ASSESSMENT → ORDER CONSULT



Intervention Mapping

- Intervention Mapping is a planning framework that utilizes theory, evidence, practical strategies to design implementation interventions and may target multi-level changes including a system and its users.
- Developed for Health Promotion Programs
- Applied across fields including healthcare

Bartholomew LK, Parcel GS, Kok G, Gottlieb NH. *Planning Health Promotion Programs: An Intervention Mapping Approach*. 2nd ed. 2006, Jossey-Bass; San Francisco, CA.

Intervention Mapping 6 Steps

- 1. Needs Assessment –
- 2. Create Matrices of Expected Change Objectives and Specify Determinants
- 3. Identify Theory-Based Methods and Practical Strategies to Design intervention strategies
- 4. Program plan –develop and pretest materials
- 5. Specify Adoption and Implementation Plan
- 6. Generate an Evaluation Plan

Intervention Mapping: Example

- Used intervention mapping to develop and implement a locally tailored, evidence-based secondary stroke prevention program in two VA medical centers
- Practice Gap = VA/DoD Guidelines and American Stroke Association recommend the provision of secondary stroke prevention at time of acute stroke event prior to discharge and across continuum of stroke care

Schmid A, Anderson J, Kent T, Williams LS, Damush TM. Using intervention mapping to develop and adapt a secondary stroke prevention program in VHA medical centers. *Implementation Science*, 2010, 5:97

Step 2: Matrices of Change

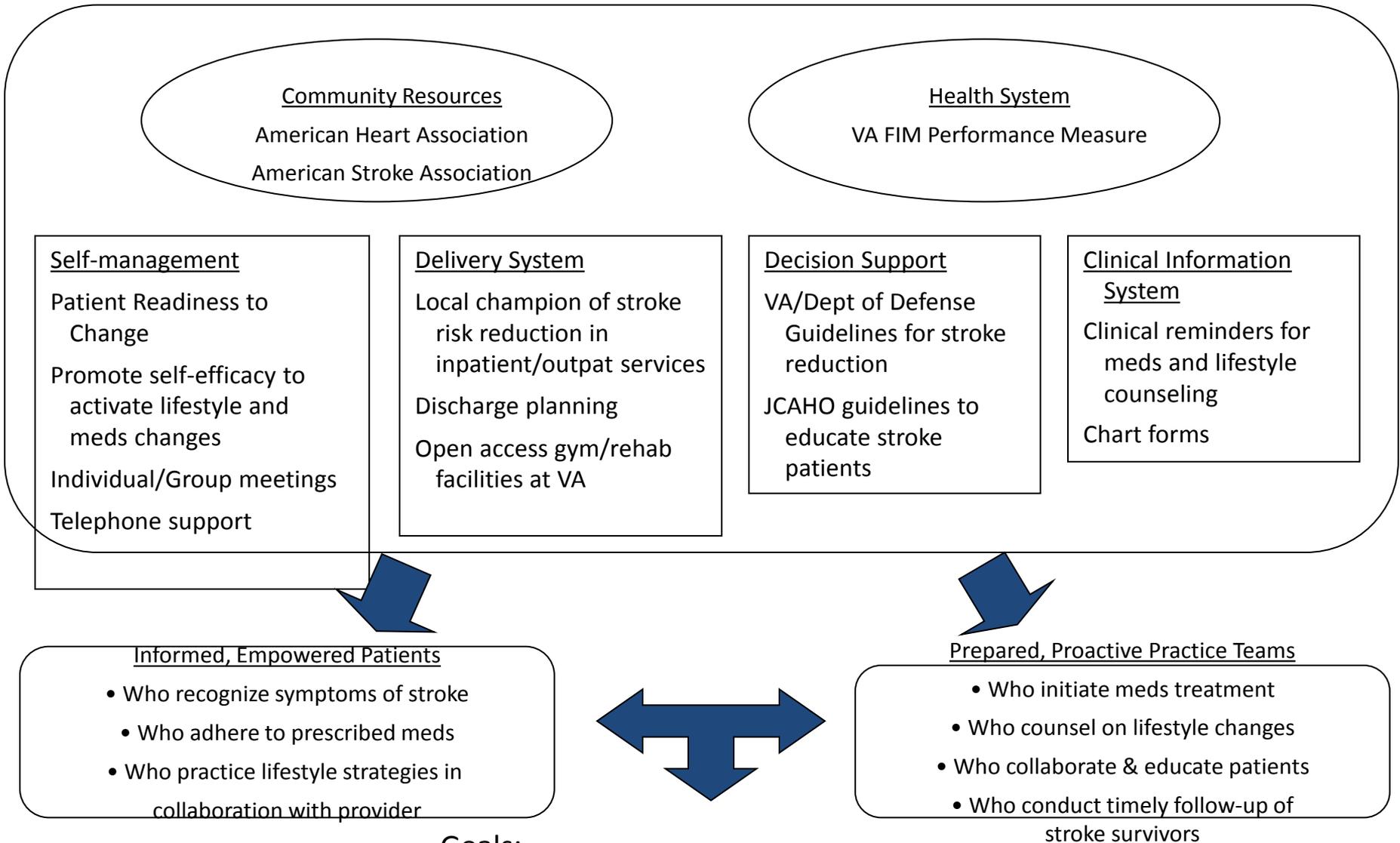
Secondary Stroke prevention program matrix of program objectives (Provider)

Provider Performance Objectives	Community Resources for Stroke Risk Management	Delivery System Design
Assesses pt stroke risk factors during hospitalization for acute stroke	Access to local resources available to assess stroke risk factors	Work flow of discharge planning includes stroke risk factor assess/educ
Orders lab tests as needed	Access to lab tests and interpretation of results	System alerts lab results; prescribes based on results
Prescribes appropriate medications	Access and provides pt eds materials on meds	Med reconciliation prior to discharge
Motivates pt to modify lifestyle	Write orders for home equipment	Motivational interviewing is built into pt education
Refers pt to local programs	Recommends and refers pt to local support programs	Access to local programs is available and up to date

Step 3: Theory Based Methods & Practical Strategies

Provider Performance Objectives	Theoretical Strategies of (Theory of Planned Behavior)	Practical Strategies (From provider interviews)
<p>Assess patient stroke risk factors during hospitalization for stroke</p>	<p><u>Perceived Social Norms</u> – clinical champion promotes; added into annual competency evaluation</p> <p><u>Attitudes, Beliefs, Values</u> – training</p> <p><u>Self-efficacy</u> – role playing to improve skills, vicarious/peer modeling</p> <p><u>Behavioral Intentions</u> – ask commitment to perform</p>	<p>Stroke risk factor assessment template is included in electronic medical record;</p> <p>Checklist available at neurology workstation where discharge planning for stroke patients occurs</p>

Using the Chronic Care Model to improve Stroke Risk Factors



Goals:

- ↑ Medication Adherence
- ↑ Patient activation for lifestyle change
- ↑ Physical functioning and Quality of Life

Diagnosing Gaps and Designing Interventions

d. Tools for Implementation Strategy Design

(<http://www.queri.research.va.gov/implementation/section2/partD>)

e. Web Resources

(<http://www.queri.research.va.gov/implementation/section2/partE>)

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METHODS USED IN IMPLEMENTING RESEARCH INTO PRACTICE

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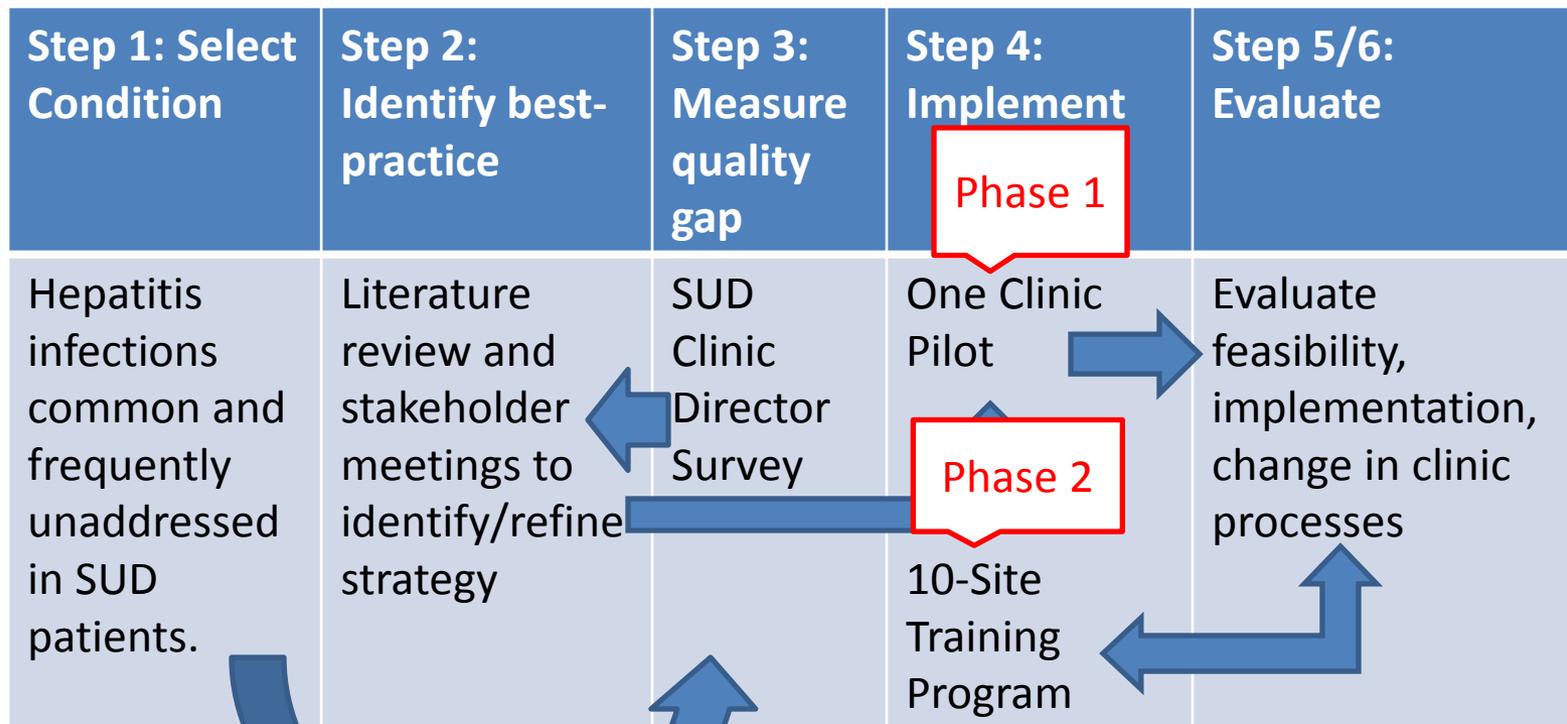
QUERI Six Step Process

1. Select high prevalence, high burden conditions within Veteran population.
2. Identify evidence-based guidelines, recommendations, or best practices
3. Measure and diagnose quality/performance gaps.
4. Implement improvement programs.
- 5/6. Evaluate improvement programs.

QUERI Four Phase Framework

- **Phase 1:** Pilot project to develop/refine an improvement program and assess basic feasibility.
- **Phase 2:** Small clinical trial to further refine and evaluate improvement program. (4-8 facilities)
- **Phase 3:** Regional roll-out projects (10-20 facilities)
- **Phase 4:** “National roll-out” effort

An Example: The Liver Health Initiative



Hybrid Designs

Hybrid Type 1	Hybrid Type 2	Hybrid Type 3
<p>Primary Question: Will the clinical treatment work in this setting or with these patients?</p> <p>Secondary Question: What are the potential barriers/facilitators to a treatment's implementation?</p>	<p>Primary Questions: Will the clinical treatment work in this setting or with these patients?</p> <p>Does the implementation strategy show promise?</p>	<p>Primary Question: Which method works better for implementing the clinical treatment?</p> <p>Secondary Question: Is the clinical treatment effective in this setting or with these patients?</p>

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FORMATIVE EVALUATION

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Purpose and Need for FE in Implementation

- * Formative evaluation offers, as Stetler 2006 suggests, a “rigorous assessment process designed to identify both potential influences and actual influences on the progress and effectiveness of implementation efforts.”
- * FE is focused on the process of implementation, rather than the outcomes.
- * It helps to determine how factors amplify/facilitate, mitigate, or impede implementation efforts *in a given context*.
- * Allows for more precise *replication* and further dissemination of evidence-based practices.

Data Collection Strategies Used in FE

- * A variety of data collection strategies can have a role in FE
- * Quantitative assessments can be used to collect data about stakeholder groups and implementation processes.
 - Surveys
 - Analysis of data from existing databases
- * Qualitative assessments offer a “deeper-dive,” usually with smaller numbers of individuals to understand more fully the factors that influence implementation, implementation strategies, and best practices.
 - Semi-structured interviews, focus groups, and other strategies may be used depending on the perspective sought.

FE Research Processes

- * There are a number of essential steps to conducting FE research
- * The *first* and *most important* step is to identify the aims of your FE and how it fits into broader study goals.
 - It is also important to include the theoretical or conceptual framework that is guiding the broader study in the development of your FE.
- * Subsequently, the evaluation team must also
 - Develop instruments and procedures to collect the data
 - Collect the data
 - Analyze and report that data (in a rapid, continuous way)

FE Research Processes/Challenges

- * There are a variety of potential challenges to conducting FE

- * Data collection issues
 - Selecting and effectively applying the appropriate approaches to data collection and analysis
 - Identifying the “right” informants/participants

- * Regulatory issues
 - Describing FE to organizational entities like research and development committees, institutional review boards, and other bodies that may not be familiar with it

Writing about FE

- * Knowing the needs and perspectives of audience members is key

- * A thorough description of FE will typically address
 - Settings and samples of participants
 - Data collection techniques to be used
 - Data collection procedures
 - Managing and analyzing the data that results from the FE

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TOOLS AND TOOLKITS

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Palo Alto, CA

Section A: VA HSR&D Cyberseminars

- <http://www.hsrd.research.va.gov/cyberseminars/default.cfm>
- Traumatic Brain Injury Toolbox, May 5, 2014
 - VIREC Clinical Informatics Series
 - Register at URL or email cyberseminar@va.gov

VA HSR&D Cyberseminar website:

<http://www.hsrdr.research.va.gov/cyberseminars/default.cfm>

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VA HSR&D Cyberseminars

HSR&D's cyberseminars provide live web conferences and as on-demand archived presentations.

UPCOMING SESSIONS [\[VIEW ALL\]](#)

- Spotlight on Pain Management:**
Quality Improvement and Implementation Support to Improve Use of Guideline Recommended Practices for Chronic Opioid Therapy - 3/4/2014, 11:00am EST
- Timely Topics of Interest :**
ACA-Health Equity/Disparities Connection - 3/5/2014, 11:00am EST
- QUERI Implementation Seminar:**
Updated QUERI Implementation Guide - 3/6/2014, 12:00pm EST

ARCHIVED SESSIONS [\[VIEW ALL\]](#)

- Using CAPRI and VietAWeb - 3/3/2014
- Sleep Disorders among Veterans with PTSD - 2/25/2014
- Hospital Profiling with Enhanced Risk Adjustment Based on Laboratory Tests and Vital Signs Data - 2/19/2014

CYBER SERIES

- HERC Health Economics Course

FAQ

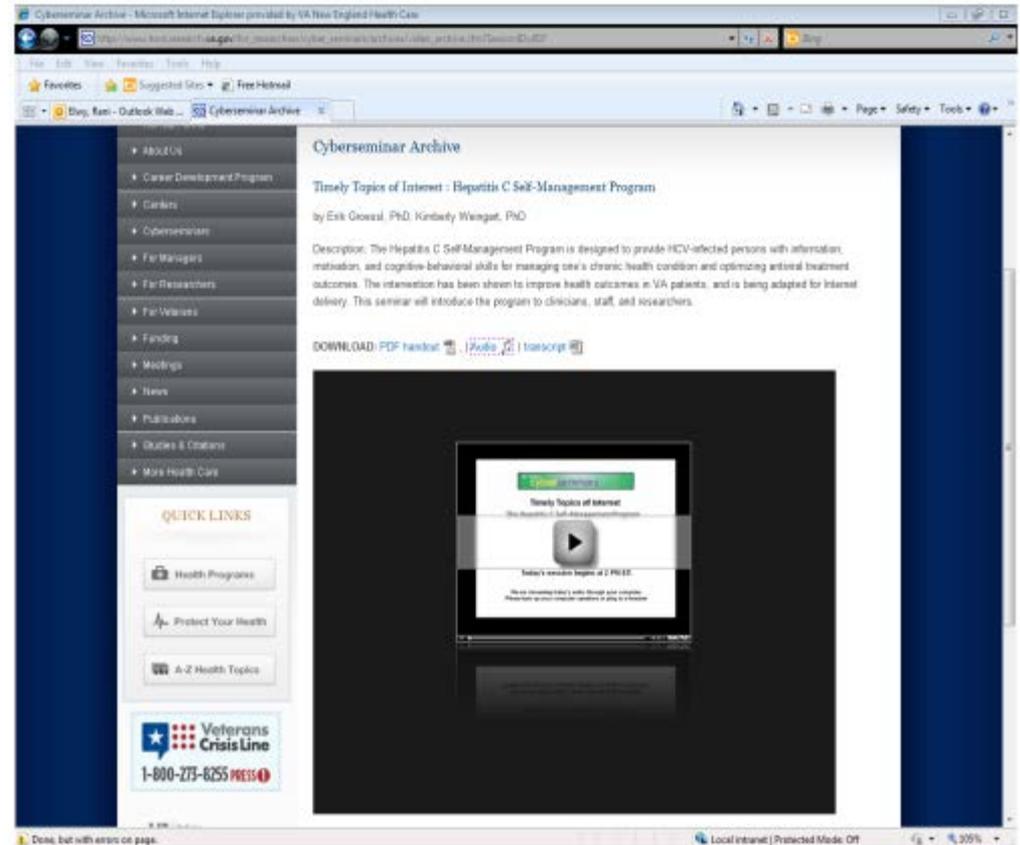
- Adobe Connect FAQ

LOOKING FOR THE QUERI WEBSITE? CLICK HERE!

Tool/Toolkit Example

Hepatitis C Self-Management Program

- * Timely Topics of Interest (TTOI)
- * Erik J. Groessl, PhD, Core Investigator, HHQUERI
- * http://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=607



Section B: Implementation Toolkits, Conferences, Consortiums and Trainings

Implementation Toolkits:

- Quality tools posted on Agency for Healthcare Research and Quality (AHRQ) website:

http://www.innovations.ahrq.gov/innovations_qualitytools.aspx

- Example - **Heart Failure Toolkit for Providers.**
This toolkit developed by the CHF QUERI offers a comprehensive set of downloadable resources to assist providers in managing care for heart failure patients.

Heart Failure Toolkit website:

http://www.queri.research.va.gov/chf/products/hf_toolkit

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QUERI

Quality Enhancement
Research Initiative

Chronic Heart Failure

QUERI • CHF • PRODUCTS • HF TOOLKIT

Heart Failure Toolkit for Providers

The CHF QUERI Center has developed a comprehensive Heart Failure (HF) Toolkit for Providers through collaboration with the members of its [Heart Failure Provider \(HF\) Network](#) as well as non-VA organizations. These tools are organized as tools from VA Sources, Non-VA Sources/Other; and Non-VA Sources: GWTG-AHA (Get With The Guides - American Heart Association).

This toolkit focuses on several key areas in the management of heart failure with downloadable documents. We encourage all providers to review the toolkit to determine where these tools will be helpful in their practice and download relevant tools for their use.

We welcome suggestions and examples of additional tools. The CHF QUERI will periodically update this website as new tools become available.

* The attached files below are in PDF format.

[Suggest A Tool](#) | [Feedback About A Downloaded Tool](#) | [Comments](#)

[Expand All](#) | [Contract All](#)

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QUERI Research
Resources

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HF PRACTICE GUIDELINES

- VA Source
- Non-VA Sources

HF CLINICAL PATHWAYS

- VA Sources
- Non-VA Source: GWTG-AHA

HF CLINICAL ALGORITHMS

- VA Source

HF SCREENING FORMS AND CHART REMINDERS

- Non-VA Sources

HF ADMISSION ORDER SETS

- VA Source
- Non-VA Source: GWTG-AHA

HF DISCHARGE PROCESS, ORDERS, AND INSTRUCTIONS

- VA Source
- Non-VA Source: GWTG-AHA
- Non-VA Sources: Other

Conferences

- * Dissemination and Implementation (**D&I**) Conference by the National Institutes of Health (NIH):
http://obssr.od.nih.gov/scientific_areas/translation/dissemination_and_implementation/index.aspx
- * Global Implementation Conference (**GIC**): <http://globalimplementation.org/gic>
- * Seattle Implementation Research Collaborative (**SIRC**):
<http://www.seattleimplementation.org/>

Training Opportunities

Within the VA

- * Center for Implementation Practice and Research Support (**CIPRS**): <http://www.queri.research.va.gov/ciprs/>
- * Enhancing Implementation Science (**EIS**): <http://www.queri.research.va.gov/meetings/eis/>

Outside the VA

- * Training Institute for Dissemination and Implementation Research in Health (**TIDIRH**). Sponsored by the Office of Behavioral and Social Sciences Research (OBSSR), National Institutes of Health (NIH), in collaboration with the National Cancer Institute (NCI), the National Institute of Mental Health (NIMH), and the U.S. Department of Veterans Affairs (VA): <http://conferences.thehillgroup.com/OBSSRinstitutes/TIDIRH2012/index.html>
- * GEM (Grid Enabled Measures) Database - Dissemination and Implementation Initiative (**GEM-D&I**). Initiated and co-developed by the Cancer Research Network Cancer Communication Research Center at Kaiser Permanente Colorado and the National Cancer Institute's (NCI) Division of Cancer Control & Population Sciences : <https://www.gem-beta.org/public/wsoverview.aspx?wid=11&cat=8>



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ORGANIZATIONAL UNITS OF THE VA RELEVANT TO IMPLEMENTATION RESEARCH

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Ischemic Heart Disease QUERI Center

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Organizational Units Relevant to Implementation Research

- Veterans Health Administration is large & complex, with many org units relevant to implementation
<http://vaww.ush.va.gov/docs/VHAOrgChart103113.pdf>
 - Institutional policy and planning
 - Operations and management
 - Monitoring and oversight
 - Training and development
- Develop understanding of mission & functions

Creating Effective Partnerships with VA Organizational Units

- What makes an effective partner?
- How do you meet the needs of your org partner?

Creating Effective Partnerships with VA Organizational Units

- Effective partnerships built on long-term relationships
- Effective partnered projects have:
 - A real implementation research question
 - E.g., comparing E-Consults vs. group tele-video consultations (Specialty Care Access Network program-Extension for Community Healthcare Outcome (SCAN-ECHO))
 - Frequent communication & expectation management
 - E.g., baseline interviews of mini-residencies becomes priority; SCAN-ECHO follow-up delayed
 - Early products/wins planned
 - Papers & presentations actually a win/win

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RESOURCES FOR IMPLEMENTING RESEARCH INTO PRACTICE

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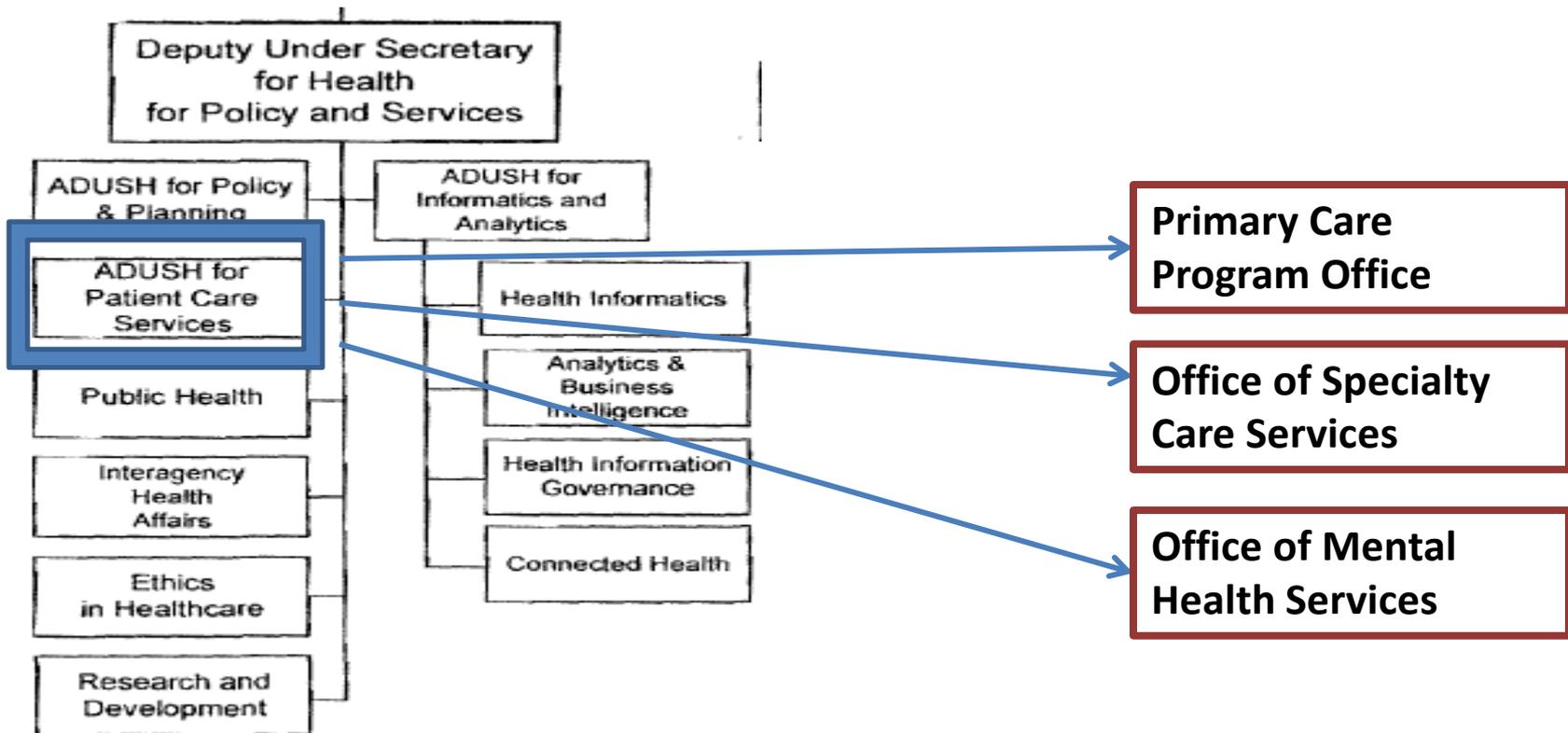
Resources

- Gain familiarity with key program offices:
 - See Org Chart -
<http://vaww.ush.va.gov/docs/VHAOrgChart103113.pdf>
 - More detail about VA program offices –
<http://vaww1.va.gov/health/programs.asp>
 - For more detail, see <http://www.valu.va.gov/Home/GetPDF/57>
- Learn more about specific QUERI centers:
 - <http://www.queri.research.va.gov/>

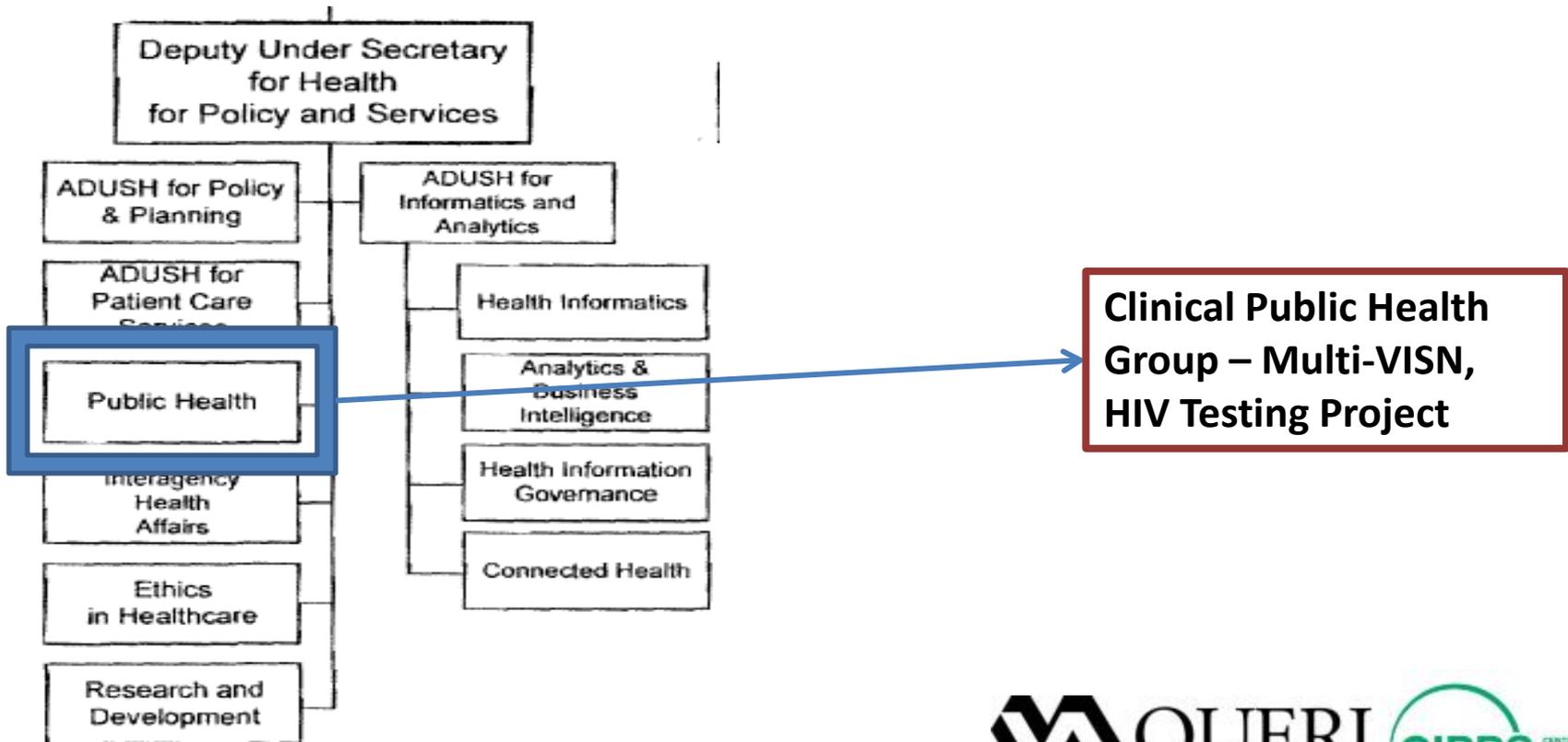
Resources

- Implementation research and practice - <http://www.queri.research.va.gov/ciprs/>
- Database and information systems - <http://www.virec.research.va.gov/>
- Health economics and cost-effectiveness - <http://www.herc.research.va.gov/home/default.asp>

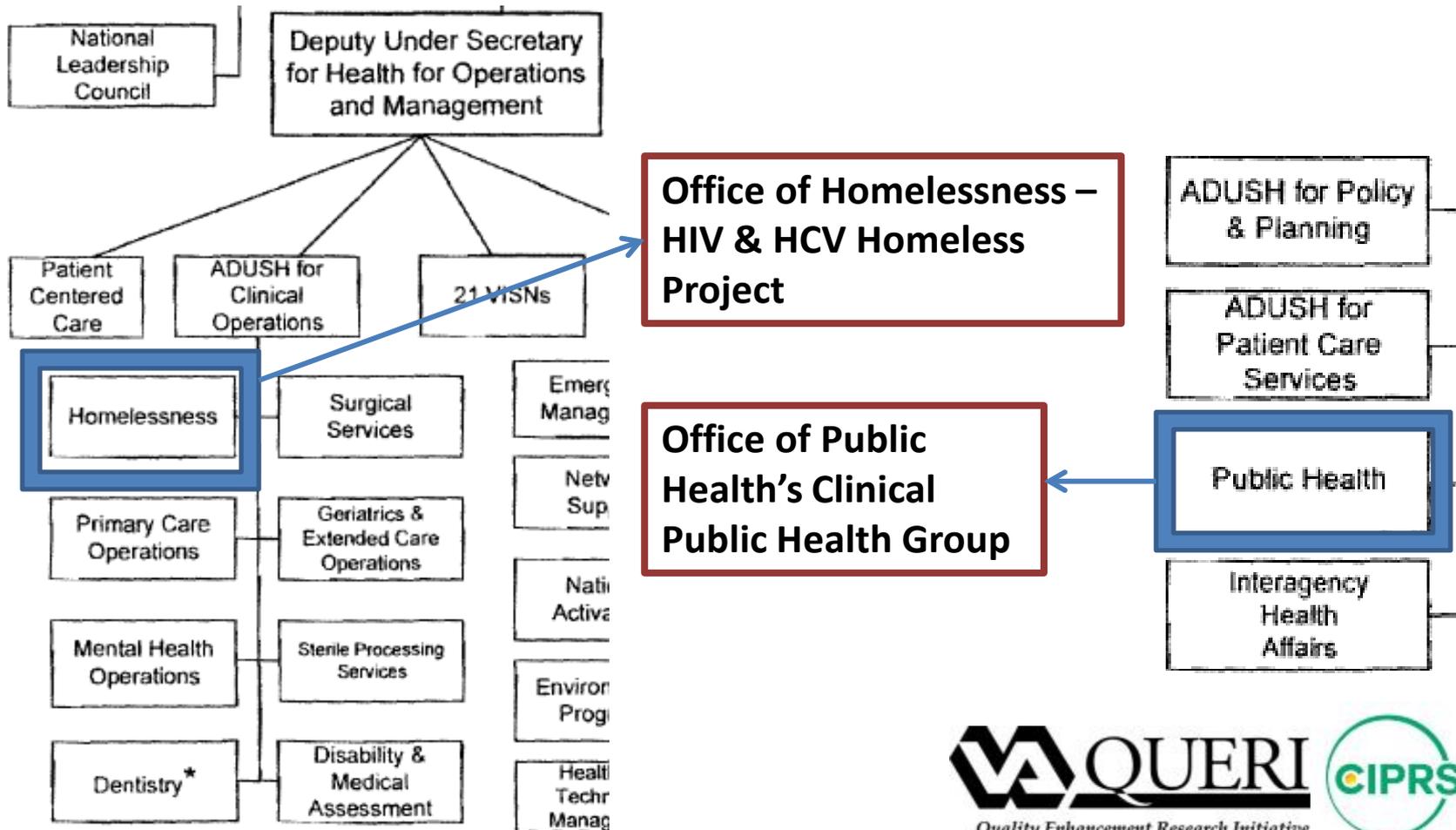
Example of Hierarchy



HIV/Hepatitis QUERI Project Example



HIV/Hepatitis QUERI Project Example



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- *For more information, please visit:*

<http://www.queri.research.va.gov/implementation/>