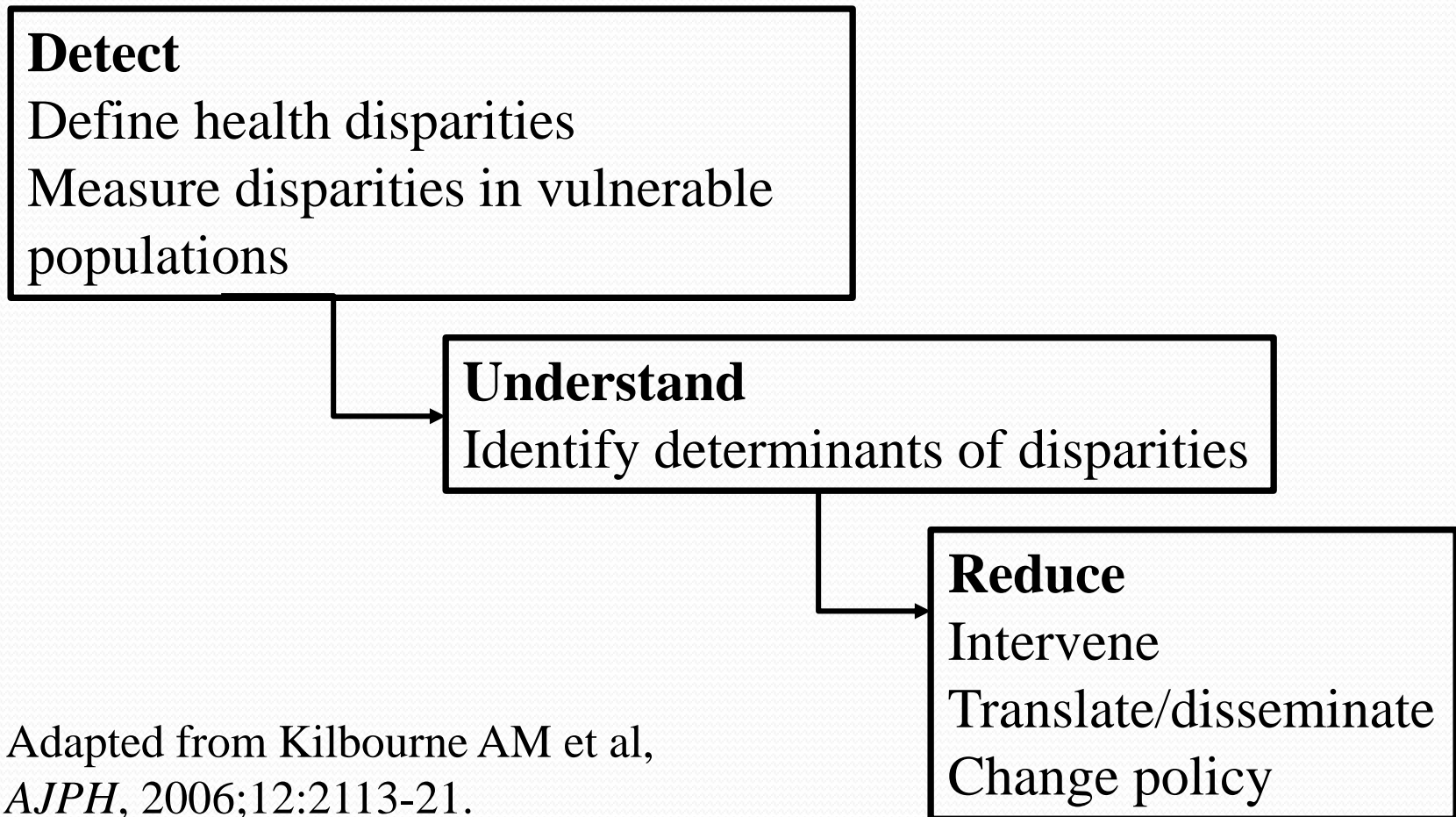


# Creating a Study Specific Conceptual Framework

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Center for Aging in Diverse Communities

September 12, 2018

# Phases of Disparities Research



Adapted from Kilbourne AM et al,  
*AJPH*, 2006;12:2113-21.

# Understanding Disparities

- What is it about being in a minority group that could lead to poorer health?
  - Behaviors, attitudes, values, beliefs
  - Access to health care
  - Quality of health care
  - Discrimination, educational experiences

# Reducing Disparities

- How can we design and evaluate interventions that can improve health in minority populations?
  - Evidence-based
  - Designed to meet needs of population
  - Appealing/culturally sensitive
  - Practical, feasible
  - Effective

# Role of Conceptual Frameworks to Understand and Reduce Disparities

- Ground research in theory and knowledge
- Identify and organize key variables on pathway
- Help develop specific research questions and methods of analysis
- Guide selection of measures
- Visually depict study

# Advantages of Conceptual Frameworks

- For proposals
  - Clarify specific aims
- For epidemiologic studies
  - Clarify determinants, mediators, and moderators of health outcome
- For interventions
  - Clarify mechanisms of action of intervention components

# Study-Specific Conceptual Framework

- Definition: A diagram of proposed causal linkages among a set of concepts believed to be related to a particular health problem

Earp JA and Ennett ST, *Health Educ Res*, 1991;6:163-171.

# Types of Conceptual Frameworks

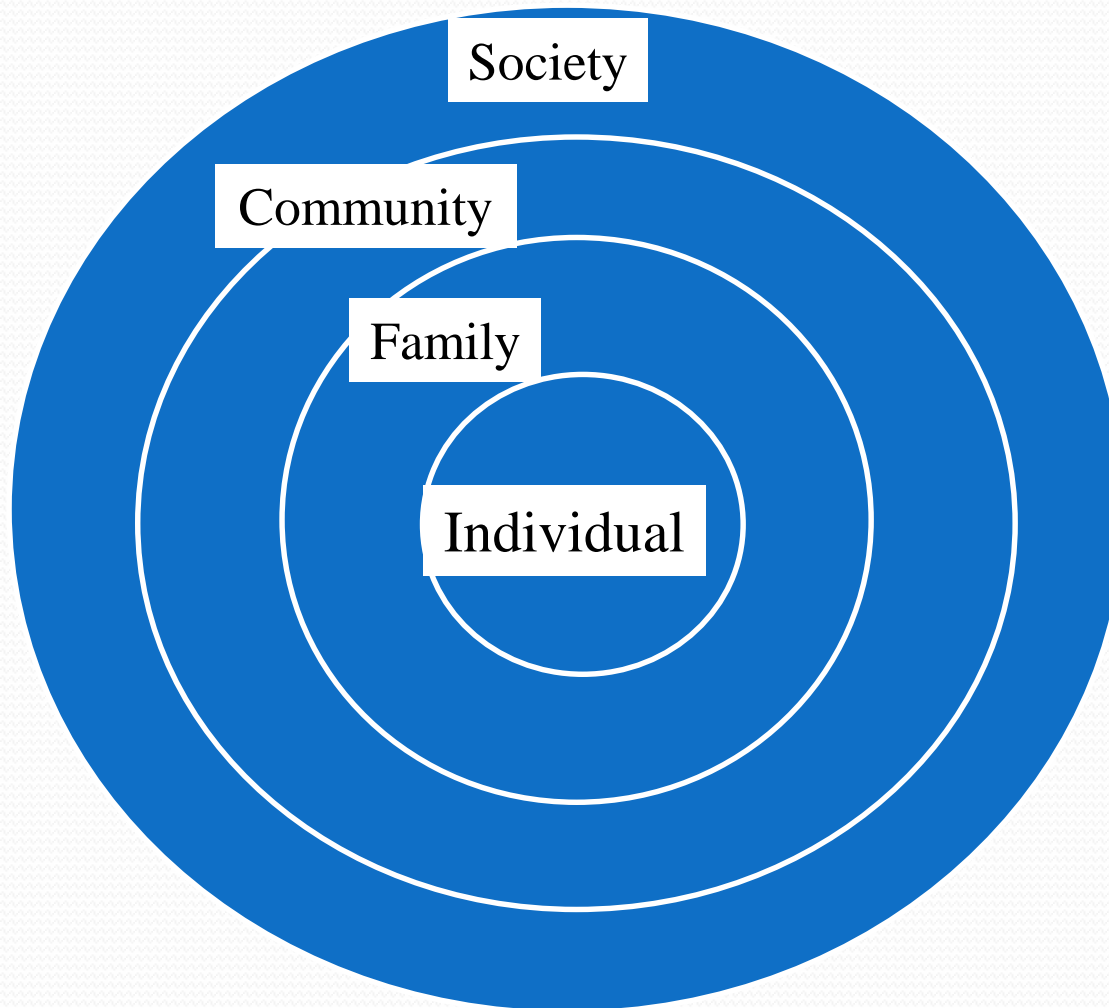
- Population science
  - Multi-level determinants of health
- Health services research
  - How health care affects health
- Interventions
  - How intervention components are linked to outcomes



# Types of Conceptual Frameworks

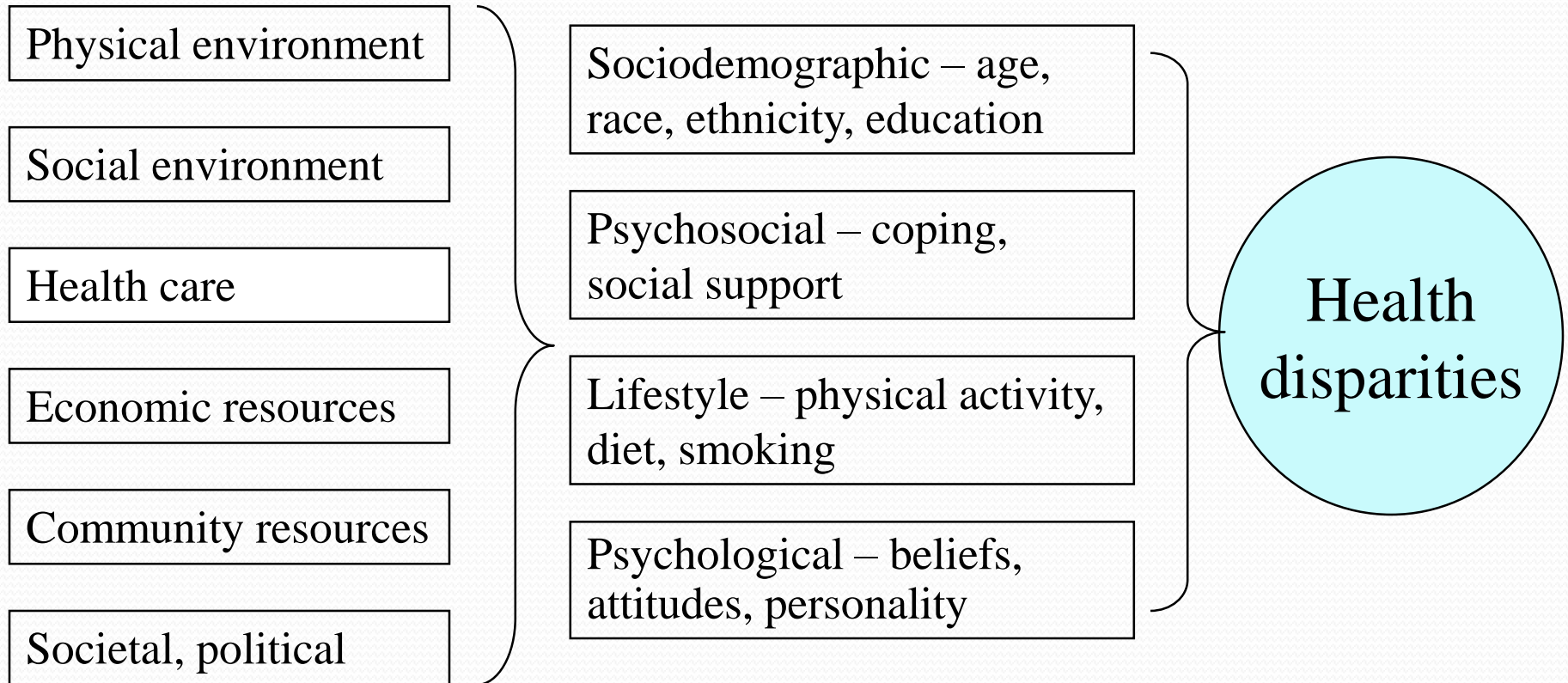
- **Population science**
  - **Multi-level determinants of health**
- Health services research
  - How health care affects health
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# Ecological Context Generic Model



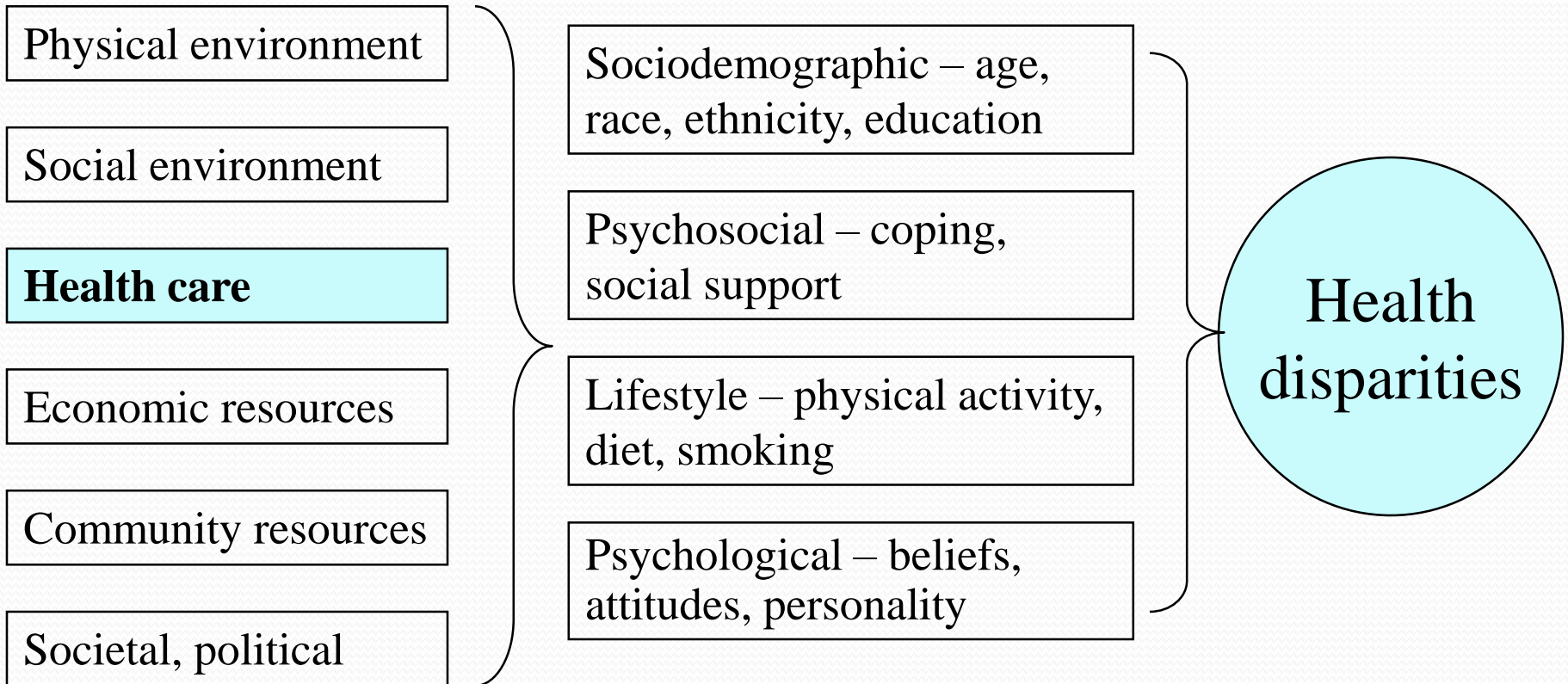
# Multi-level (Ecological) Determinants of Health Disparities

Contextual factors → Individual-level factors



# Health Care as Determinant of Health Disparities

Contextual factors → Individual-level factors

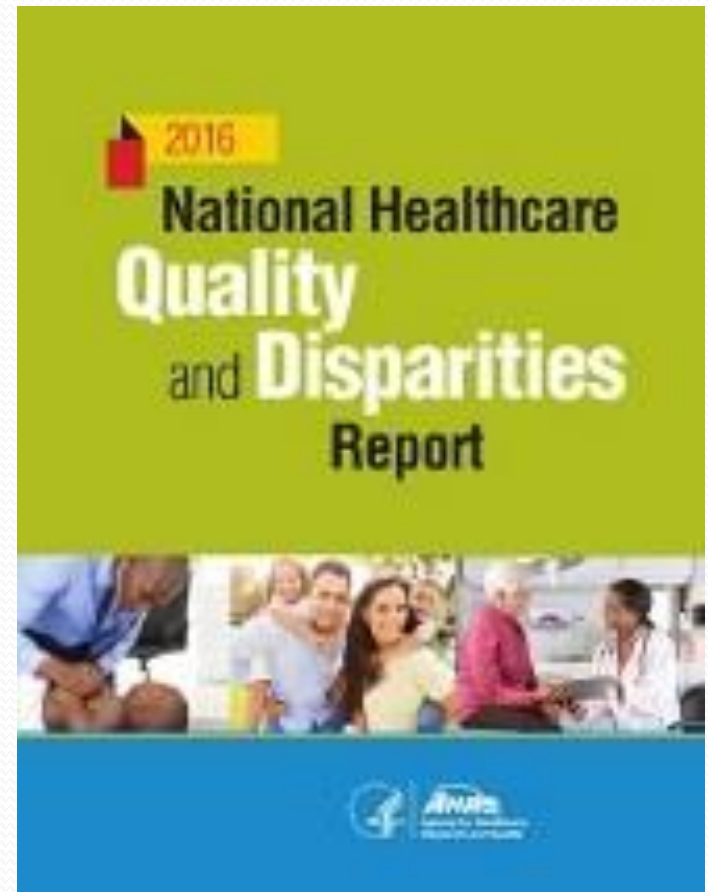


# Types of Conceptual Frameworks

- Population science
  - Multi-level determinants of health
- **Health services research**
  - **How health care affects health**
- Interventions
  - How intervention components are linked to outcomes

# Agency for Healthcare Research and Quality (AHRQ)

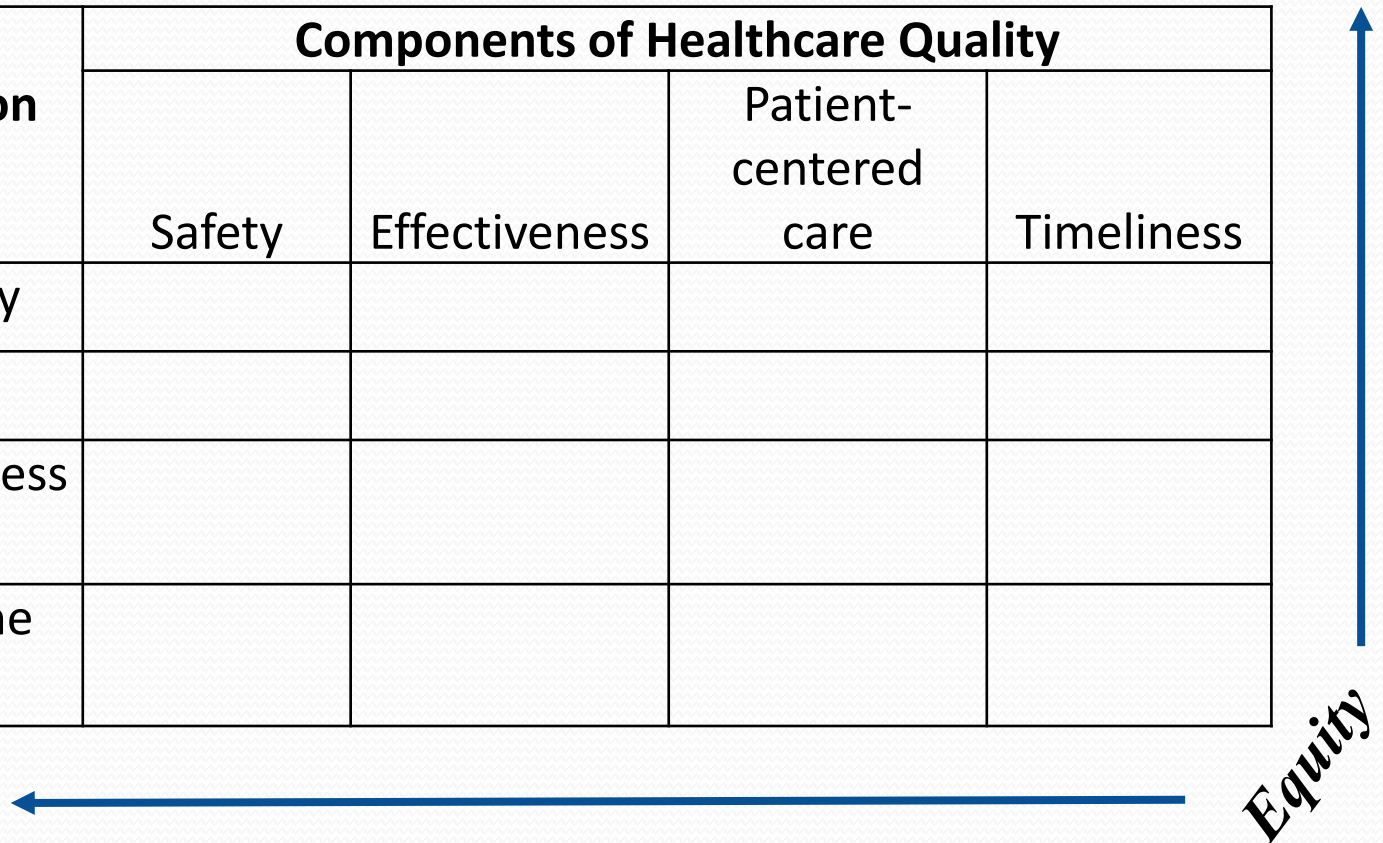
Annual report on  
healthcare disparities  
(since 2003)



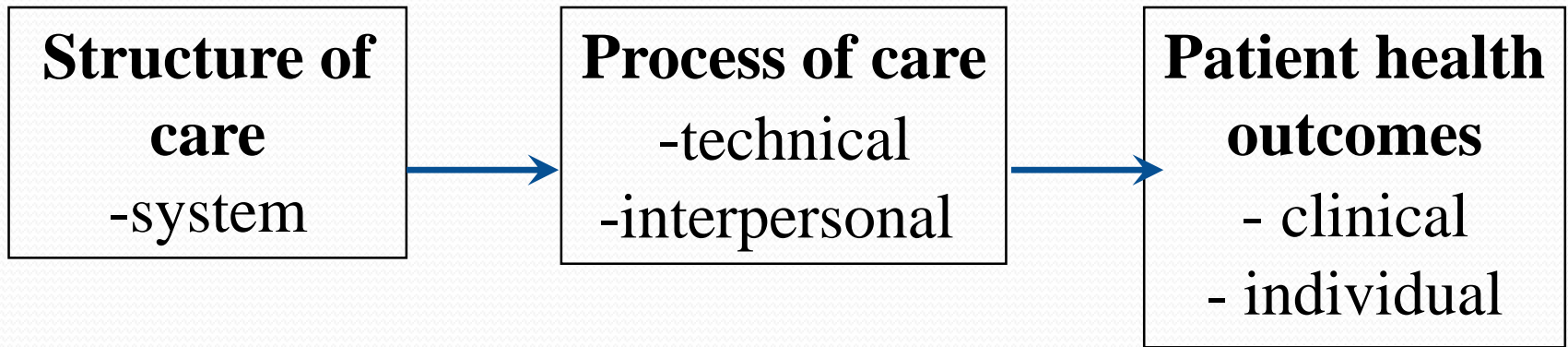
<https://www.ahrq.gov/research/findings/nhqdr/nhqdr16/index.html>

# Conceptual Framework: National Healthcare Disparities Reports

Consumer perspectives on health care needs	Components of Healthcare Quality			
	Safety	Effectiveness	Patient-centered care	Timeliness
Staying healthy				
Getting better				
Living with illness or disability				
Coping with the end of life				



# The Structure-Process-Outcome Paradigm for Assessing Quality of Care



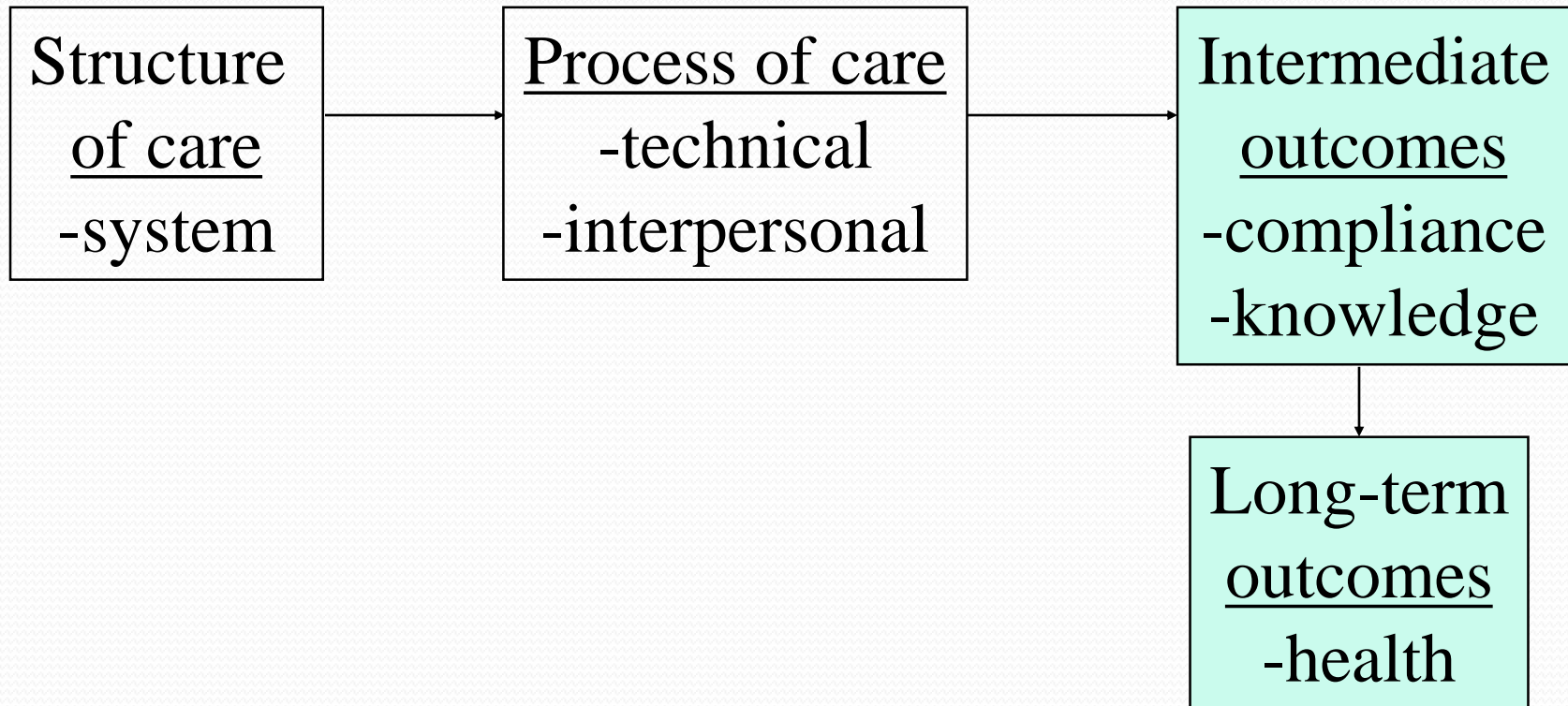
Technical process – knowledge and judgement skills

Interpersonal process – the way care is provided

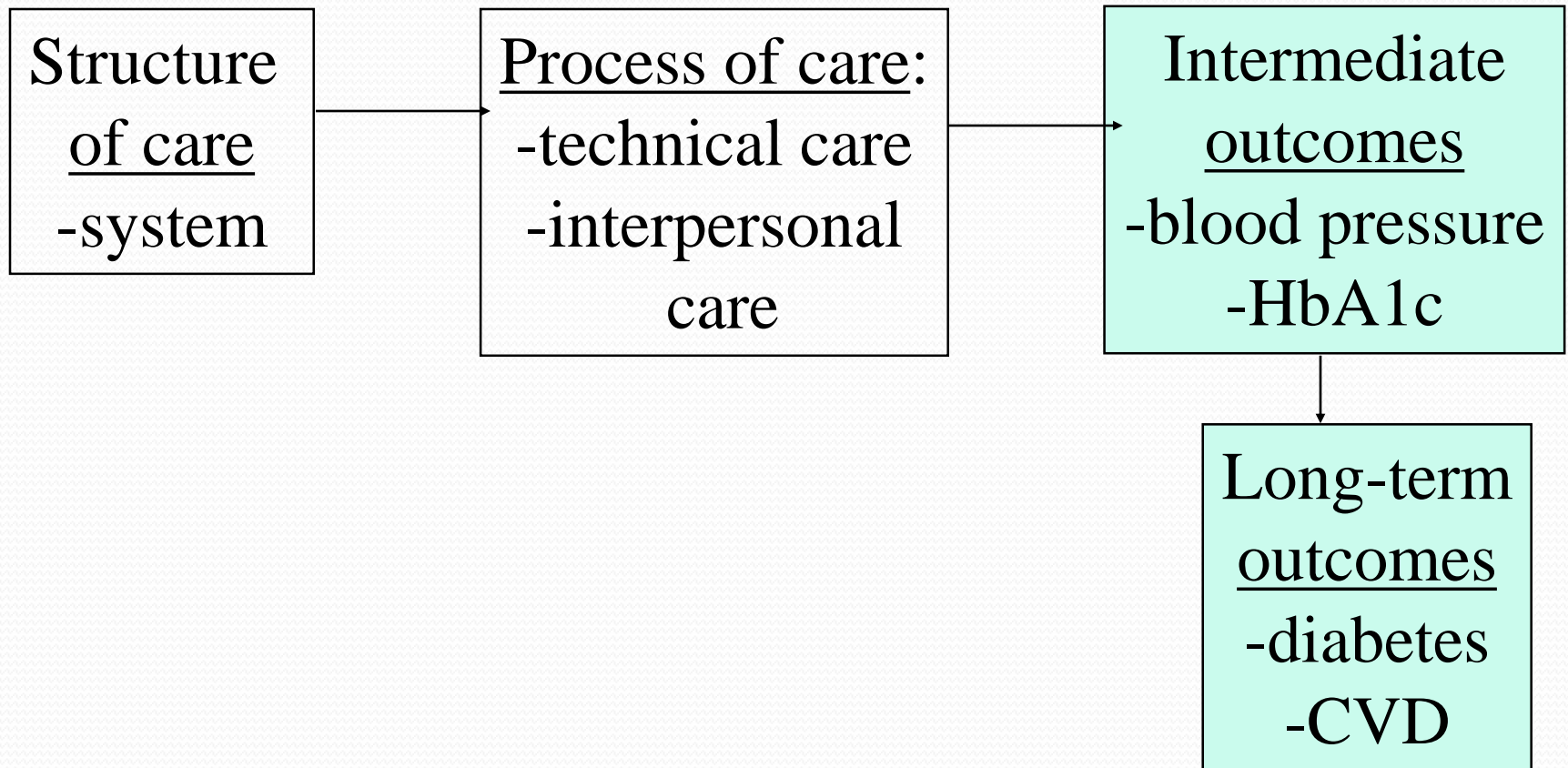
Donabedian A, *Qual Rev Bull*, 1992, p. 356-360.



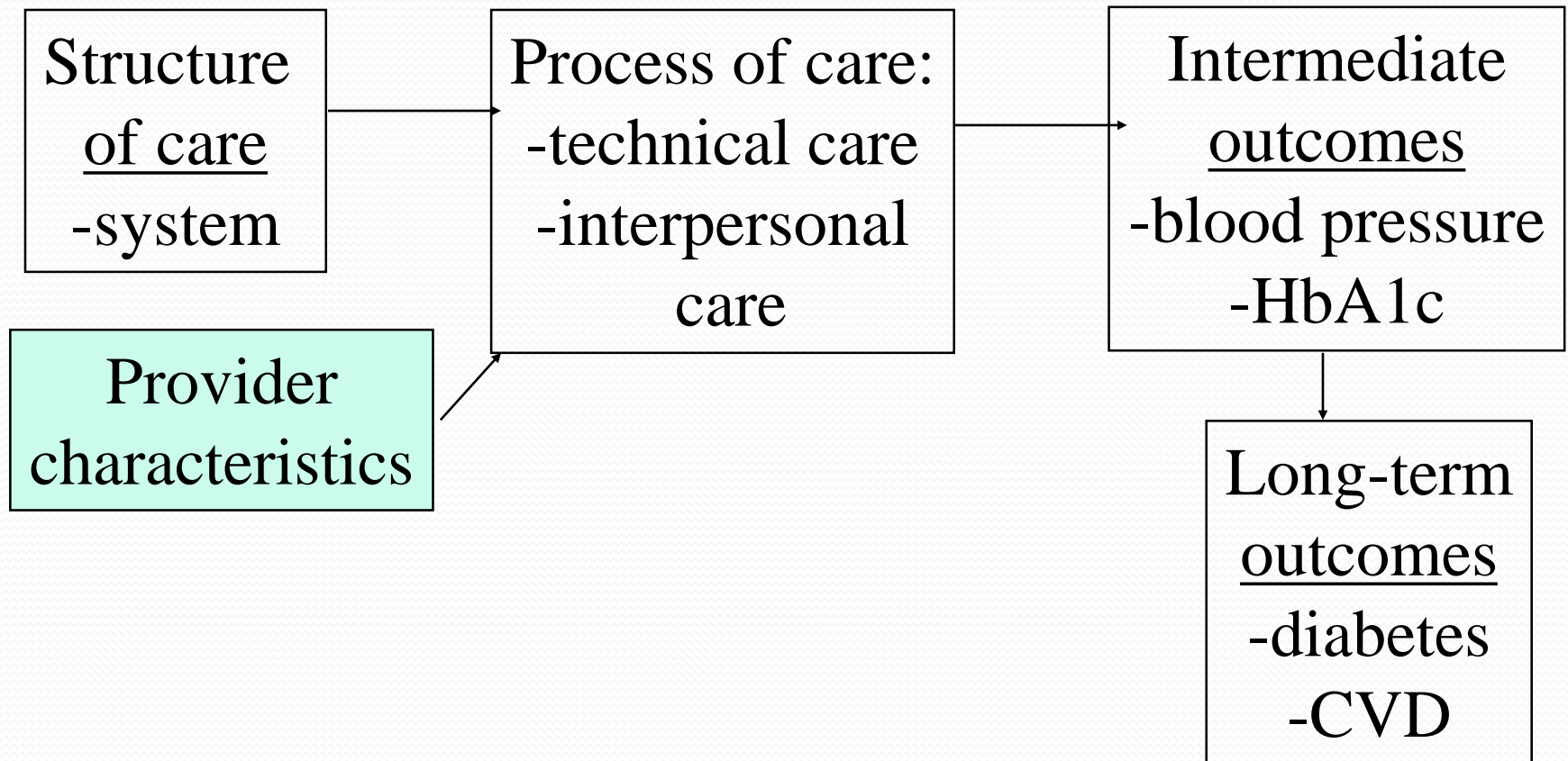
# The Structure-Process-Outcome Paradigm: Variations (cont)



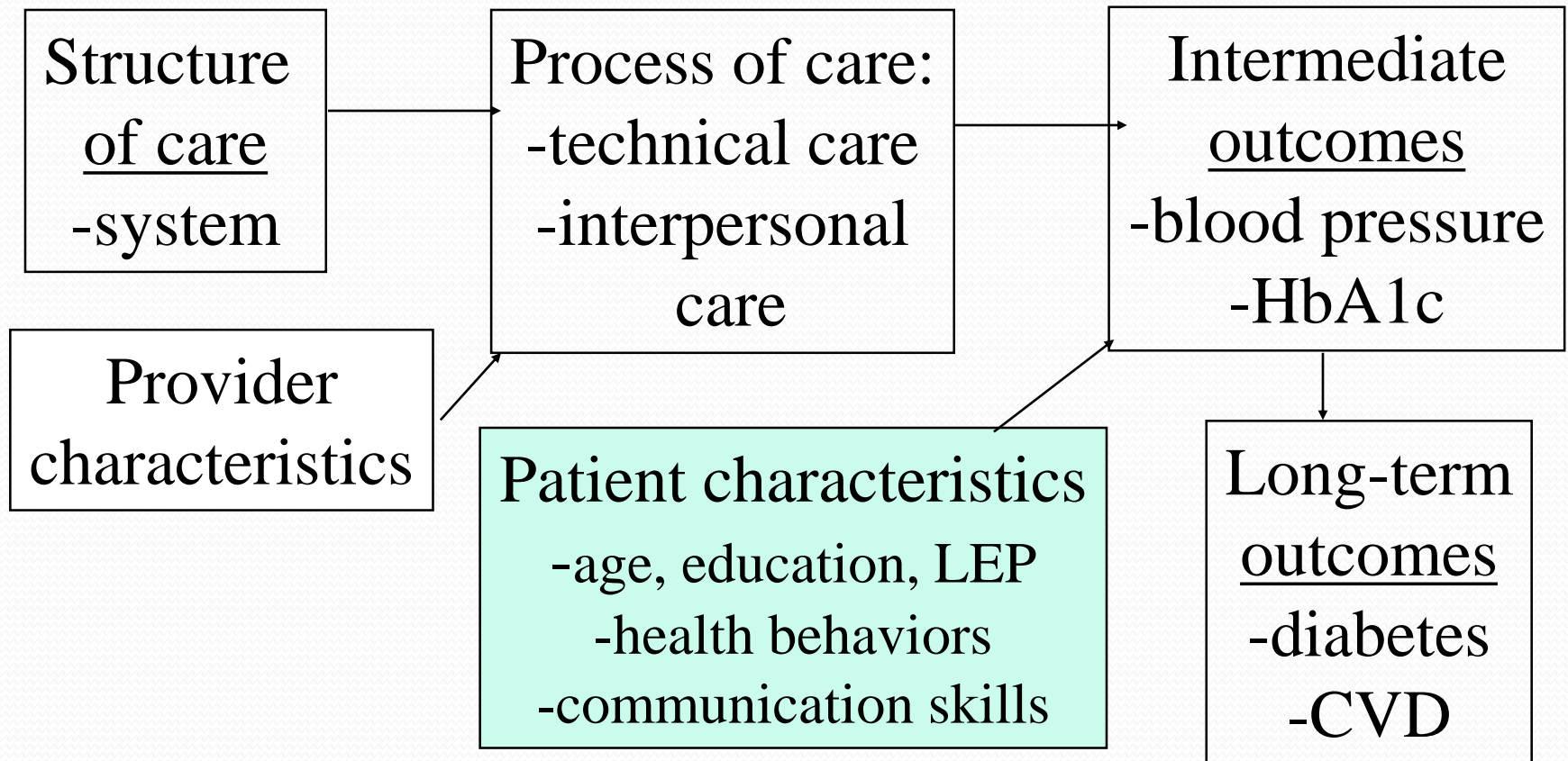
# The Structure-Process-Outcome Paradigm: Variations (cont)



# The Structure-Process-Outcome Paradigm: Variations (cont)



# The Structure-Process-Outcome Paradigm: Variations (cont)



# Interpersonal Processes of Care and Health Disparities

- Does the quality of MD-patient communication affect health outcomes?
- Are there disparities in receipt of shared decision making?
  - Do these disparities affect health outcomes?

# Framework Clarifies Narrative: Interpersonal Processes of Care

- The intervention will increase compliance with treatment by training doctors to communicate risk information in a manner that is culturally appropriate and easily understood by patients.
- We will assess patient understanding of risk and treatment details as an explanation for the intervention's effect on compliance.

From RCMAR Webinar “Incorporating Conceptual Models Into Your Research Proposals” by Clemma Muller (Feb 22, 2018)

# Study-Specific Conceptual Framework

*Cause*

*Effect*



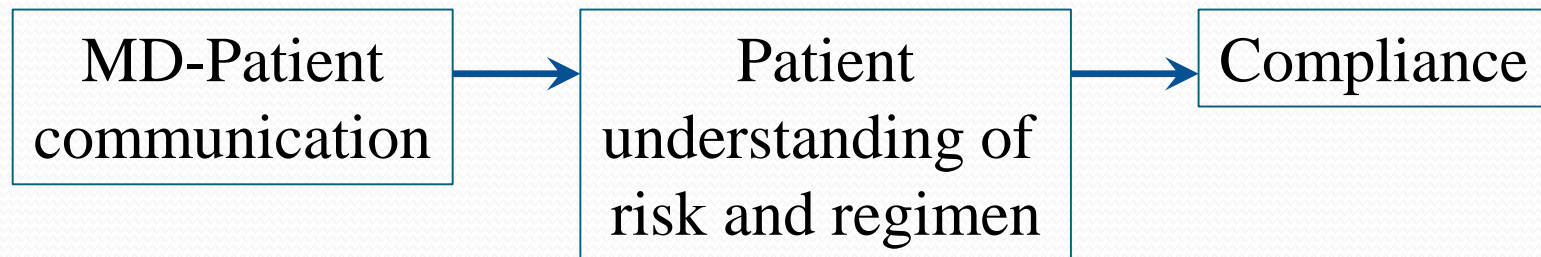
The intervention will increase compliance with treatment by training doctors to communicate risk information in a manner that is culturally appropriate and easily understood by patients

# Study-Specific Conceptual Framework

*Cause*

*Mechanism = Mediator*

*Effect*

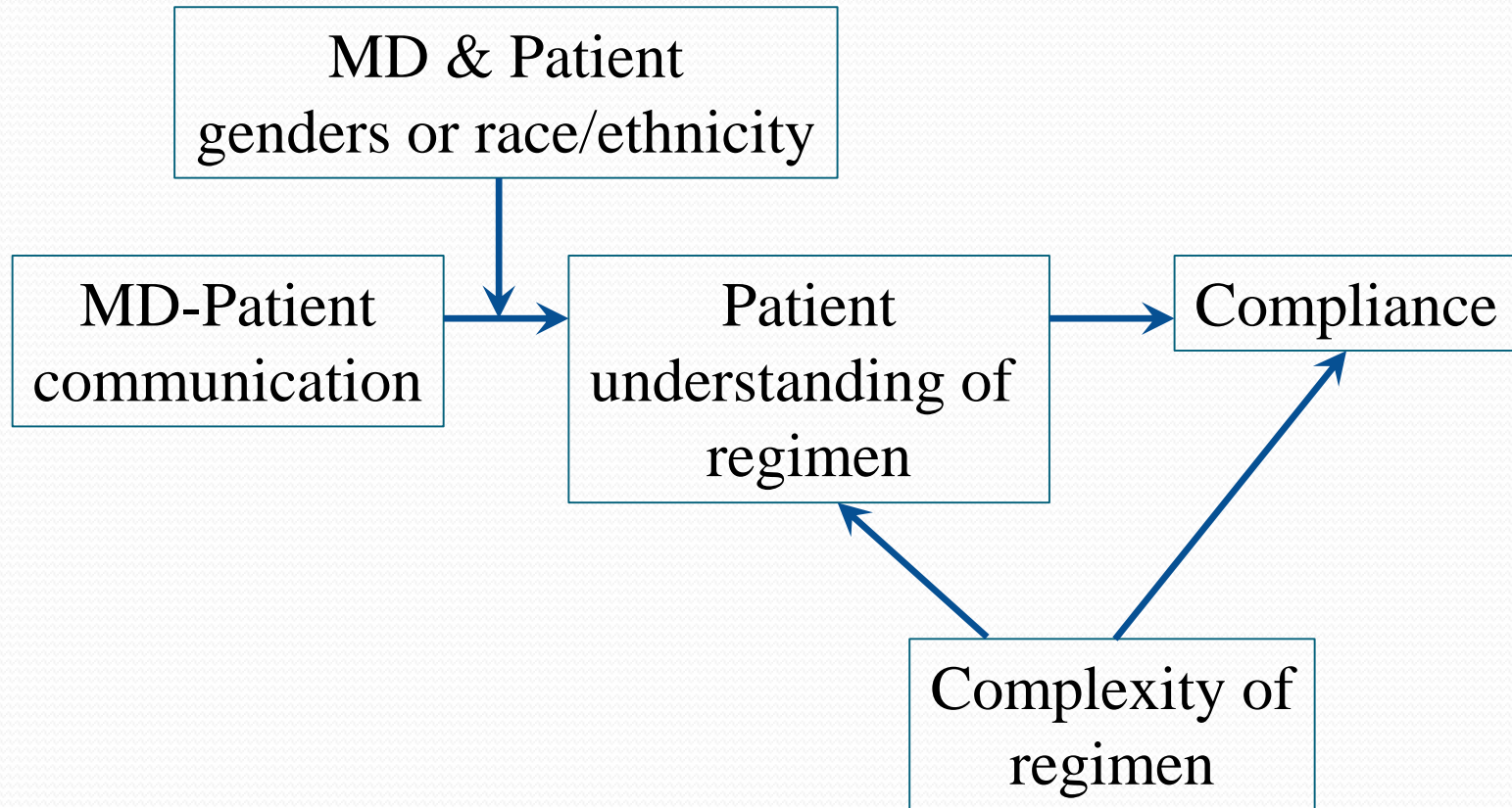


The intervention will increase compliance with treatment by training doctors to communicate risk information in a manner that is culturally appropriate and easily understood by patients

We will assess patient understanding of risk and treatment details as an explanation for the intervention's effect on compliance.



# Adding Modifying and Confounding Variables



Earp and Ennett, 1991.

# Technical Process of Care and Health Disparities

- Are treatments less effective for racial/ethnic minorities than whites?
- Are appropriate diagnostic procedures used less often for minorities than whites?
  - Do these affect health outcomes
- Are optimal treatments provided less often for minorities?

# Types of Conceptual Frameworks

- Population science
- Multi-level determinants of health
- Health services research
  - How health care affects health
- **Interventions**
  - **How intervention components are linked to outcomes**

# Intervention Conceptual Frameworks: Two Related Purposes

- How intervention works to improve outcomes
  - Proposed mechanisms
  - Overall visual depiction
- How intervention components map to outcomes
  - To choose measures

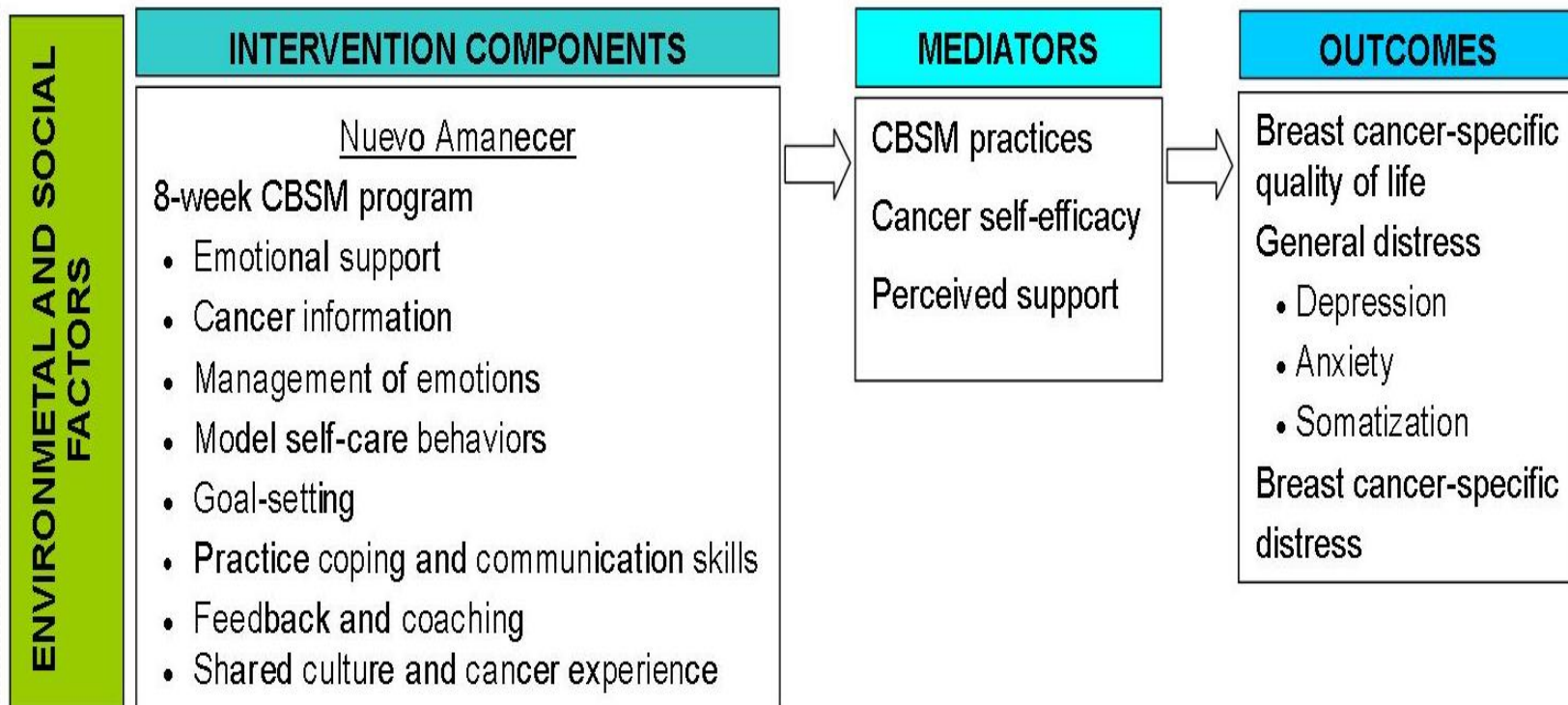
# How Framework Clarifies Narrative (Example)

- Cognitive-Behavioral Stress-Management Intervention
  - Based on social cognitive theory, the cognitive-behavioral stress management intervention (CBSM) aims to improve outcomes through two cognitive and behavioral mediators (self-efficacy and self-management practices) and social support.

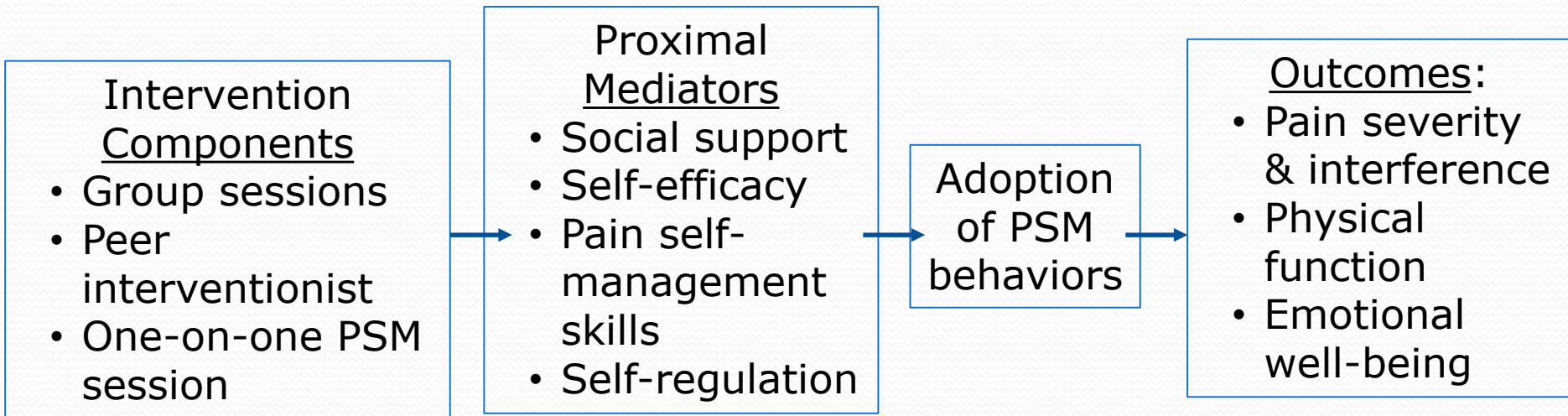
Nápoles AM et al., *Clin Trials*, 2014;11:230-238.

# Conceptual Framework: CBSM Intervention

FIGURE 1: CONCEPTUAL FRAMEWORK



# Conceptual Framework: Pain Self-Management (PSM) Intervention



Merlin JS et al., *Contemp Clin Trials Commun.* 2018;10:9-16.

# Community of Voices (Choral Singing) Conceptual Framework

## Engagement components

### Psycho-social

- New friends
- Weekly activity
- Singing is joyful

### Physical

- Stand to sing
- Stretch/warm up

### Cognitive

- Learn new music
- Attend to director

## Mechanisms

- Sense of belonging
- Meaningful activity

- Strength
- Balance

- Brain stimulation

## Outcomes

- Social network
  - Loneliness
  - Depression
  - Anxiety

- Lower body strength
  - Balance

- Executive function
  - Memory



# Map Intervention Components to Outcomes

- For each desired outcome, describe how intervention or components might affect it
  - Specific types of changes you expect
- Map “need” that component is addressing

# CBSM Intervention for Latinas with Breast Cancer

<b>Psychosocial issue/Need</b>	<b>Intervention component</b>	<b>Outcome</b>
Lack of comprehensible information	Language- and literacy-appropriate information	Self-efficacy for obtaining information
Fear of death and recurrence	Stress management skills training	Fear of recurrence
Ineffective communication with doctors	Communication skills training	Confidence asking doctors questions
Emotional distress, anxiety	Skills training – managing emotions	Anxiety, health distress

Nápoles et al., 2014.

# Lifestyle Intervention to Reduce Risk of Diabetes in Low-SES Adults

<b>Need/Goal</b>	<b>Component: Education and Skills Training</b>	<b>Outcome</b>
Increase physical activity (PA)	-Guidelines for PA -How to incorporate walking into daily routine -How to track PA	Time sitting Frequency of walking
Lose weight	-How to monitor food intake -Benefits of smaller plates	BMI
Eat “smart”	-Benefits of colorful fruits & vegetables -How to buy low-cost fruits & vegetables	Frequency eating fruits and vegetables

Delgadillo A et al., *Diab Educ*, 2010;36:640-650.

# Community of Voices (Choral Singing) Intervention

Engagement Component	Mechanism	Outcome	Measure
Learn and read lyrics and melody	Cognitive stimulation	Memory, verbal fluency	Rey Short-term Memory
Socialize	Meet new people, sense of belonging	Loneliness	NIH Loneliness scale
Sing favorite songs	Singing is uplifting, creates joy	Depression	PHQ-9 Depression Scale
Hold phrases, vocal control	Ability to hold breath through phrases	Respiratory function	Shortness of Breath Scale

Johnson et al., 2015.

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*See also: McGlynn EA, Brook RH: Ensuring quality of care. In: Changing the US Health Care System. Edited by Anderson RM. San Francisco: Jossey-Bass; 1996.*

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