

PREVENTABLE HOSPITALIZATIONS

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HOSPITALIZATIONS: FAILURE OF PREVENTION

- 1⁰ – COPD exacerbation
 - Tobacco control
- 2⁰ – new onset hypertensive urgency/emergency
 - Hypertension screening
- 3⁰ – Diabetic ketoacidosis
 - Adherence: financial, literacy, behavioral

OBJECTIVES

- Examine the impact of hospitalizations.
- Understand risk factors for hospitalizations.
- Review targets for prevention of hospitalizations.

US HOSPITALIZATIONS 2006

- 34.9 million with 4.8 days average LOS
 - Cardiovascular 14.6%
 - Obstetrics 11.8%
 - Mental health 5.0%
 - Pneumonia 3.5%
 - Cancer 3.5%
 - Fractures 3.1%
- 6.2 million ACSC (18%)

HOSPITALS ARE UNSAFE PLACES

- 1999: “To Err is Human” 44,000 – 98,000 deaths/yr
(IOM 1999)
- 2000-2002: HealthGrades analysis of Medicare data 195,000 deaths/yr
(<http://www.medicalnewstoday.com/releases/11856.php>)

HOSPITALS ARE UNSAFE PLACES

- Hospital acquired infections
- Adverse drug events
- Falls
- Pressure ulcers
- Venous thromboembolism

PREVENTABLE HOSPITALIZATIONS

- Ambulatory care sensitive conditions
- Supply sensitive conditions
- Medical errors
- Accidents
- Futile care
- Readmissions

AMBULATORY CARE SENSITIVE CONDITIONS

Conditions where timely and effective outpatient care (i.e., primary care) could prevent hospitalization.

AMBULATORY CARE SENSITIVE CONDITIONS

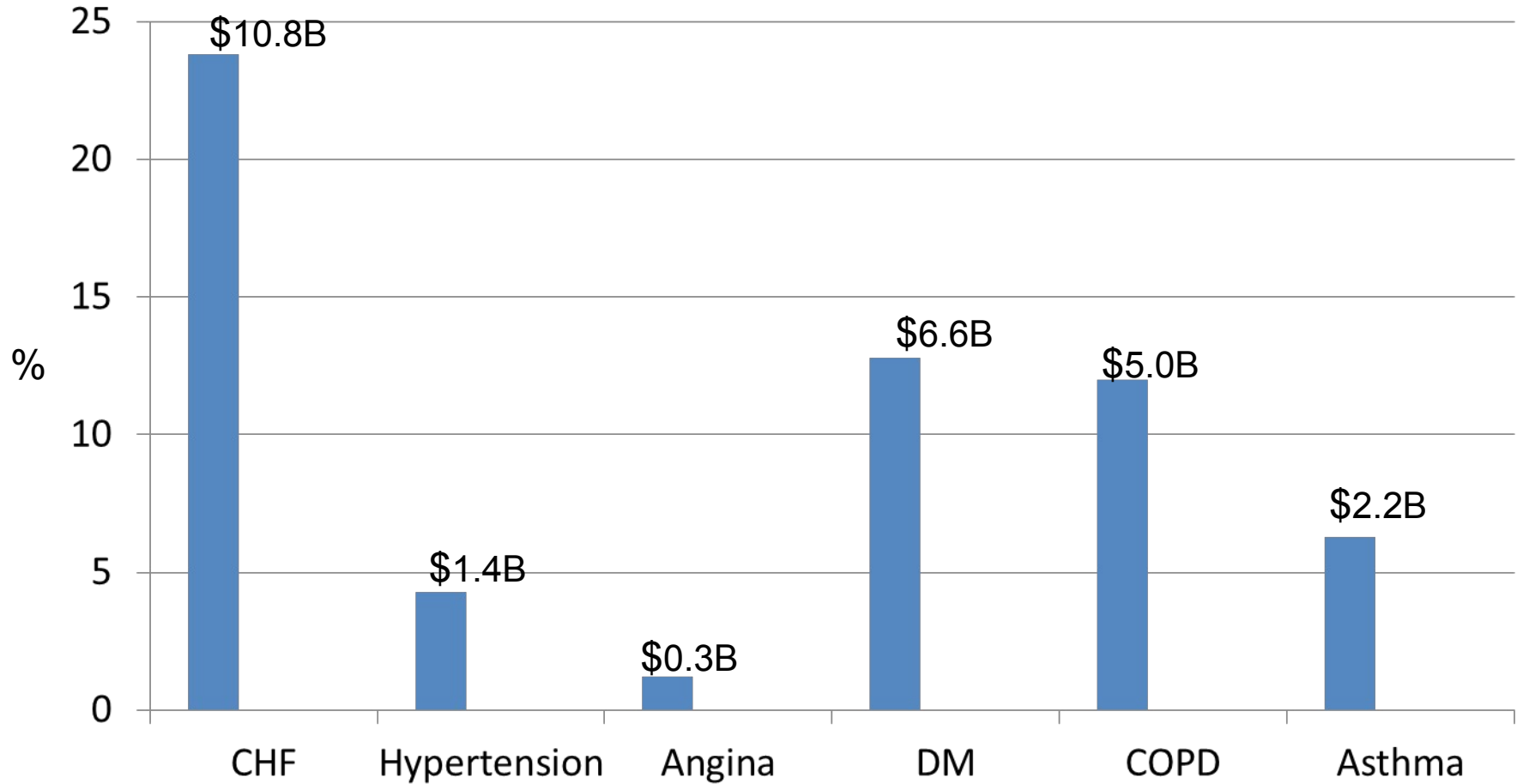
Chronic Conditions

- Cardiovascular
 - Hypertension
 - Angina
 - CHF
- Chronic respiratory diseases
 - Asthma
 - COPD
- Diabetes mellitus
 - Short-term complications
 - Long-term complications

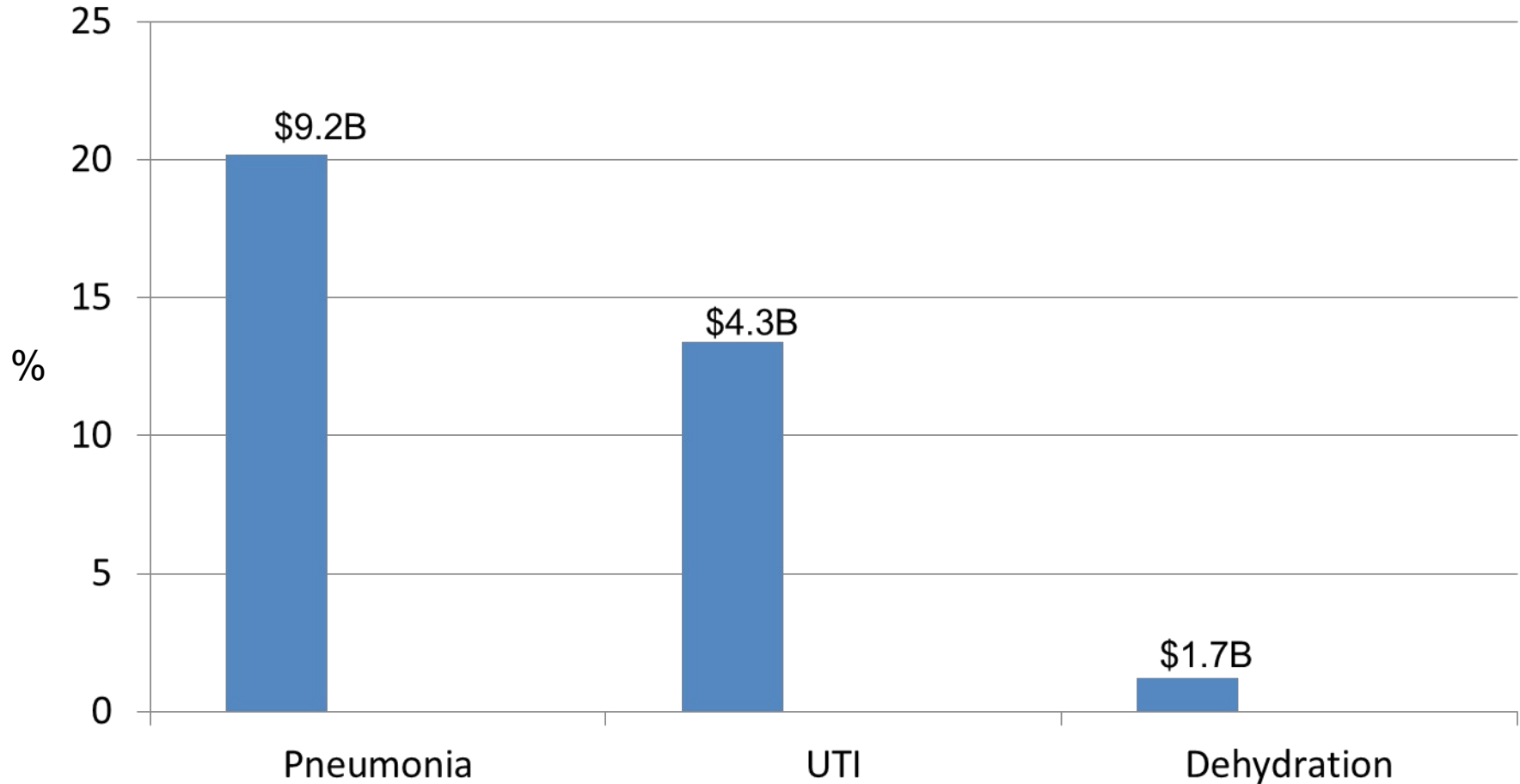
Acute Conditions

- Bacterial pneumonia
- Urinary tract infection
- Cellulitis
- Gastroenteritis
- Dehydration

ACSC: CHRONIC CONDITIONS TEXAS (2006-2011)



ACSC: ACUTE CONDITIONS TEXAS (2006-2011)



PREVENTABLE HOSPITALIZATIONS

- Ambulatory care sensitive conditions
 - ~20% of all hospitalizations
 - Indicator of access and quality of primary care
- Readmissions
 - ~20% \leq 30 days of initial admission
 - Indicator of quality of care

ACSC HOSPITALIZATIONS IN THE US

- 4-fold variation across US Medicare enrollees (25.1/1000 [HI] – 102.8/1000 [KY])*
- Texas (72.3/1000) > US average (66.6/1000)*
- Overall decline 2006-2011

RISK FACTORS FOR HOSPITALIZATIONS

COUNTY HEALTH RANKING MODEL

POLICIES & PROGRAMS

Physical Environment (10%)

- Built environment
- Environmental quality

Social & Economic (40%)

- Education
- Social support
- Employment
- Income
- Safety

HEALTH FACTORS

Health Behaviors (30%)

- Tobacco
- Diet & Exercise
- Alcohol
- Sexual activity

Clinical Care (20%)

- Access
- Quality

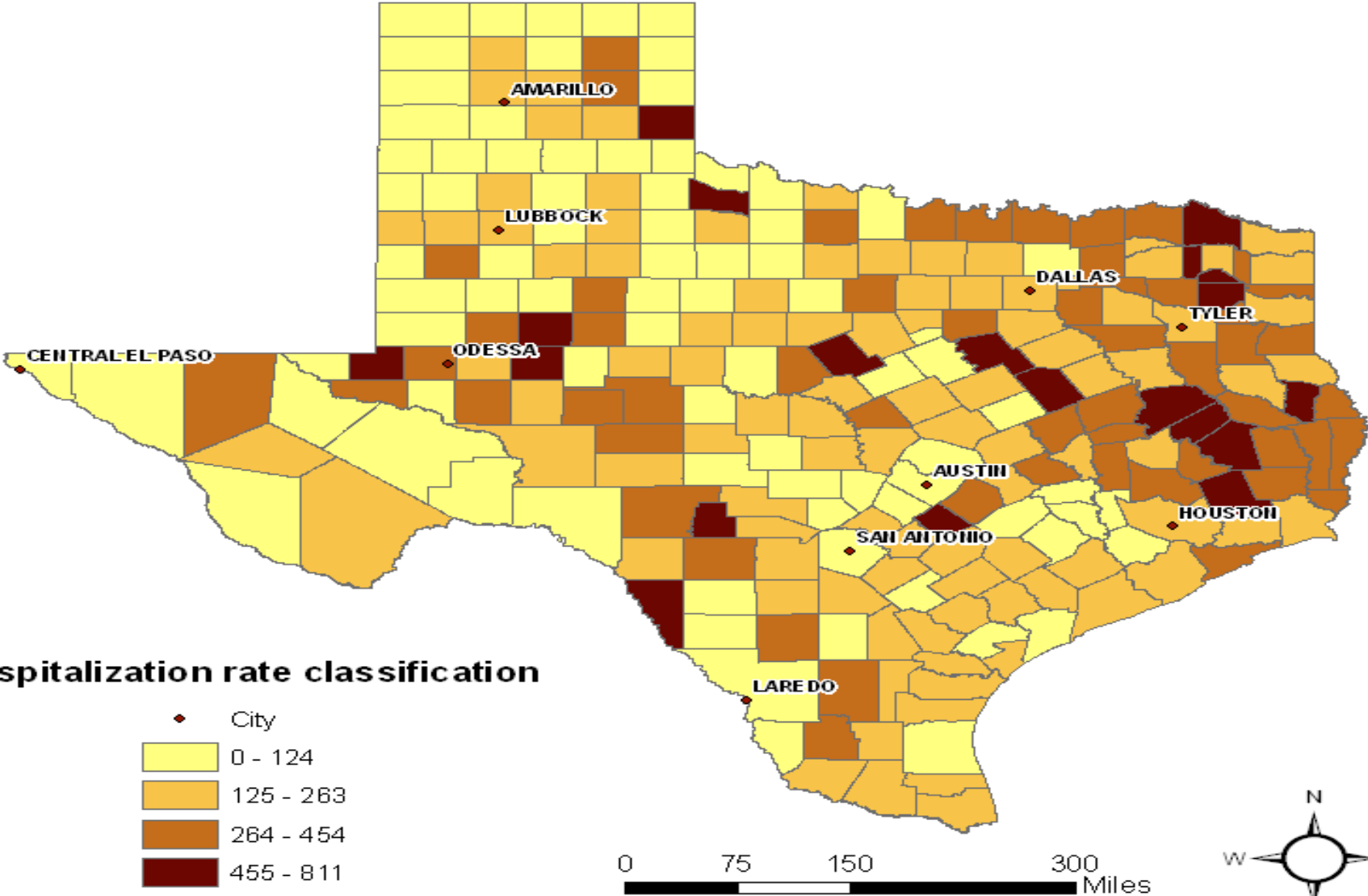
HEALTH OUTCOMES

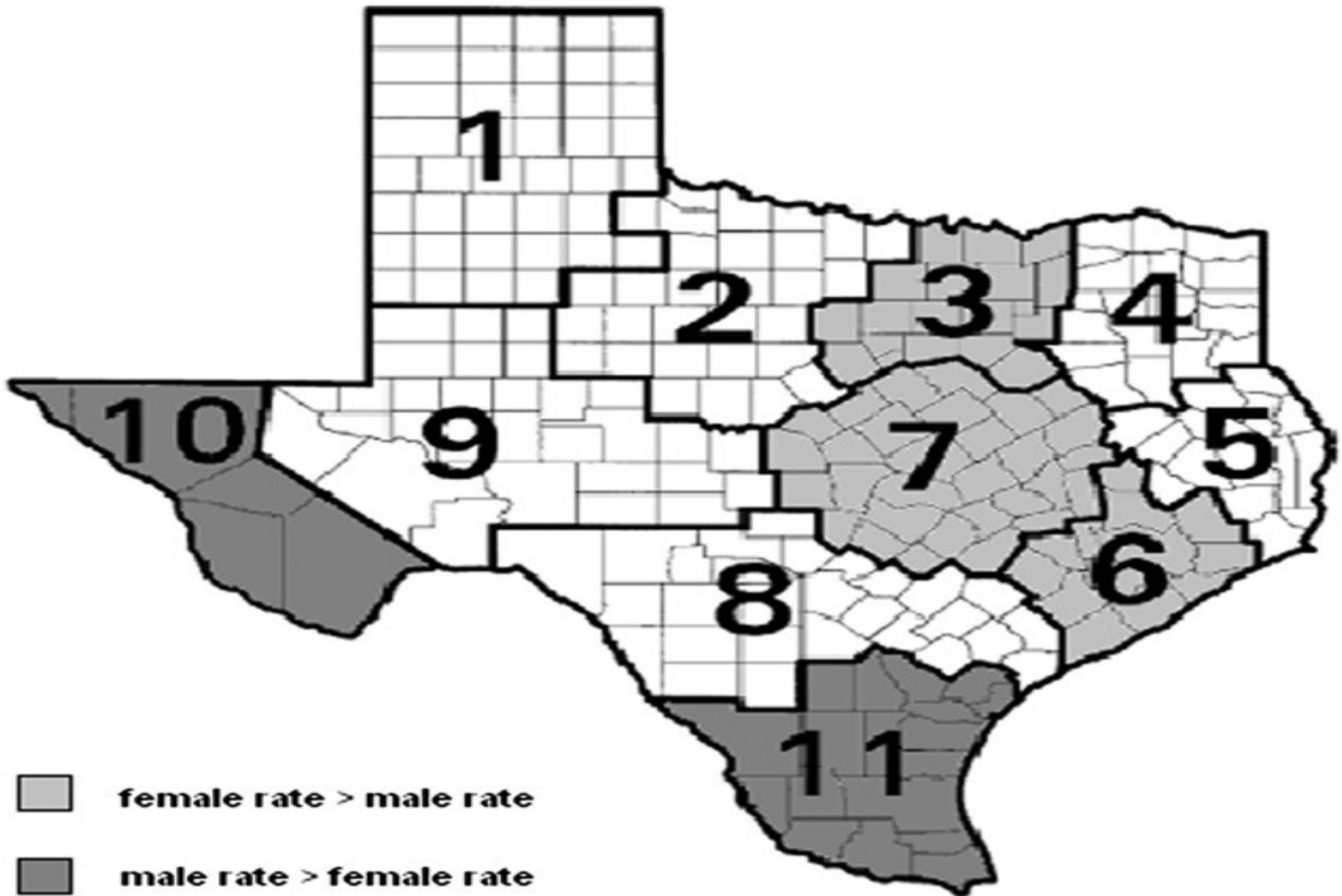
Morbidity-QOL (50%)
Mortality (50%)

POPULATION-LEVEL RISK FACTORS

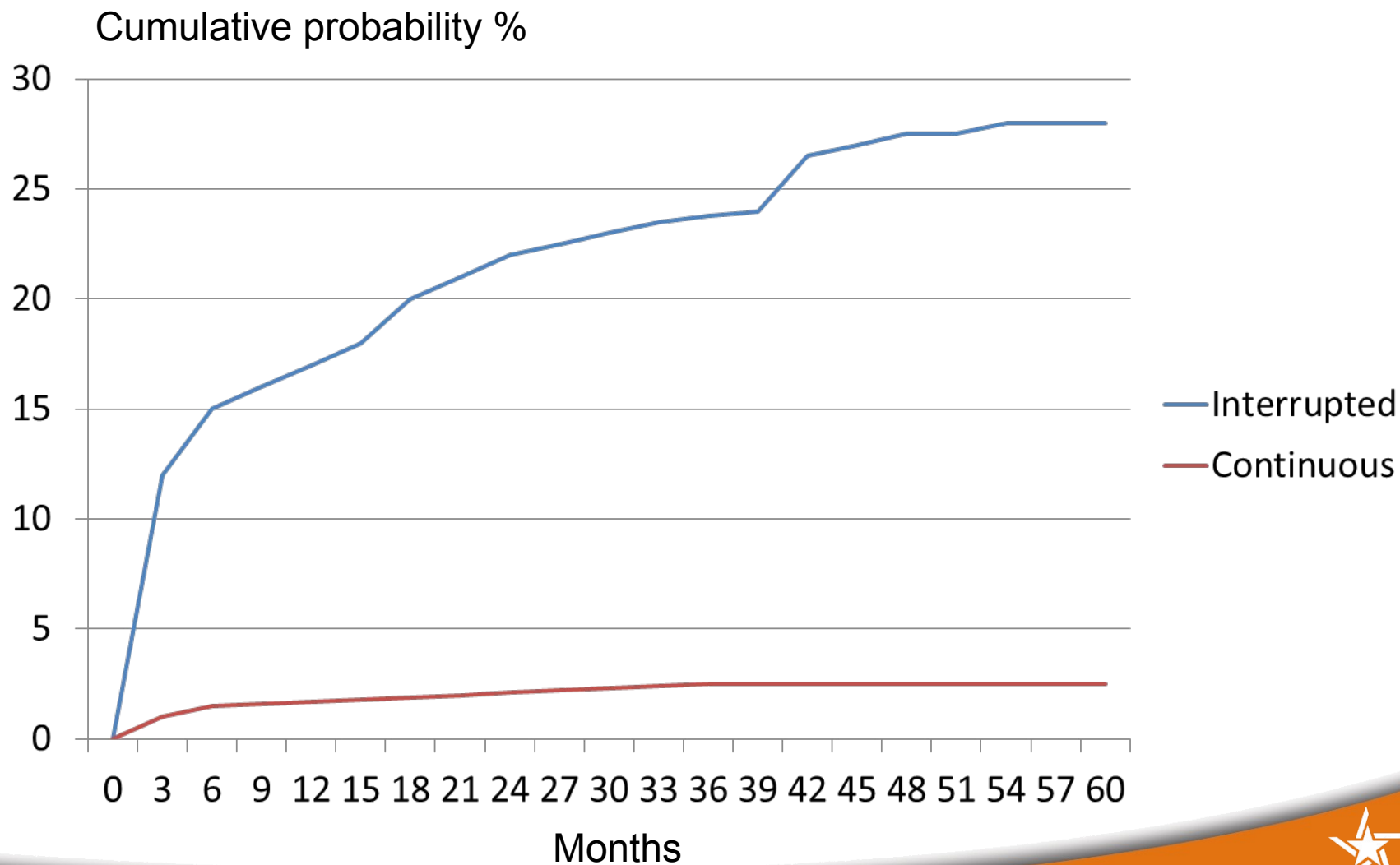
- Race/ethnicity
- Gender
- Education
- Socioeconomic
- Rurality
- Policies
 - Environment
 - Medicaid benefit and generosity

Chronic obstructive pulmonary Disease hospitalization rates in Texas Counties THCIC 2007





MEDICAID COVERAGE STATUS AND ACSC HOSPITALIZATIONS IN CA, 1998-2002



HEALTH SYSTEM-LEVEL RISK FACTORS

- Primary care physician supply
 - Inverse relationship
- Clinics
 - COPD rates*: RHC > neither > FQHC+RHC > FQHC
- Hospital beds
- Quality of care

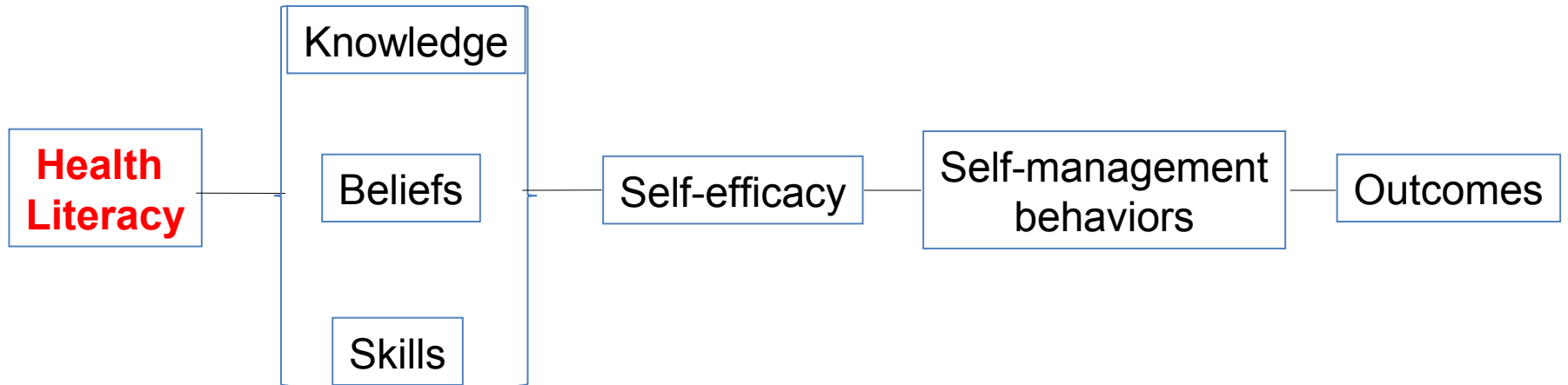
PATIENT-LEVEL RISK FACTORS

- Health behaviors
- Health status
- Severity of impairment
- Co-morbid conditions
 - Depression
- Social support
- Low health literacy
- Lack of shared decision-making
- Self-management behaviors/adherence
- Lack of advanced care planning

HEALTH LITERACY

- Skills needed to function effectively in health care environment:
 - Print literacy: locate, read, interpret text
 - Numeracy: use quantitative information for tasks
 - Oral literacy: speak and listen effectively
- 80 million with limited health literacy
- Limited health literacy associated with hospitalization and other poor outcomes

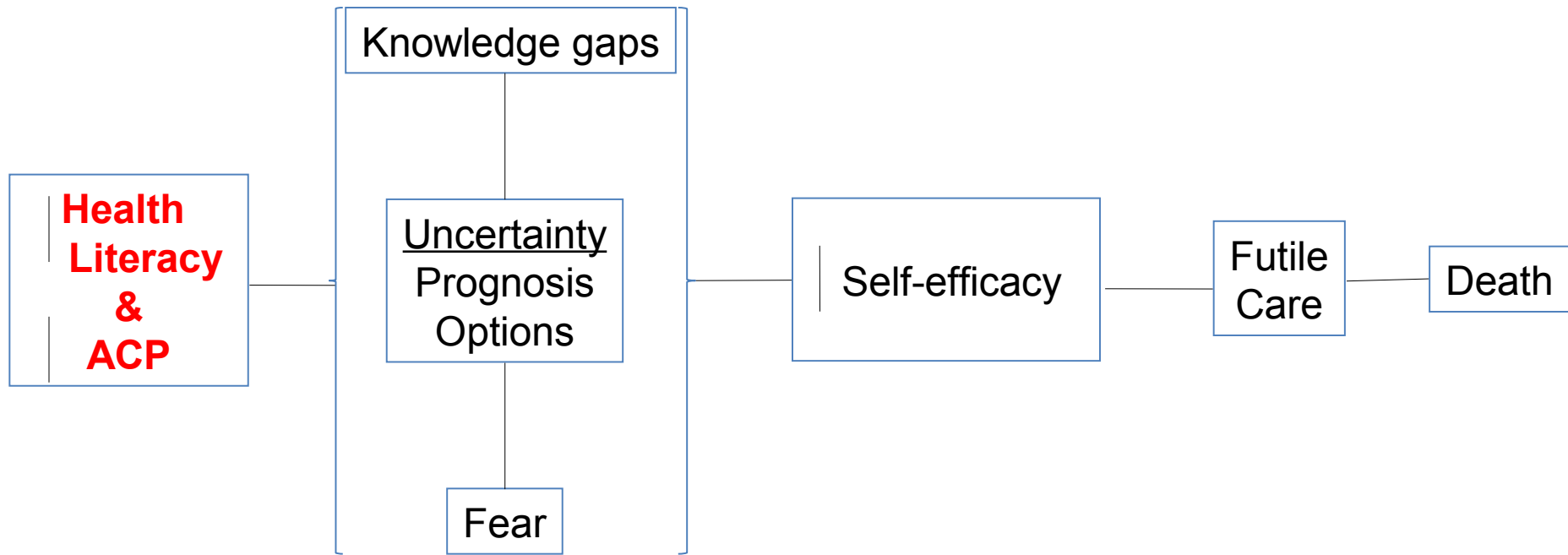
HEALTH LITERACY



ADVANCE CARE PLANNING

- Advance directives 4%-25%
 - (Perkins Ann Intern Med 2007;147:51)

HEALTH LITERACY & ADVANCED CARE PLANNING

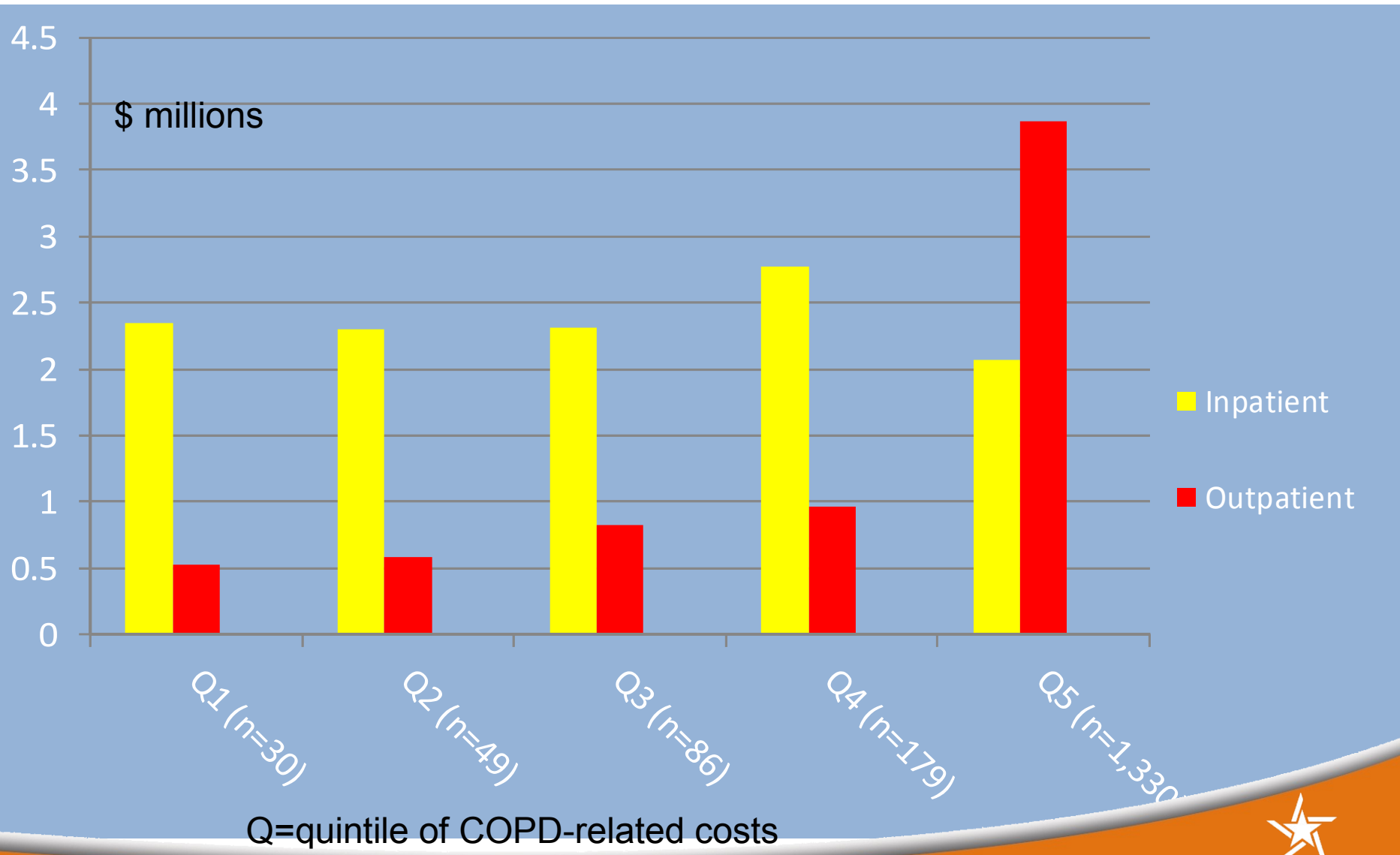


UTHSCT: COPD (N=1674) ALL VISITS 2010

- Inpatient (n=1,001)
 - Average LOS=5.03
 - COPD costs=\$9.7m
 - Full costs=\$12.4m
- Outpatient (n=13,952)
 - Average number=8.76
 - COPD costs=\$2.2m
 - Full costs=\$6.8m

LOS=length of stay

UTHSCT: DISTRIBUTION OF TOTAL COPD COSTS



UTHSCT: COPD HOSPITALIZATIONS

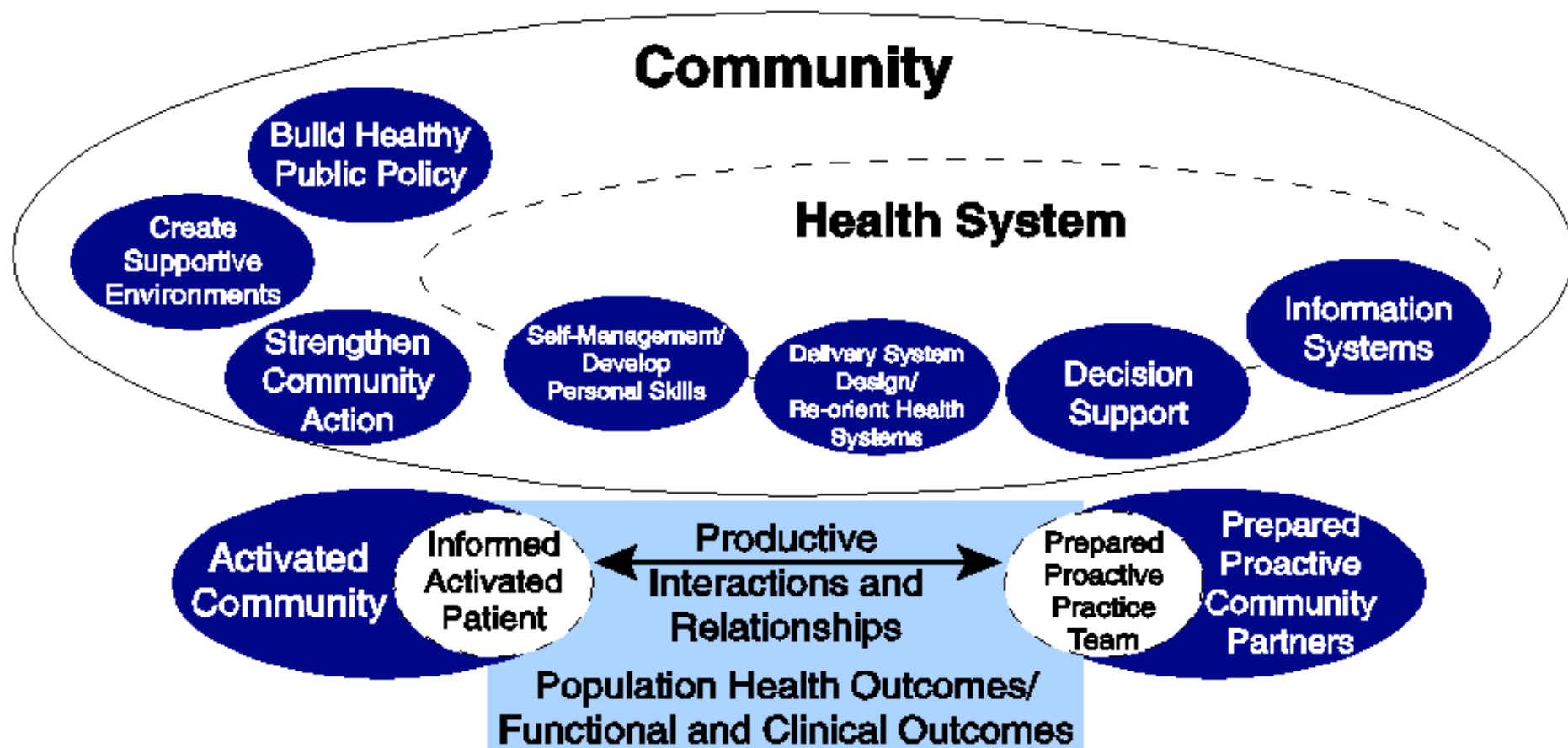
- Hospitalizations are a major driver of costs (~65%) for patients with COPD.
- Substantial costs (50%) are driven by a minority of patients (12%).

UTHSCT: COPD HOSPITALIZATIONS

- Co-morbid conditions contribute substantial costs.
 - CV disease
 - Cancer
 - DM
- Outcomes of hospitalization are frequently poor.
 - 34% deceased/hospice
 - 22% require ongoing care

INTERVENTIONS TO PREVENT HOSPITALIZATIONS

CHRONIC CARE MODEL



COMMUNITY INTERVENTIONS

- Education
- Health literacy
 - Advance care planning
 - Self-management support
- Socioeconomic
- Programs
 - Workplace wellness
- Policies
 - Support healthy environment
 - Health insurance benefits
 - Incentives

HEALTH SYSTEM INTERVENTIONS

- Health literacy
 - Self-management support
 - Promote advance care planning
- Culture of quality and safety of care
- Reduce readmissions
- Home care

REGION 1 DSRIP PROJECTS

Category 1 - Infrastructure Development

- Oral Health
- Specialty Care Services
- Telemental
- CHW Training Program
- North Tyler Clinic

Category 2 - Program Innovation and Redesign

- PCMH – UPA
- PCMH – GSMC
- Palliative Care
- Pediatric Asthma
- Colon Cancer Screening
- Quality Improvement
- Integrate Behavioral Health into Primary Care Settings
- Patient Navigator
- Pediatric Weight Management

HEALTH LITERACY: DETECTION

- How often do you have someone help you read hospital materials?
- How often do you have problems learning about your medical condition because of difficulty understanding written information?
- How confident are you filling out forms by yourself?

HEALTH LITERACY TOOLKIT

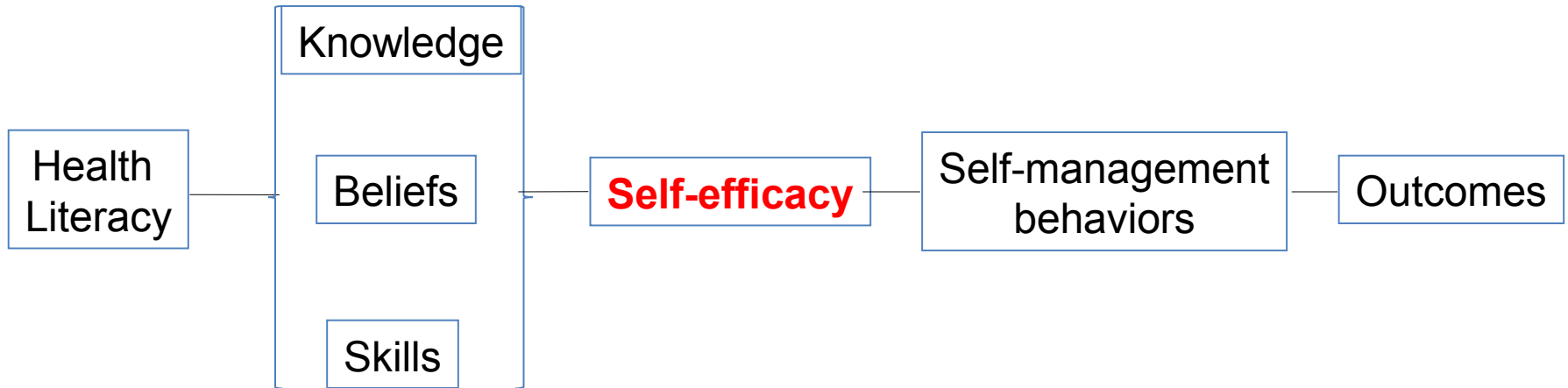
- Improve spoken communication
- Written communication
- Self-management and empowerment
- Supportive systems

<http://www.ahrq.gov/legacy/qual/literacy/healthliteracytoolkit.pdf>

SELF-MANAGEMENT SUPPORT

- “the systematic provision of education and supportive interventions by health care staff to increase patients’ skills and confidence in managing their health problems, including regular assessment of progress and problems, goal setting, and problem-solving support”

SELF-EFFICACY



SELF-EFFICACY & OUTCOMES

- Among patient with COPD confidence in coping and managing dyspnea triggered by emotional arousal, negative affect, and physical exertion associated with:
 - SF-12 PCS & MCS
 - CRQ-D
 - 6 minute walking distance

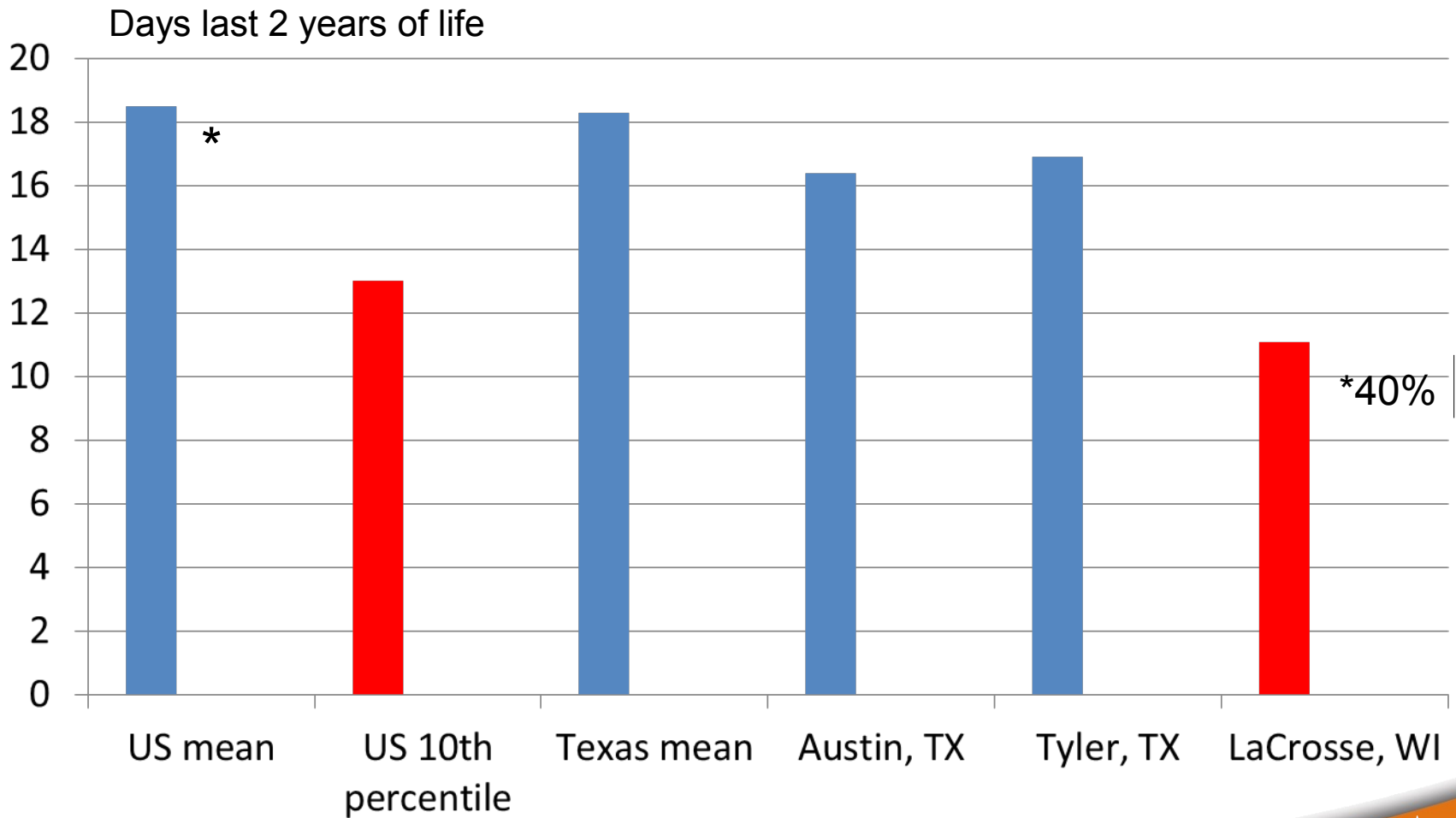
COPD HOSPITALIZATIONS

- Identify high risk patients
 - Multiple chronic conditions
 - ≥ 1 hospitalizations/ year
 - ≥ 6 outpatient visits/ year
- Prevent prolonged hospital stays and readmissions
 - Proactive palliative care and hospice care

ADVANCE CARE PLANNING

- Primary care visits in last year of life associated with fewer COPD and CHF hospitalizations and lower cost
 - (Kronman et al. J Gen Intern Med 2008;23:1330)
- Advance directives associated with decrease in end-of-life Medicare expenditures
 - (Nicholas et al. JAMA 2011;306:1447)
- Effective community intervention for ACP
 - (Hammes et al. J Am Geriatr Soc 2010;58:1249)

INPATIENT DAYS/DECEDENT 2003-2007



CONCLUSIONS

- Prevention of hospitalizations takes a multipronged approach
- Impact: Population > Health System > Individual
- Specific targets:
 - Primary care access
 - Health literacy
 - Self-management support
 - Advance care planning
 - Co-morbid conditions (e.g., depression)

QUESTIONS?

