Conceptual Frameworks:
A Brief Introduction on Why and How to Use Them in Research

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S-SPIRE
Stanford–Surgery
Policy
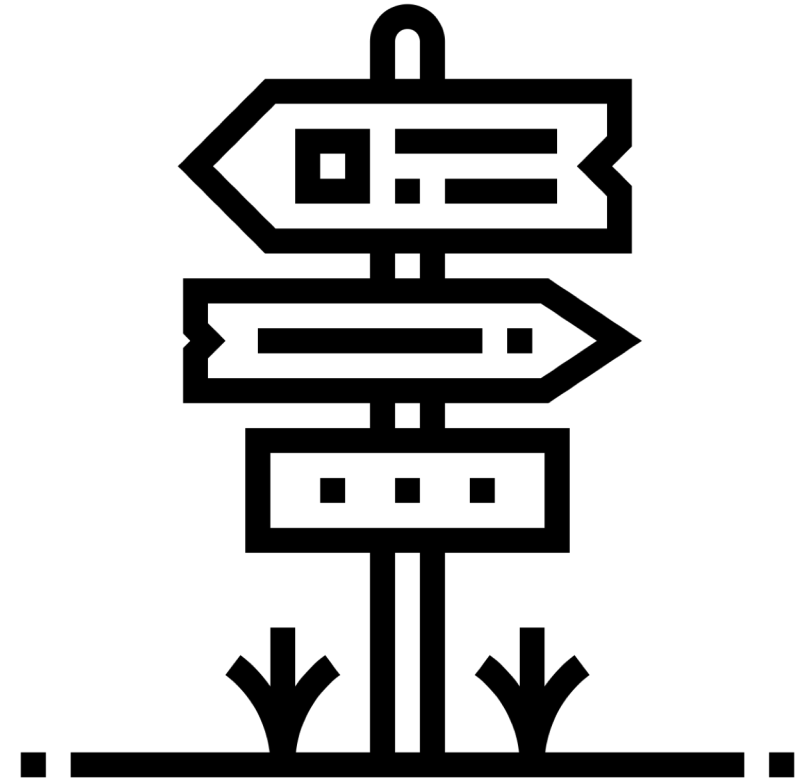Improvement Research
& Education

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Learning Objectives

- Describe how conceptual frameworks enhance study rigor

- Discuss common conceptual framework models used in health services research

- Apply conceptual framework exercise on an example study

Conceptual Frameworks
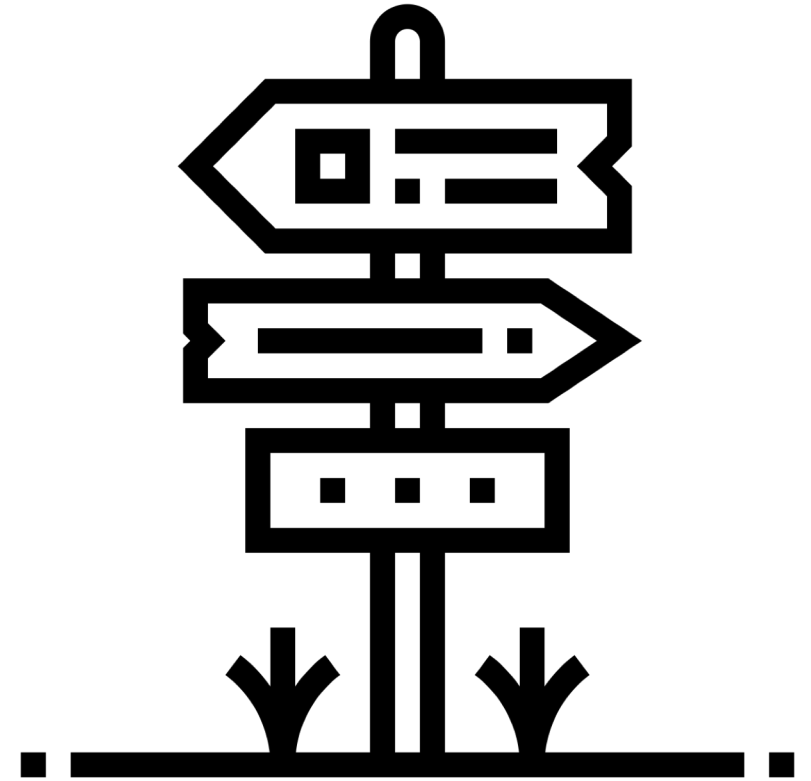
What is a Conceptual Framework

- **Specific approach** to thinking about a research problem, usually represented as a diagram to show important concepts and processes

- Frameworks are derived from **related concepts** (conceptual, practical) or **existing theories** (theoretical) – benefit is using a **shared language**

- All frameworks are based on key concepts and emphasize different variables in order to show **relationships** between them

What is a Conceptual Framework

Frames:

- Problem statement

- Research design

- Recruitment & selection

- Data collection
    What to collect data on (variables)

- Interpretation of results

- Presentation of results

GUIDES YOUR STUDY FROM START TO FINISH
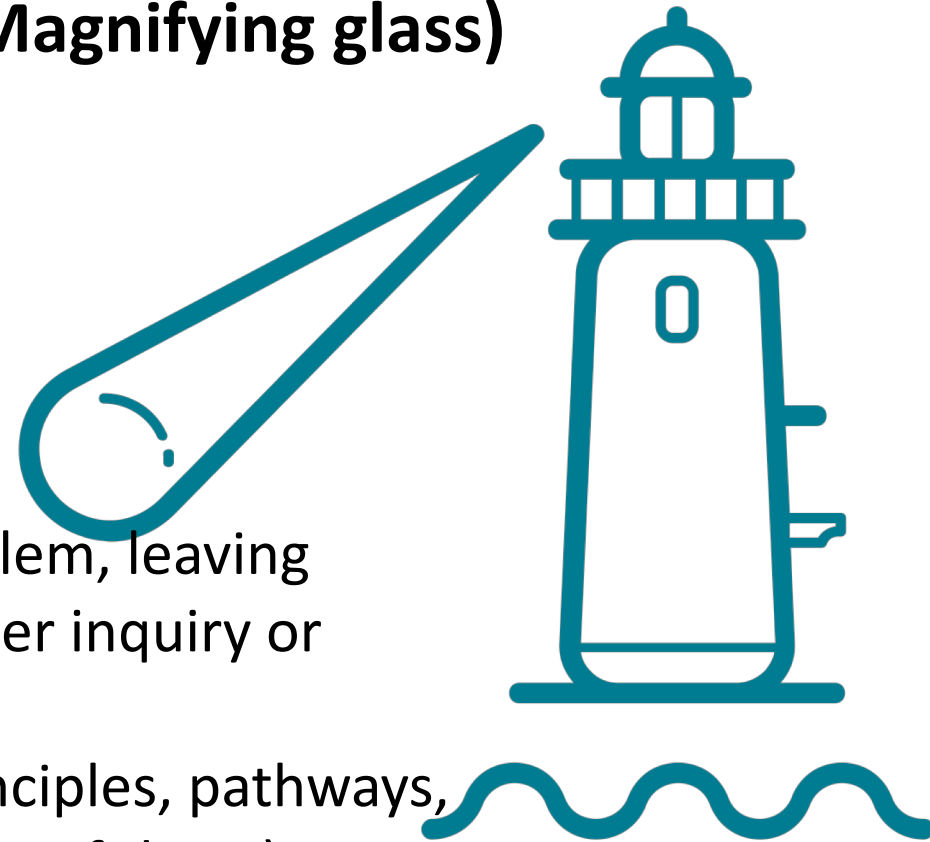
What is a Conceptual Framework

Represent ways to thinking about a problem or how things work
- **Illuminate (Lighthouse)** and **Magnify (Magnifying glass)**

- Magnify specific elements of a problem by focusing on specific or part of conceptual framework
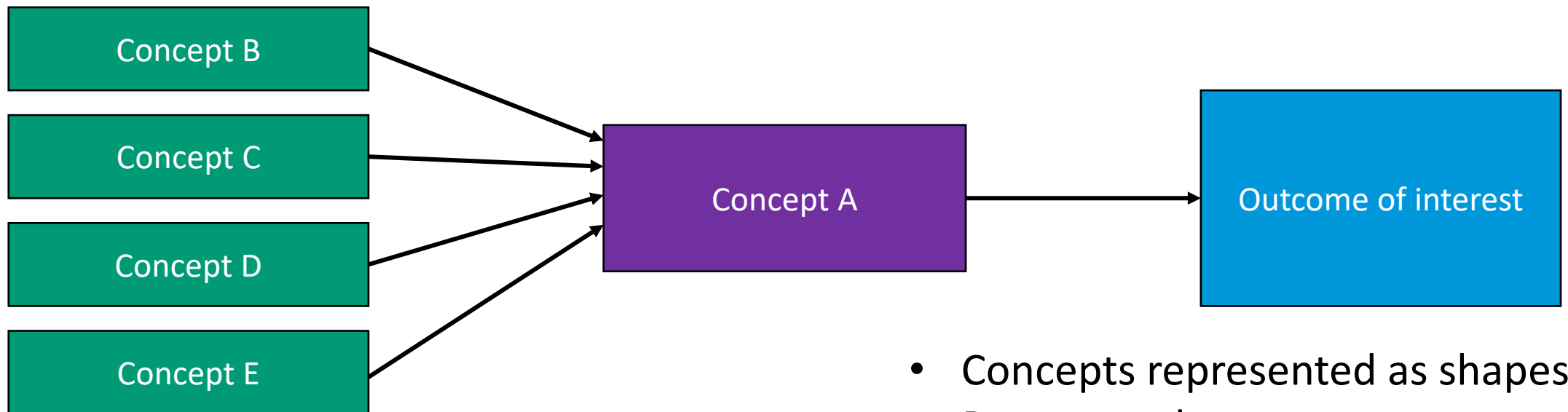
  - Illuminate specific problem, leaving other aspects for another inquiry or approach
  - Specifically identify principles, pathways, variables (or interactions of these)

(Bordage, 2009)

Conceptual Frameworks as Models

- Diagrams the research interest
  - Highlights **causal linkages b**etween **concepts**
  - Build backwards from outcomes, through correlates, mediators, ancestors, etc
  - Each concept and arrow can be studied, or the entire model

- Concepts represented as shapes
- Processes shown as arrows
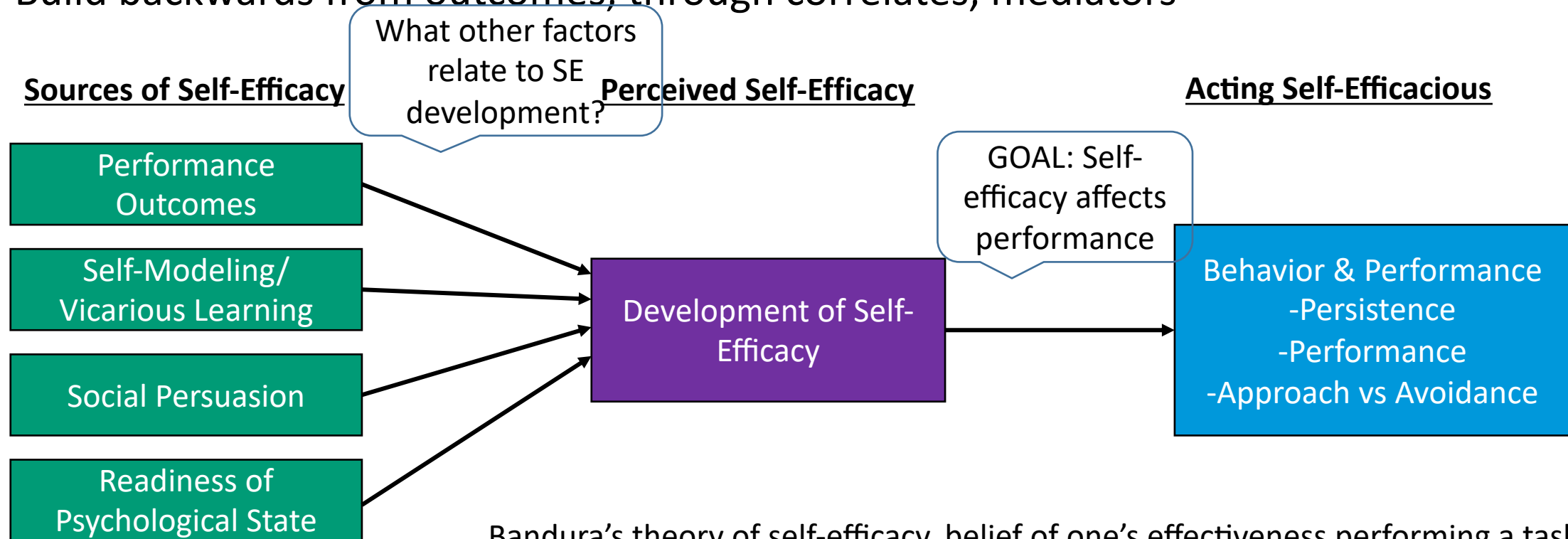- Can be multi-level

Conceptual Frameworks as Models

- Diagrams the research interest
  - Highlights **causal linkages b**etween **concepts**
  - Build backwards from outcomes, through correlates, mediators

Sources of Self-Efficacy

Perceived Self-Efficacy

Acting Self-Efficacious

What other factors relate to SE development?

| Performance Outcomes |
| Self-Modeling/ Vicarious Learning |
| Social Persuasion |
| Readiness of Psychological State |

Development of Self-Efficacy

GOAL: Self-efficacy affects performance

Behavior & Performance
-Persistence
-Performance
-Approach vs Avoidance

Bandura's theory of self-efficacy, belief of one's effectiveness performing a task
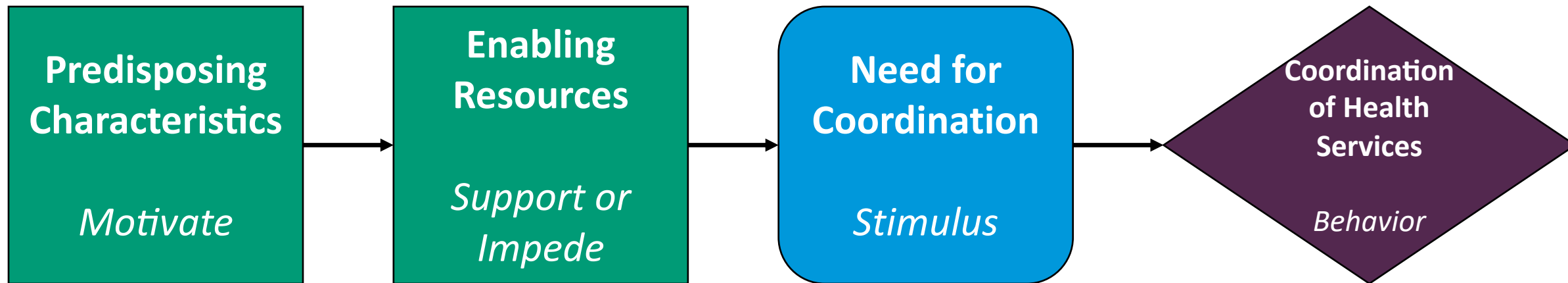*Important to motivation to learning or change in behavior*

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Common Conceptual Frameworks

Common Conceptual Frameworks

Andersen Behavior Framework (Andersen, 1995)

- Predict and explain use of care services by individuals

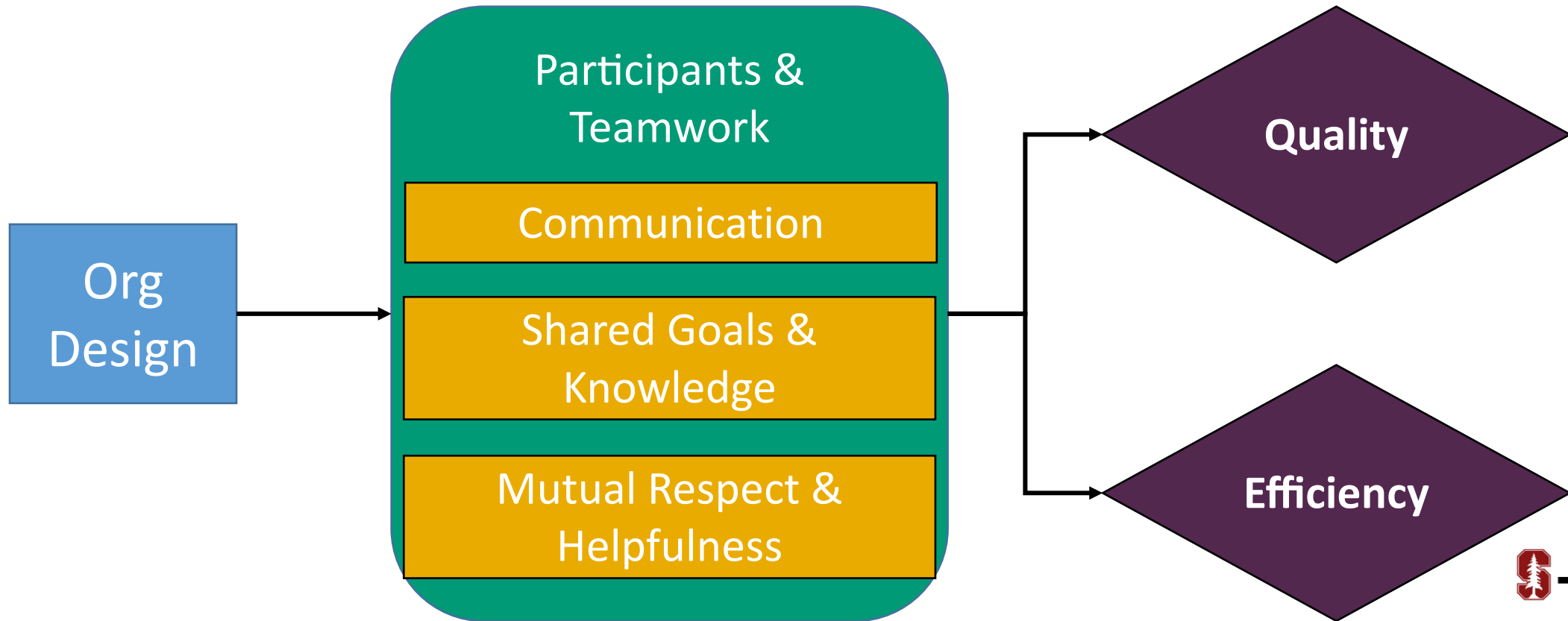| Predisposing Characteristics *Motivate*	→	Enabling Resources *Support or Impede*	→	Need for Coordination *Stimulus*	→	Coordination of Health Services *Behavior*
↑↓ predisposing Attitude/knowledge Climate/culture Hard to alter		Availability/access to resources Ability to respond △ by decisionmakers		Perception on need for coordinated care by individuals or healthcare team		Behavior △ needed to ↑ care

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Common Conceptual Frameworks

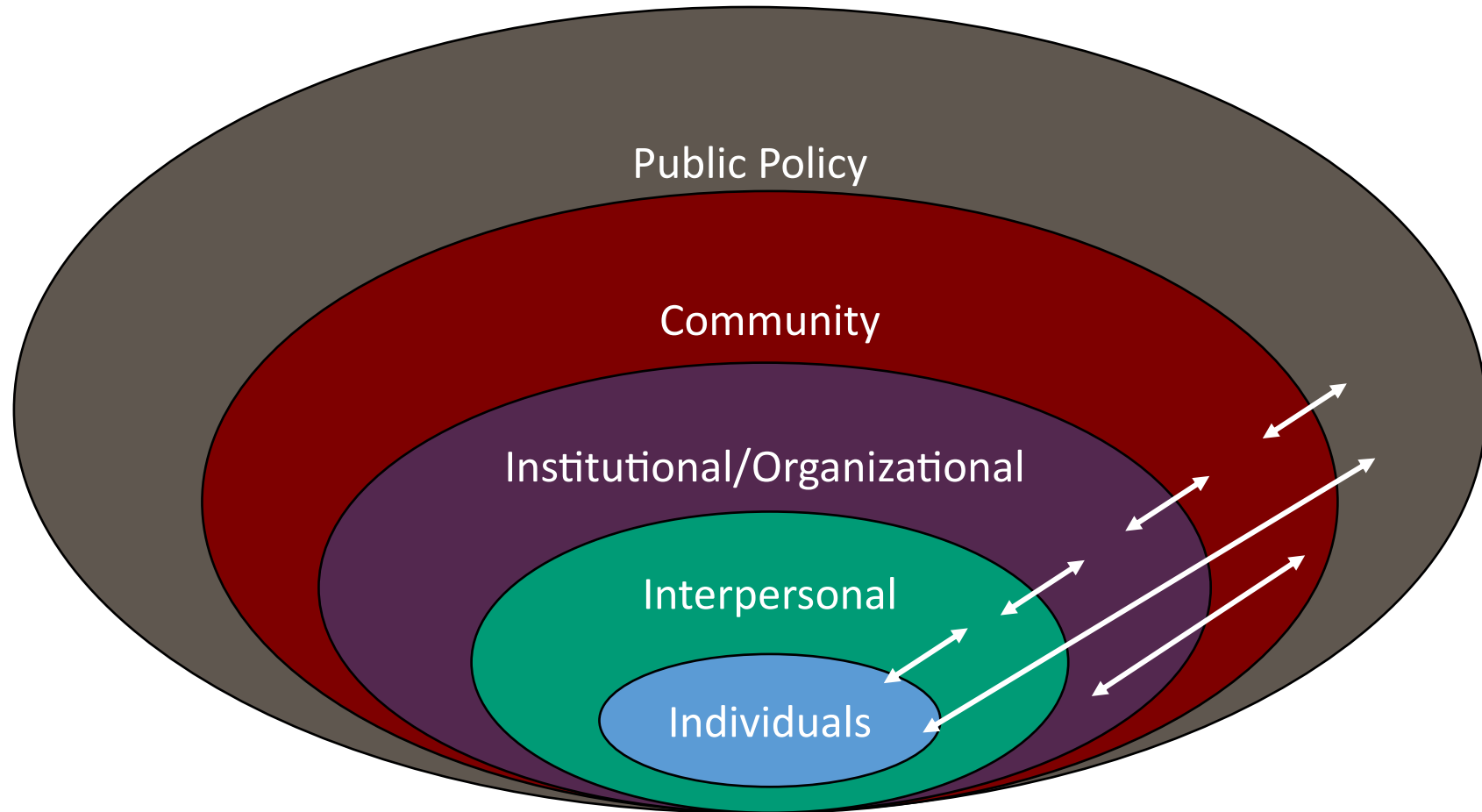**Relational Coordination Framework** (Gittell, 2002)

- Identify interventions to increase: communication, shared goals, respect

Common Conceptual Frameworks

Social Ecological Model (McLeroy, 1988; originated with Bronfenbrenner)

- Study spheres of influence on behaviors at each level

Public Policy

Community

Institutional/Organizational

Interpersonal

Individuals

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Common Conceptual Frameworks

Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? J Health Soc Behav. 1995 Mar;36(1):1–10.

Damschroder LK et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implementation Science. 2009;4:50.

Donabedian A. The criteria and standards of quality. Ann Arbor, Mich.: Health Administration Press; 1982.

Gittell JH. Coordinating mechanisms in care provider groups: relational coordination as a mediator and input uncertainty as a moderator of performance effects. Management Science. 2002;48(11):1408–26.

McLeroy, K. R., Steckler, A. and Bibeau, D. (Eds.) (1988). The social ecology of health promotion interventions. Health Education Quarterly, 15(4):351-377.

Van de Ven AH, Delbecq AL, Koenig JR. Determinants of coordination modes within organizations. American Sociological Review. 1976;41(2):322–38.

Wagner EH, Davis C, Schaefer J, Von Korff M, Austin B. A survey of leading chronic disease management programs: are they consistent with the literature? Managed Care Quarterly. 1999;7(3):56–66.

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Conceptual Frameworks Illuminate and magnify BUT…

- It can (and should) leave other topics/processes in the dark, not purpose of study

- May need multiple frameworks
  - Content: the "what" or the "mechanism" of concepts
  - Process: research, intervention implementation, analysis, the "how" to do research inquiry

- Conceptual frameworks must be chosen with care!
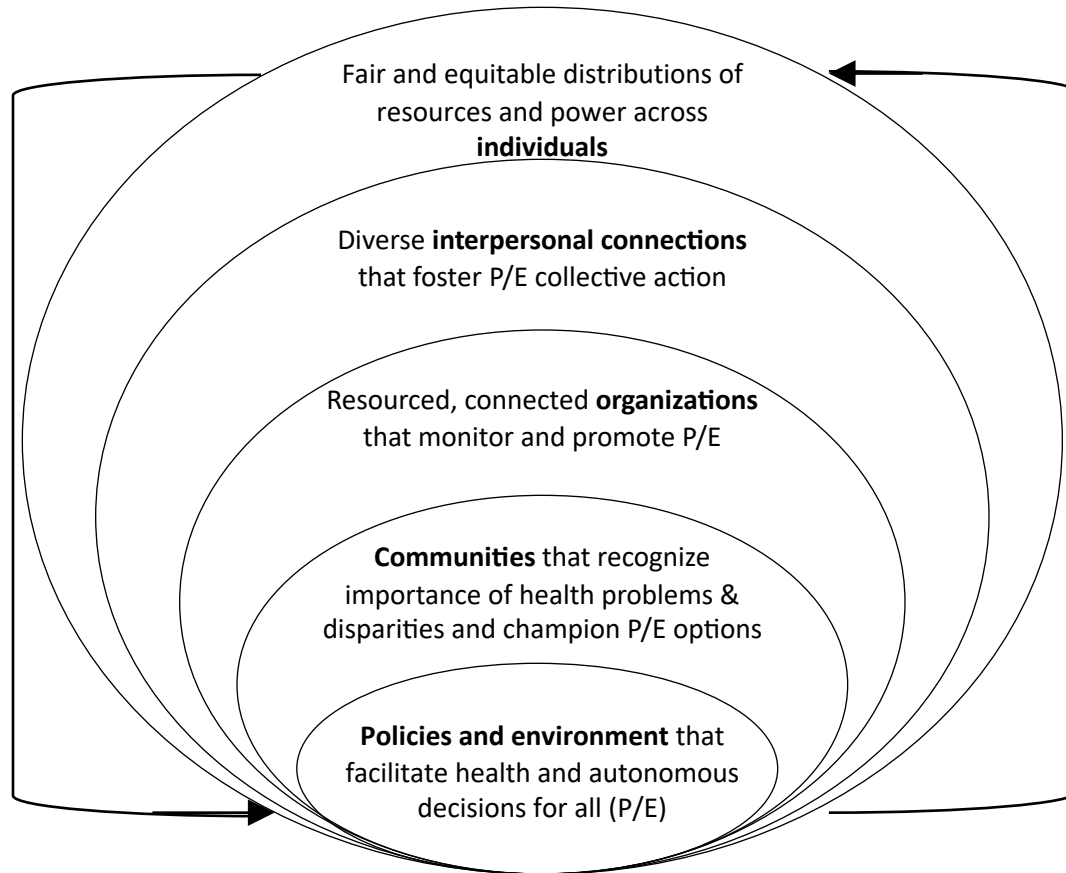

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What if No Conceptual Framework Fits?
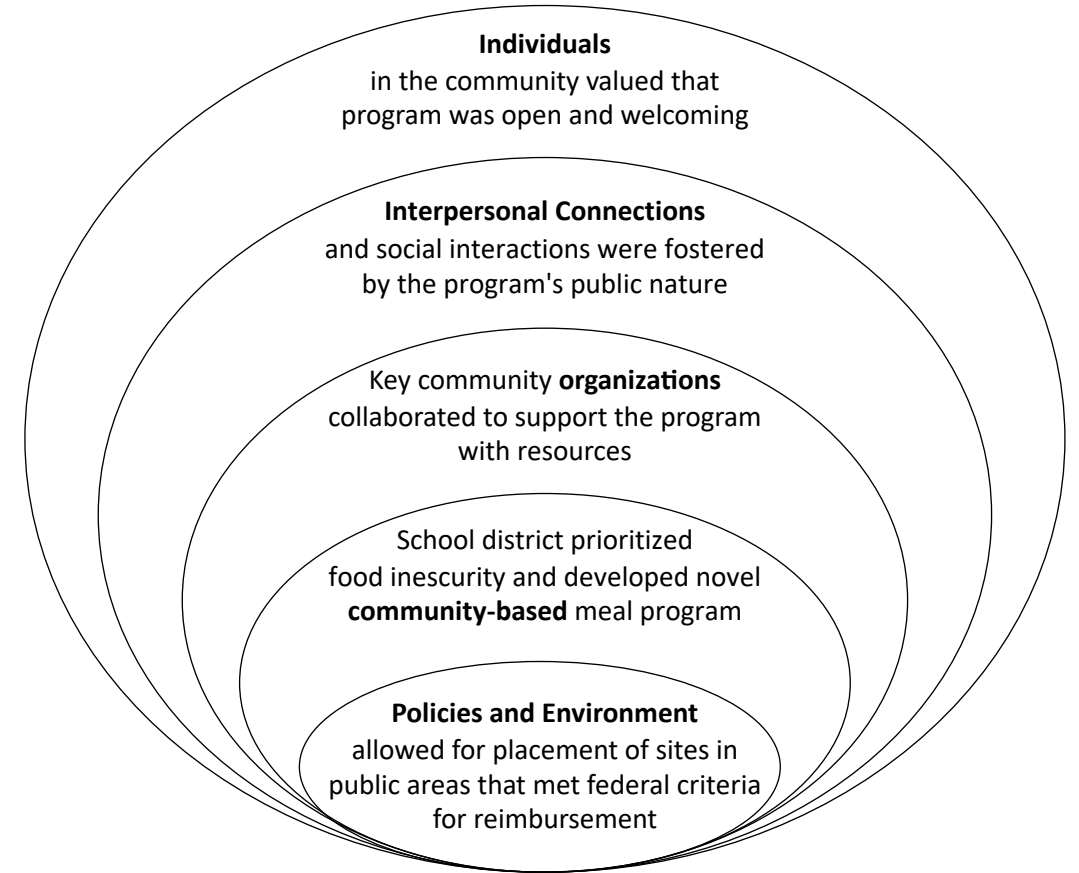
Steps to Conceptualize Your Work

1. Conduct a literature review
   - What have others done, your field and others → consider modifying or adapting
   - How/what can you adapt for your specific research problem

2. Create a flow chart
   - Identify what variables *could* be of interest
   - Only include variables that can be operationally defined, measured
   - Incorporate flow, with arrows implying causality (top→bottom, left→right)

3. Write a narrative
   - Identify flaws or missing elements

4. Revise
   - Adapt to literature and findings

Adaptation Example: Food Insecurity & Impact of Mobile Meal Program in Silicon Valley

Fair and equitable distributions of resources and power across **individuals**

Diverse **interpersonal connections** that foster P/E collective action

Resourced, connected **organizations** that monitor and promote P/E

Communities that recognize importance of health problems & disparities and champion P/E options

Policies and environment that facilitate health and autonomous decisions for all (P/E)

Individuals in the community valued that program was open and welcoming

Interpersonal Connections and social interactions were fostered by the program's public nature

Key community **organizations** collaborated to support the program with resources

School district prioritized food insecurity and developed novel **community-based** meal program

Policies and Environment allowed for placement of sites in public areas that met federal criteria for reimbursement

Golden, 2015 "inside out" social ecological model.

Bruce et al (under review) adaptation

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Research Question:

Is the presence of a VA facility spinal cord injury center associated with BMI assessment for spinal cord injured patients?
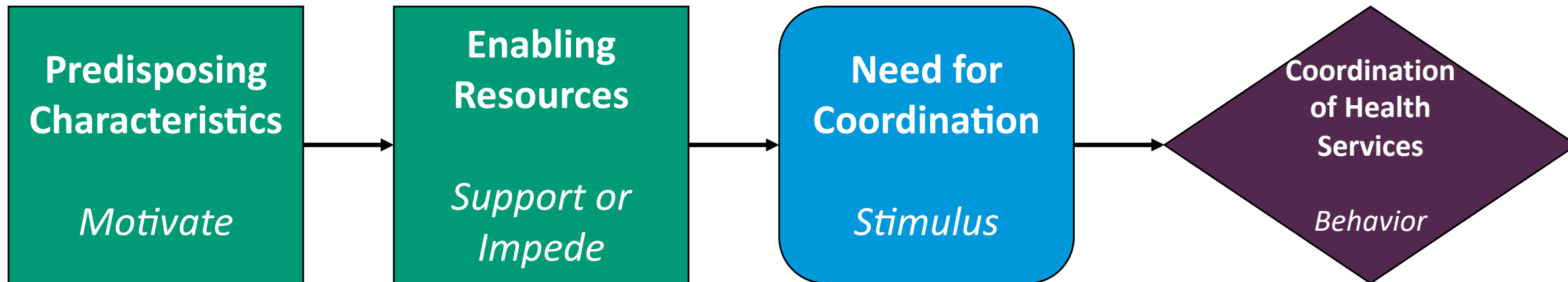
Courtesy of Dr. Eisenberg

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Example Conceptual Framework- A

Is the presence of a VA facility spinal cord injury center associated with BMI assessment for spinal cord injured patients? → What are intake staff knowledge on BMI assessment? Does this differ by SCI status? What resources for BMI assessment are used by SCI/nonSCI centers?

Using Andersen Framework:

Predisposing Characteristics

Motivate

→

Enabling Resources

Support or Impede

→

Need for Coordination

Stimulus

→

Coordination of Health Services

Behavior

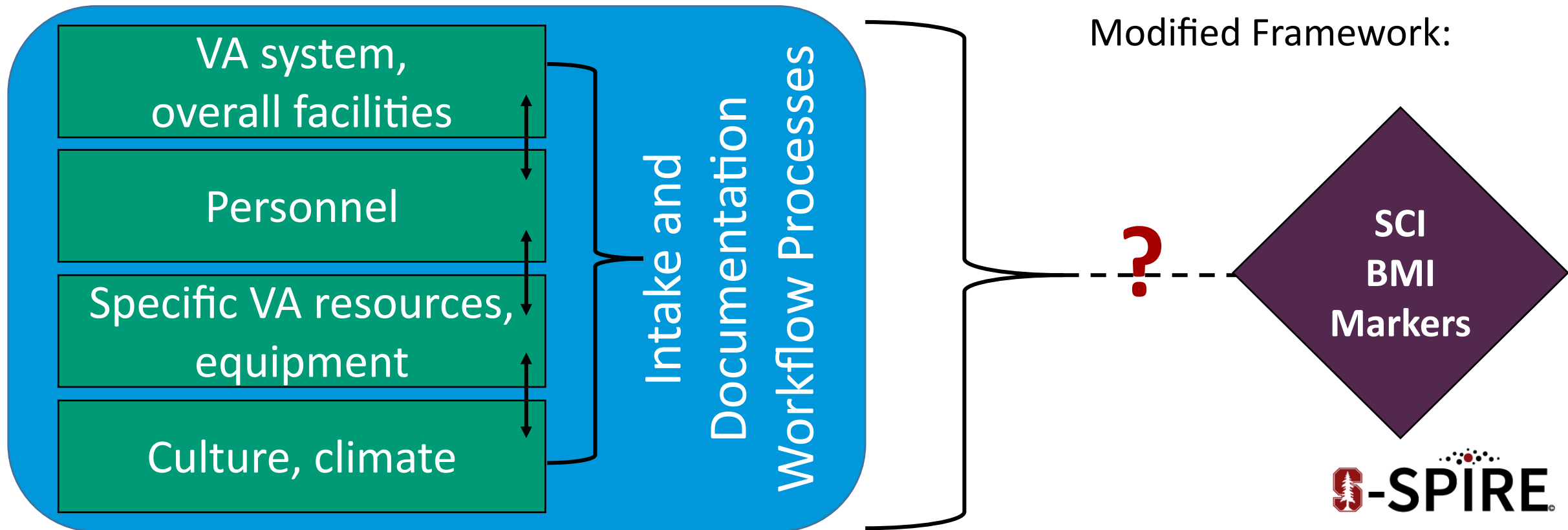MD/staff attitudes
Culture of facility

Resources
Equipment

Perceived need by the MD/staff on the importance

↑↓ care, documentation
* Identify causes of different processes

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Example Conceptual Framework - B

Is the presence of a VA facility spinal cord injury center associated with BMI assessment for spinal cord injured patients? → What are the main drivers of BMI assessment and documentation?
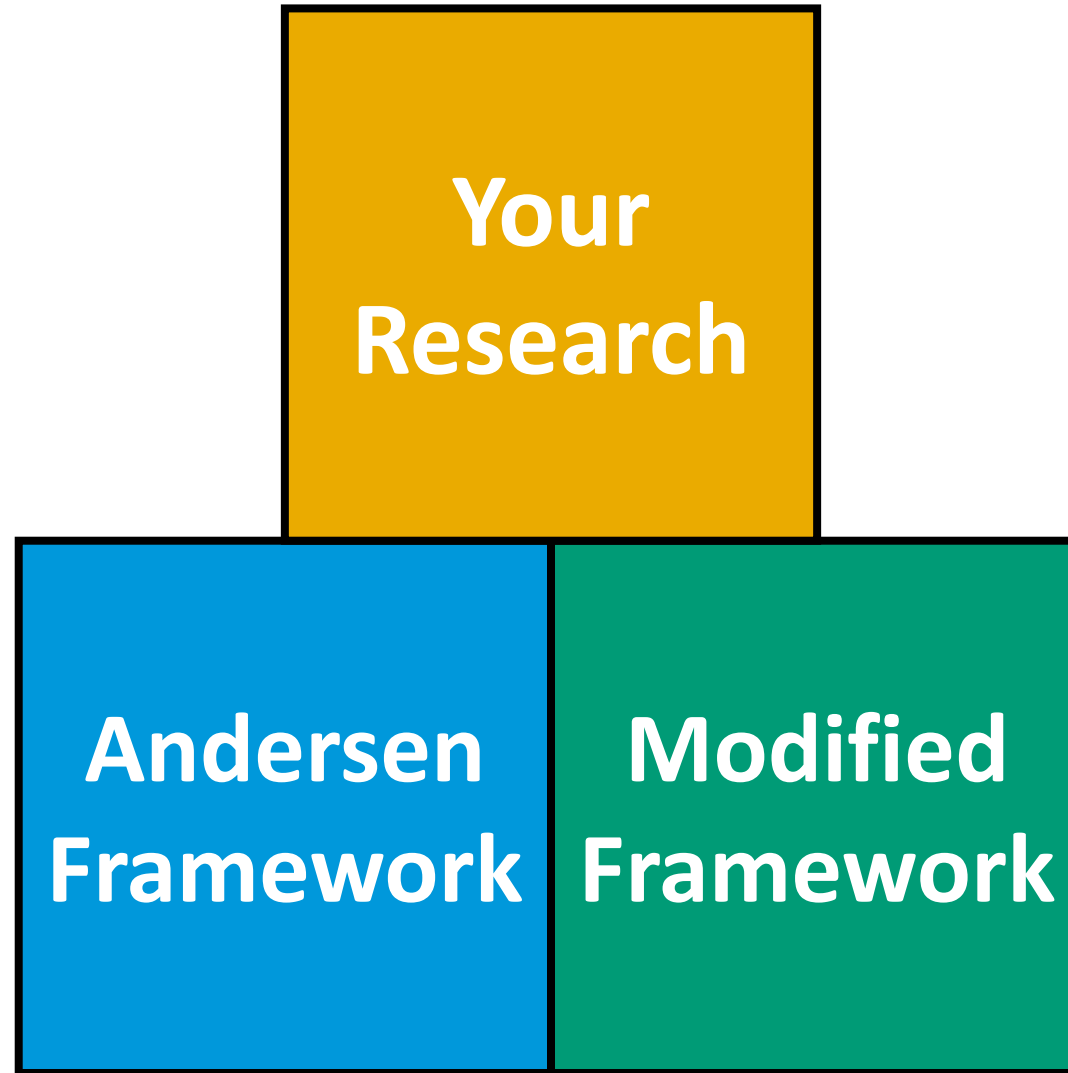
Modified Framework:

VA system, overall facilities

Personnel

Specific VA resources, equipment

Culture, climate

Intake and Documentation Workflow Processes

?

SCI BMI Markers

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Time to Practice
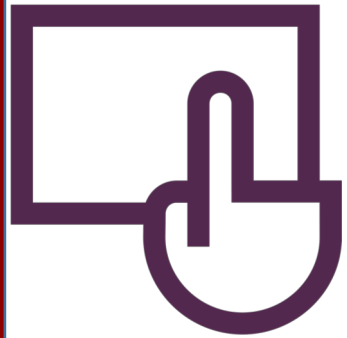
Review worksheet

- Do Conceptual Frameworks come to mind when considering your research study?

- What variables were you able to add/remove based on a model?
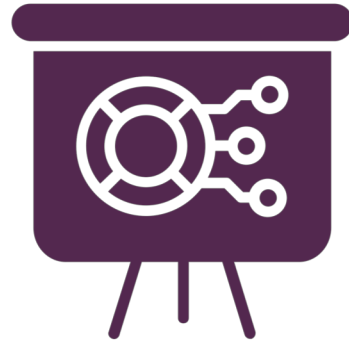
- How did you do?

- Questions?

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GUIDING YOUR STUDY FROM START TO FINISH:
The building blocks of validity for your research

Your Research

Andersen Framework

Modified Framework

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In Summary: Why are Conceptual Frameworks Important?
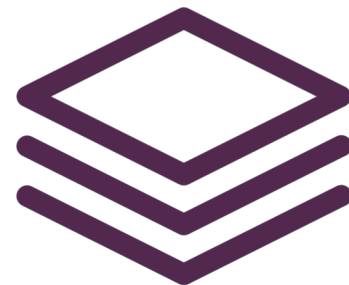
Specify Problem

Visualize Relationships

Test/Develop Theory

Interpret Results

Present Findings

Grant Applications

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