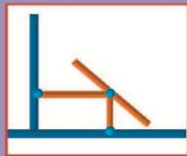
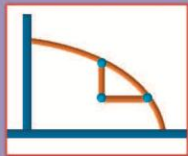
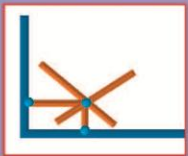


FOURTH EDITION

EVALUATING THE HEALTHCARE SYSTEM

Effectiveness, Efficiency, and Equity

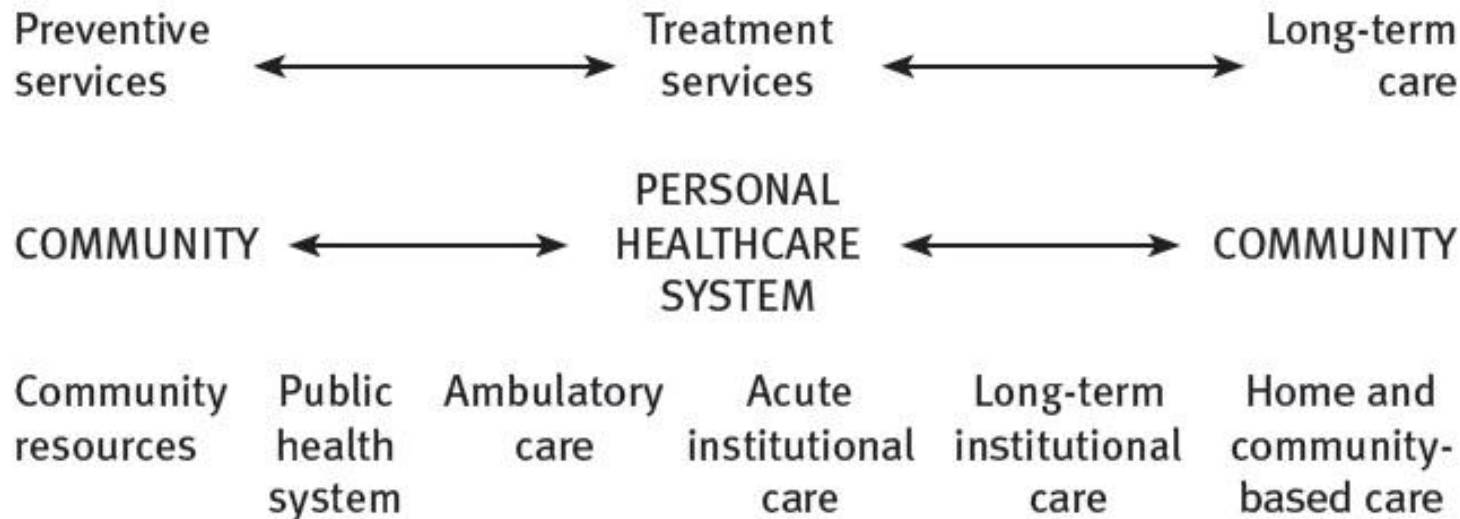


Charles E. Begley | David R. Lairson | Robert O. Morgan

Paul J. Rowan | Rajesh Balkrishnan, contributing author

Book Exhibits

EXHIBIT 1.1
Continuum
of Healthcare
Services



Source: Aday (2001, Figure 5.1, 118). Copyright © 2001. This material is used by permission of John Wiley & Sons, Inc.

EXHIBIT 1.2

Comparison of Health Services Research Objectives and Those of Other Types of Health-Related Research

Biomedical Research	Clinical Research	HSR	Public Health Research
Research on cells, tissues, organs, organ systems, normal development, and disease processes	Patient-level research on prevention and treatment of illness; efficacy of interventions	Effectiveness, efficiency, and equity of personal and community-based health services and delivery systems	Community and environmental influences on health and illness; efficacy of population-based interventions

EXHIBIT 1.3
 Definitions of
 Effectiveness,
 Efficiency, and
 Equity Criteria

Criteria	Level of Analysis	
	Clinical	Population
Effectiveness	<i>Clinical effectiveness:</i> Improving the health of individual patients through the delivery of healthcare services	<i>Population effectiveness:</i> Improving the health of populations through medical or nonmedical services
Efficiency	<i>Production efficiency:</i> Combining inputs to produce services at the lowest cost	<i>Production efficiency:</i> Combining inputs to produce services at the lowest cost <i>Allocative efficiency:</i> Combining health services and other health-related investments to produce maximum health given available resources
Equity	<i>Procedural equity:</i> Maximizing the fairness in the distribution of services across individuals <i>Substantive equity:</i> Minimizing the disparities in the distribution of health across individuals	<i>Procedural equity:</i> Maximizing the fairness in the distribution of services across groups <i>Substantive equity:</i> Minimizing the disparities in the distribution of health across groups

EXHIBIT 1.4
 Comparison of
 Objectives of
 Health Policy
 Analysis and
 Those of Other
 Types of Inquiry

Type of Inquiry	Objective
Disciplinary research	To explain biological or social phenomena $X \longrightarrow Y$
Health services research	To describe and assess the performance of the healthcare system $\begin{array}{ccc} \text{Structure} & \text{Process} & \text{Outcome} \\ X & \longrightarrow & Y \end{array}$
Health program evaluation	To evaluate the effect of health policies and programs $\begin{array}{ccc} x_0 & \longrightarrow & y_0 \\ x_1 & \longrightarrow & y_1 \\ x_2 & \longrightarrow & y_2 \\ x_3 & \longrightarrow & y_3 \end{array}$
Health policy analysis	To analyze and compare alternative (1) problem definitions and (2) health policy solutions (1) Problem analysis (2) Solution analysis $\begin{array}{ccc} x_1 & \longrightarrow & \downarrow \\ \text{vs.} & & \\ x_2 & \longrightarrow & X \\ \text{vs.} & & \uparrow \\ x_3 & \longrightarrow & \end{array} \qquad \begin{array}{ccc} y_1 & \longrightarrow & \downarrow \\ \text{vs.} & & \\ y_2 & \longrightarrow & Y \\ \text{vs.} & & \uparrow \\ y_3 & \longrightarrow & \end{array}$

EXHIBIT 1.5
 Framework for
 Integrating
 Health Services
 Research and
 Policy Analysis

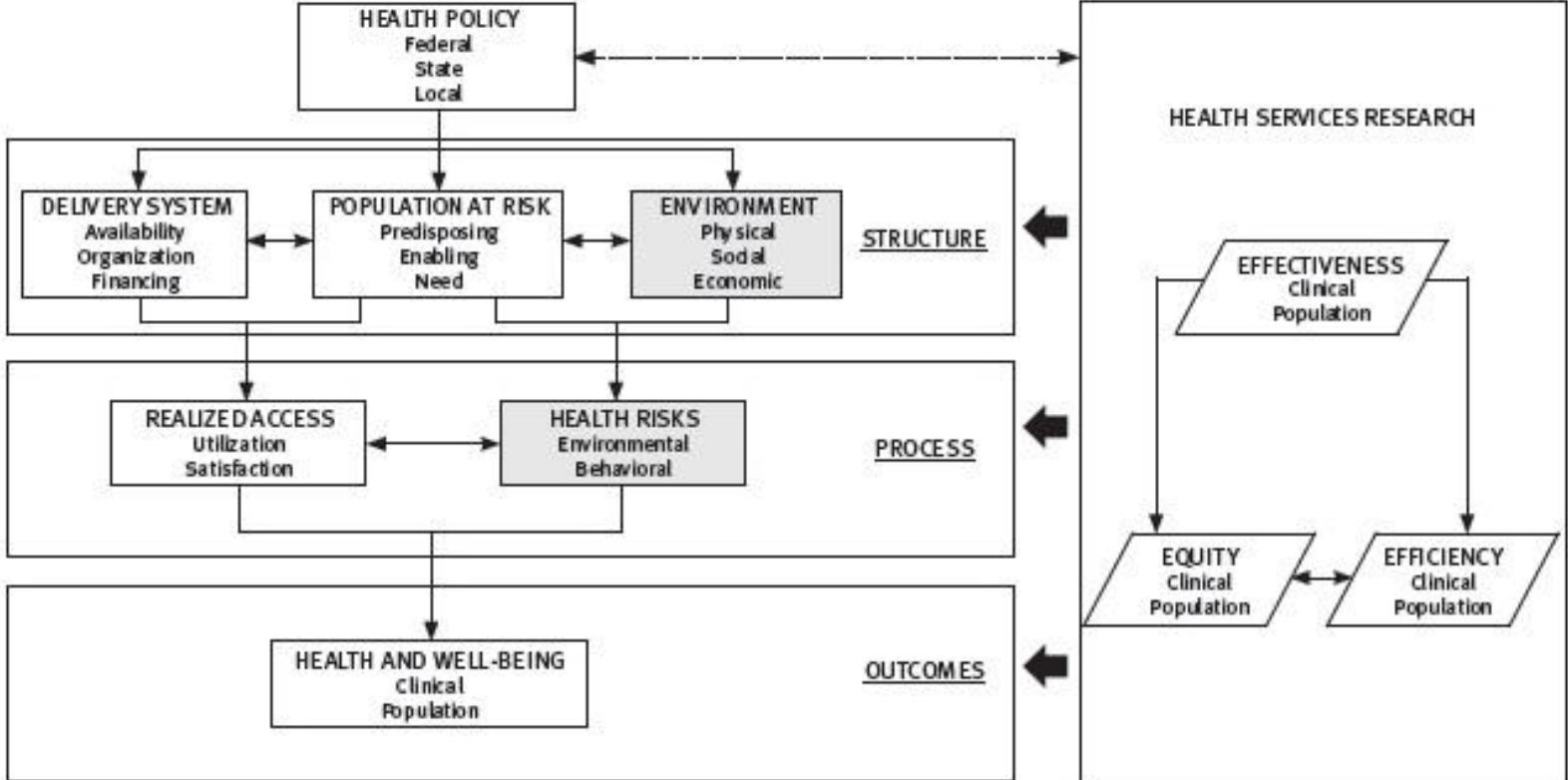


EXHIBIT 2.1
Framework for
Effectiveness
Research

	Population Perspective	Clinical Perspective		
	Community	Level of Analysis		
		System	Institution	Patient
Outcomes Measures	<ul style="list-style-type: none"> • Mortality <ul style="list-style-type: none"> – Population death rates • Morbidity <ul style="list-style-type: none"> – Population morbidity rates – Disability rates • Health status <ul style="list-style-type: none"> – Disease incidence and prevalence rates – Perceived health status 	<ul style="list-style-type: none"> • Mortality <ul style="list-style-type: none"> – Case fatality rates • Morbidity <ul style="list-style-type: none"> – Complication rates – Disability rates • Health status <ul style="list-style-type: none"> – Diagnosis rates – Averaged HRQOL* 	<ul style="list-style-type: none"> • Mortality <ul style="list-style-type: none"> – Case fatality rates • Morbidity <ul style="list-style-type: none"> – Complication rates – Disability rates • Health status <ul style="list-style-type: none"> – Diagnosis rates – Averaged HRQOL 	<ul style="list-style-type: none"> • Mortality <ul style="list-style-type: none"> – Individual deaths • Morbidity <ul style="list-style-type: none"> – Adverse events – Disability limitation • Health status <ul style="list-style-type: none"> – Clinical endpoints – HRQOL
Risk Adjustment	<ul style="list-style-type: none"> • Demographic characteristics 	<ul style="list-style-type: none"> • Demographic characteristics • Comorbidity rates • Risk adjustment systems 	<ul style="list-style-type: none"> • Demographic characteristics • Comorbidity rates • Risk adjustment systems 	<ul style="list-style-type: none"> • Patient profiles • Comorbidities <ul style="list-style-type: none"> – Diagnoses

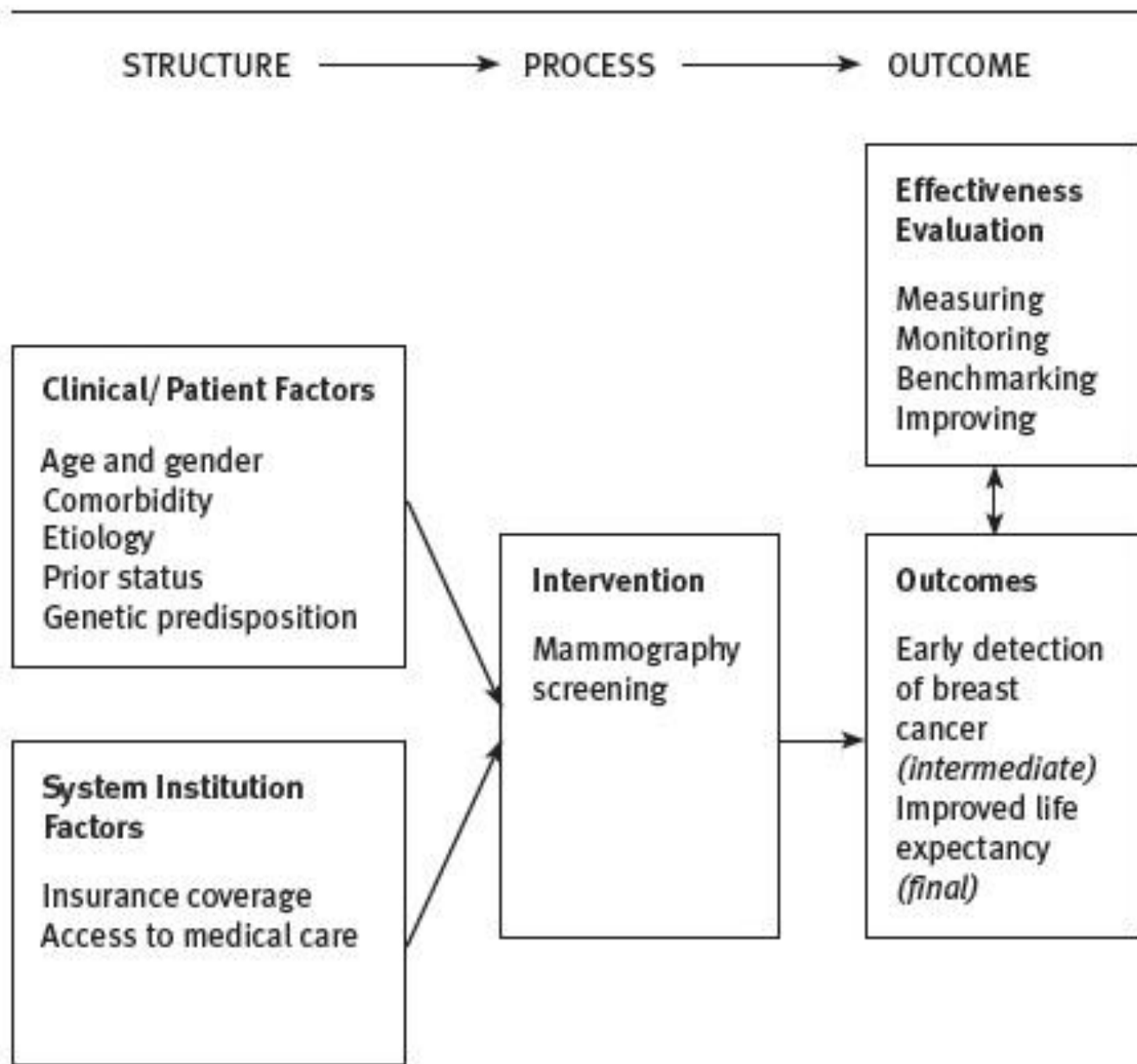
Study Designs	<ul style="list-style-type: none"> • Observational—epidemiological 	<ul style="list-style-type: none"> • Observational—interorganizational 	<ul style="list-style-type: none"> • Observational—intraorganizational 	<ul style="list-style-type: none"> • Observational—case reports/series • Experimental—RCT** • Synthetic <ul style="list-style-type: none"> – Meta-analysis – Decision analysis
Data Sources	<ul style="list-style-type: none"> • Records <ul style="list-style-type: none"> – Population health information system – Vital statistics – Disease surveillance • Surveys 	<ul style="list-style-type: none"> • Records <ul style="list-style-type: none"> – Medical records – Discharge data – Claims data • Surveys 	<ul style="list-style-type: none"> • Records <ul style="list-style-type: none"> – Medical records – Discharge data – Claims data • Surveys 	<ul style="list-style-type: none"> • Records <ul style="list-style-type: none"> – Medical records – Discharge data – Claims data • Surveys
Example	Chinese-American community screening (Tu et al. 2003)	European national screening program (De Koning 2000)	Public hospital clinic screening program (Thompson et al. 2002)	Patient screening in response to intervention (Eli et al. 2002)

Typical Effectiveness Research Questions by Level of Analysis

Community	What is the contribution of medical care to the health of the population?
System	What is the impact of system-level variables (e.g., provider specialty mix, organizational form, payment mechanism) on the processes and outcomes of medical care?
Institution	What is the impact of the quality of care on the outcomes of medical care?

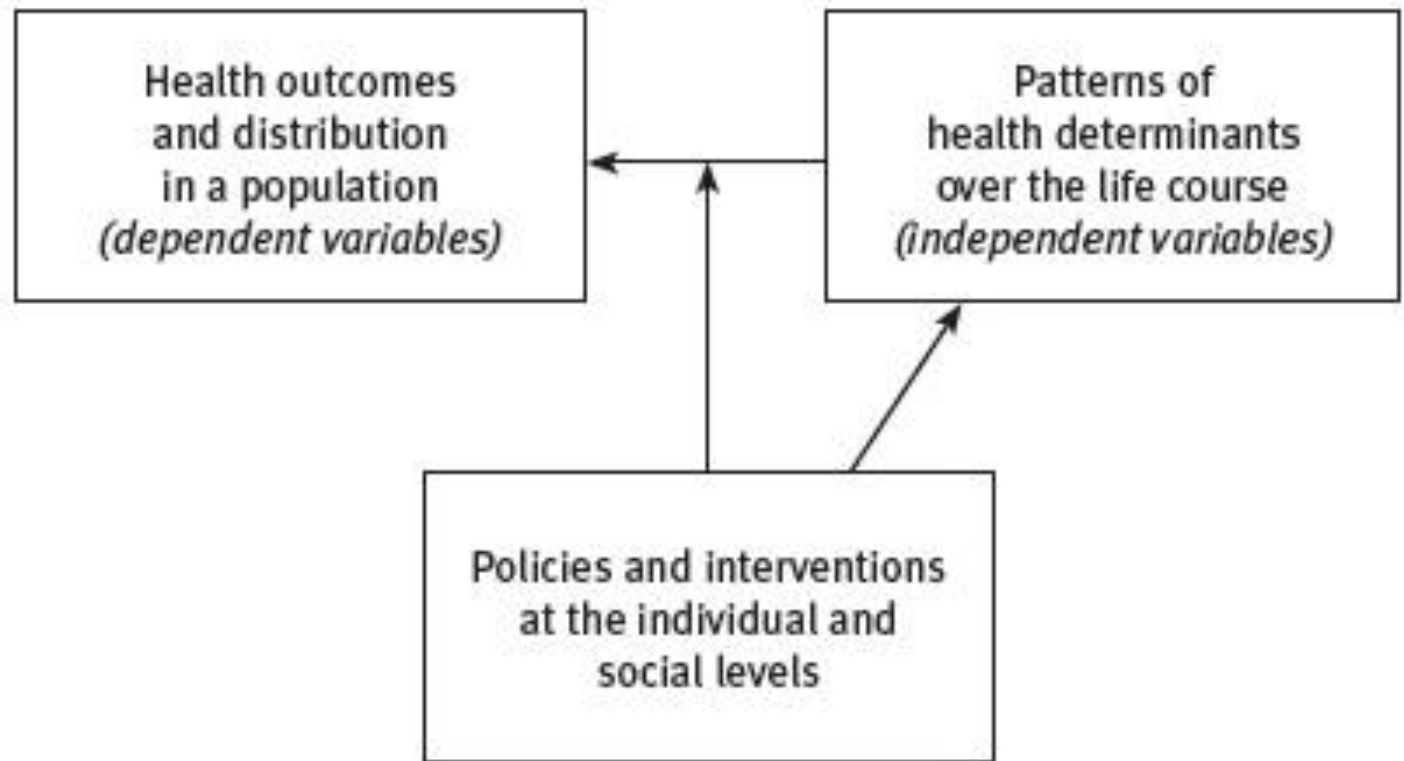
*Health-related quality of life

**Randomized controlled trial

EXHIBIT 2.2**Conceptual Model of Health Determinants from the Clinical Perspective**

Source: Adapted from Donabedian (2003, 46–47) and Kane (1997, Figure 1-1, 13).

EXHIBIT 2.3
Conceptual
Model of Health
Determinants
from the
Population
Perspective



Source: Kindig and Stoddart (2003, Figure 1, 382). Used with permission of the American Public Health Association.