



# Building better systems of care: 5 developments in US healthcare

*Kedar S. Mate, MD*

*Chief Innovation & Education Officer*

*Institute for Healthcare Improvement*

*Well Cornell Medical College*



# Start with the why

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“People don’t buy what you do,  
they buy why you do it.”

- Simon Sinek





Change (of any kind) is a two-part challenge:

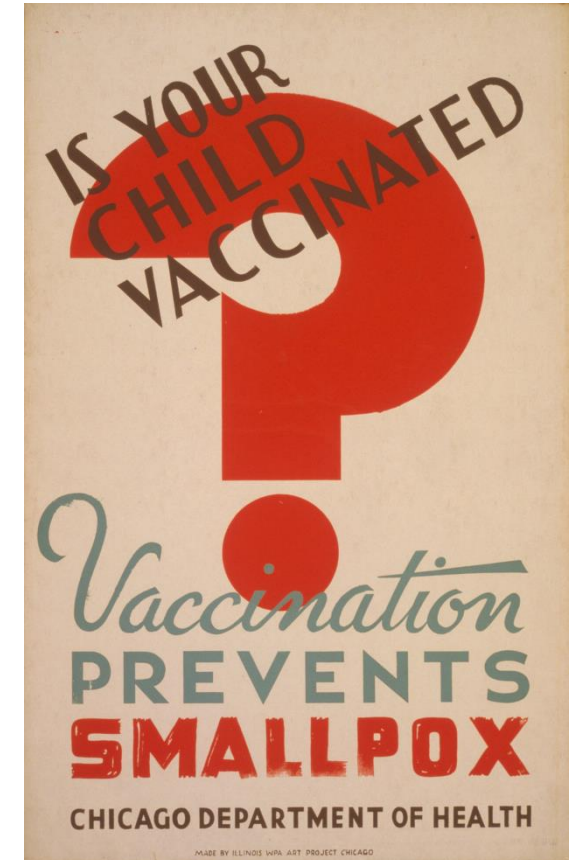
*Discovery*

*Execution*



# Why are we here?

- Acute Lymphoblastic Leukemia
- Coronary Heart Disease
- Acute Myocardial Infarction
- Erythroblastosis Fetalis
- Diabetes Mellitus
- Organ Transplantation
- Hepatitis C
- Pulmonary Embolism
- Caesarean Section
- Vaccines



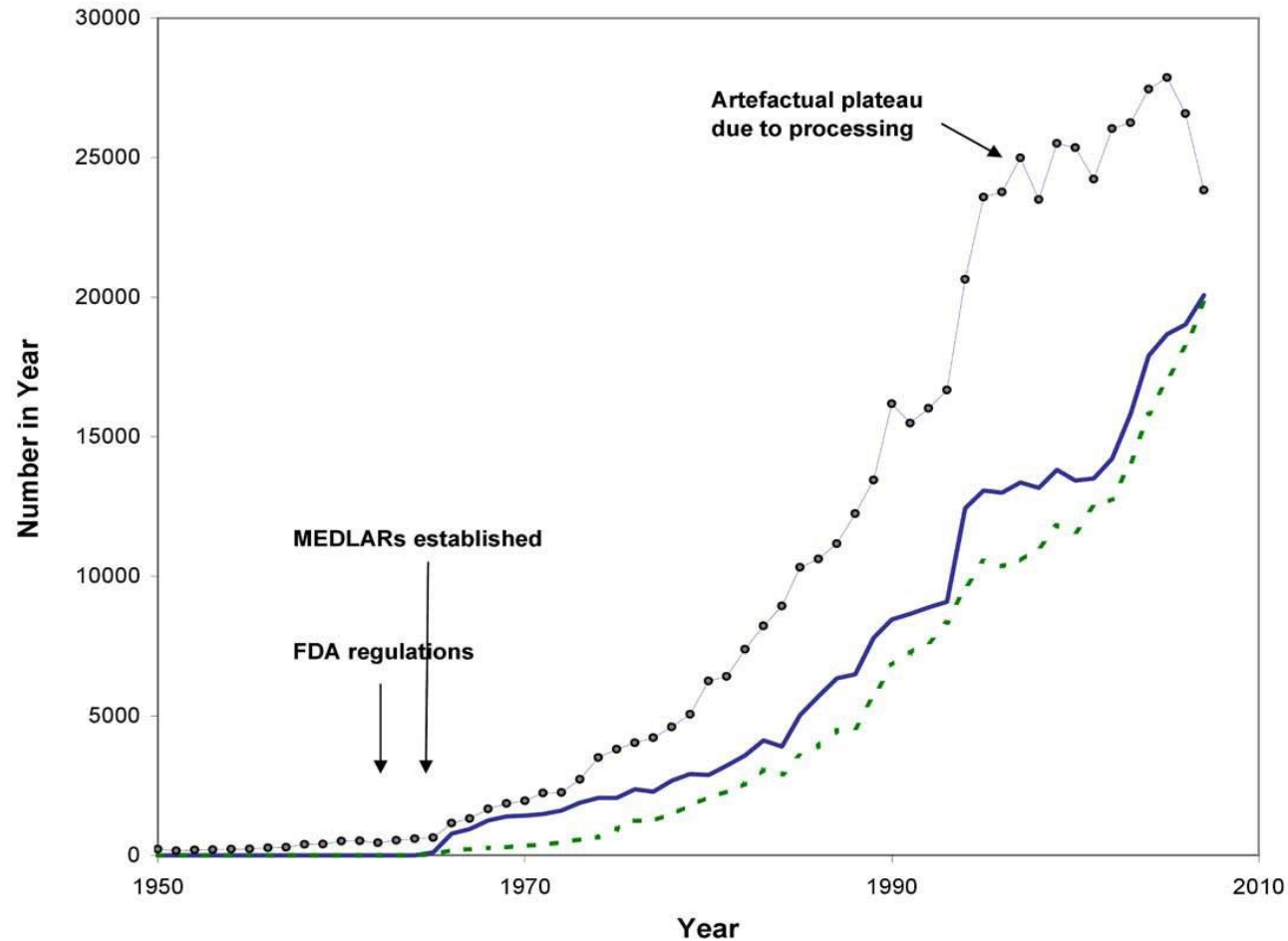
# Why are we here?

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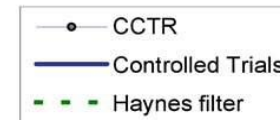
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- Hepatitis C
- Pulmonary Embolism
- Caesarean Section
- Vaccines
- Prog All-Inclusive Care of Elderly
- Trauma-informed care
- Hot-spotting - Camden coalition
- Early childhood development
- Harm reduction
- Accountable care
- PCMH
- Chronic care model
- IMPACT/BH integration
- Project ECHO



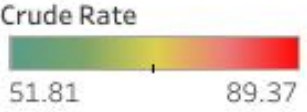
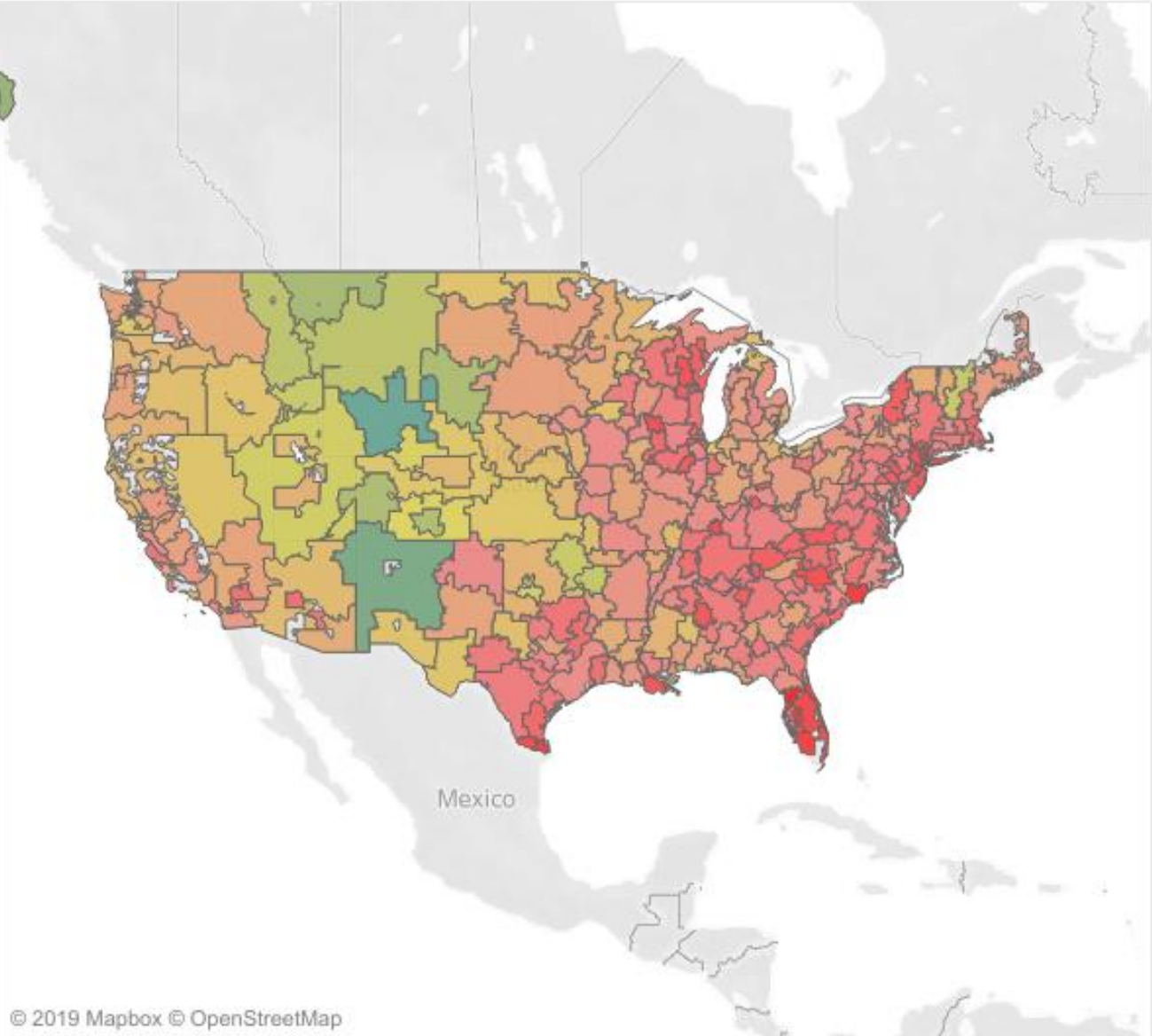
# Growth of Level 1 evidence



Bastian H, Glasziou P, Chalmers I.  
Seventy-five trials and 11 systematic reviews a  
day: How will we ever keep up?  
PLoS Med 2010



Map: Percent of Diabetic Medicare Enrollees Age 65-75 Receiving Blood Lipids Testing, by HRR (2015)

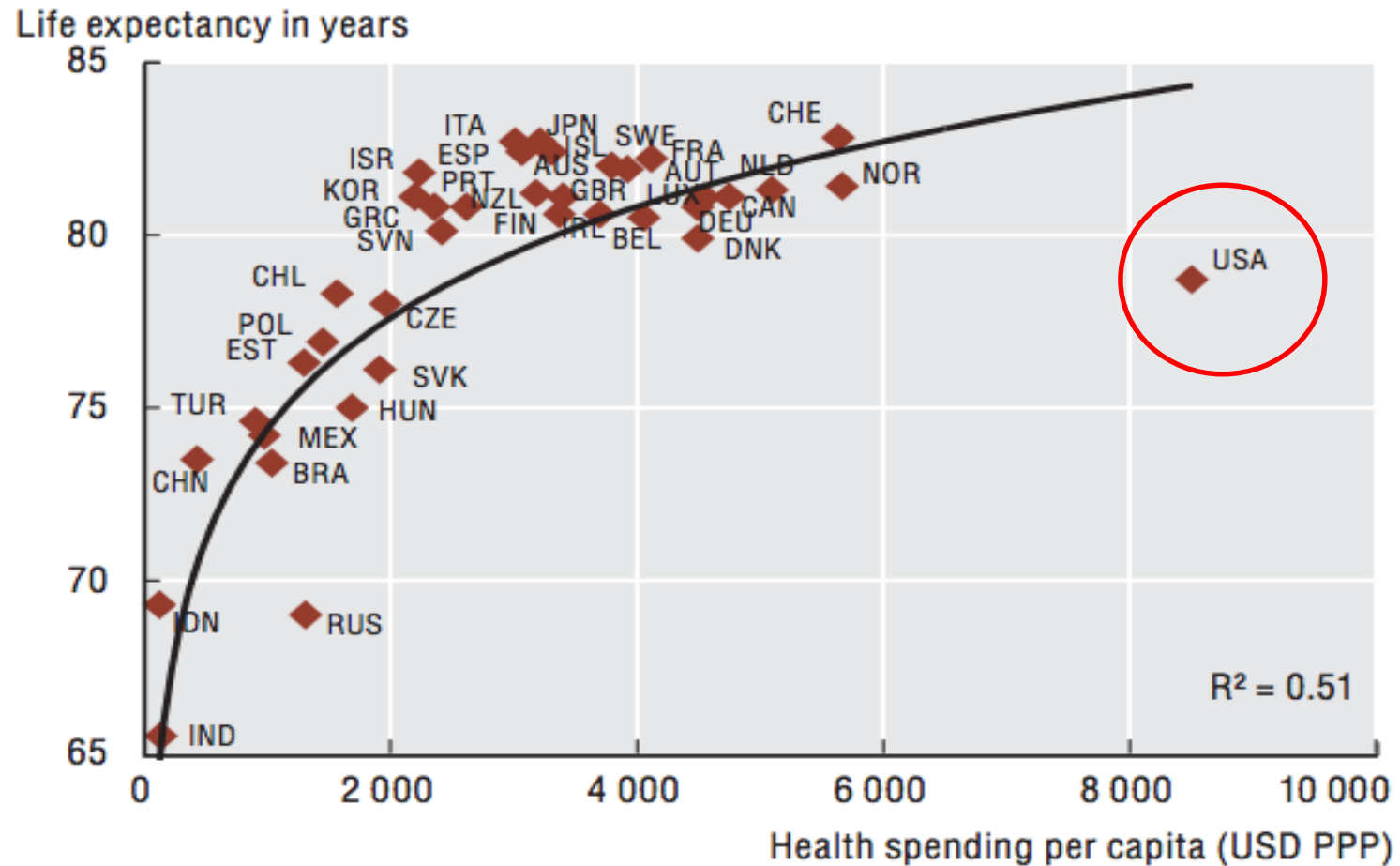


© 2019 Mapbox © OpenStreetMap





# Why we are here? Part 2



Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>; World Bank for non-OECD countries.

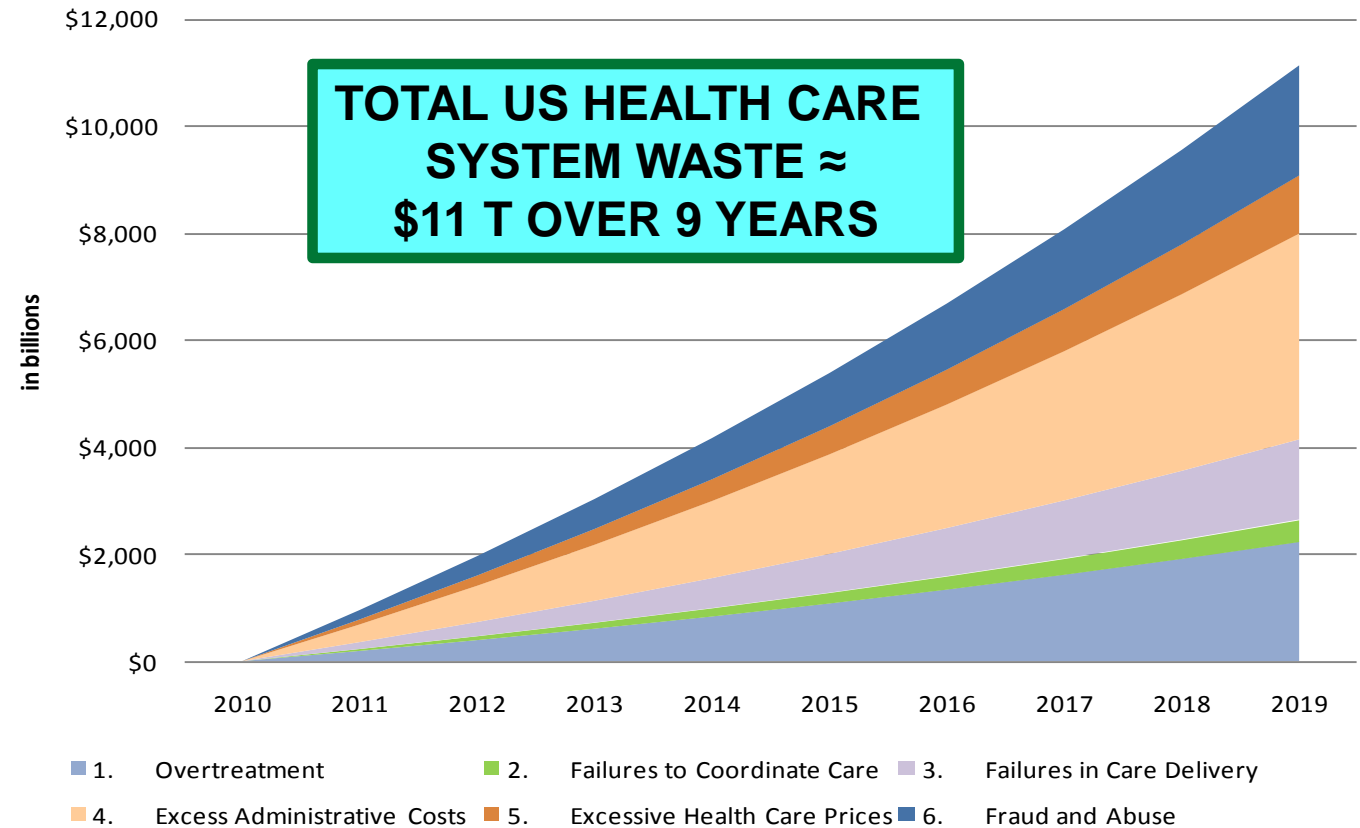


# Waste Levels in Health Care

- Overuse
- Unscientific Variation
- Errors and Patient Injuries
- Administrative Burdens
- Pricing Failures
- Fraud & Abuse

35%

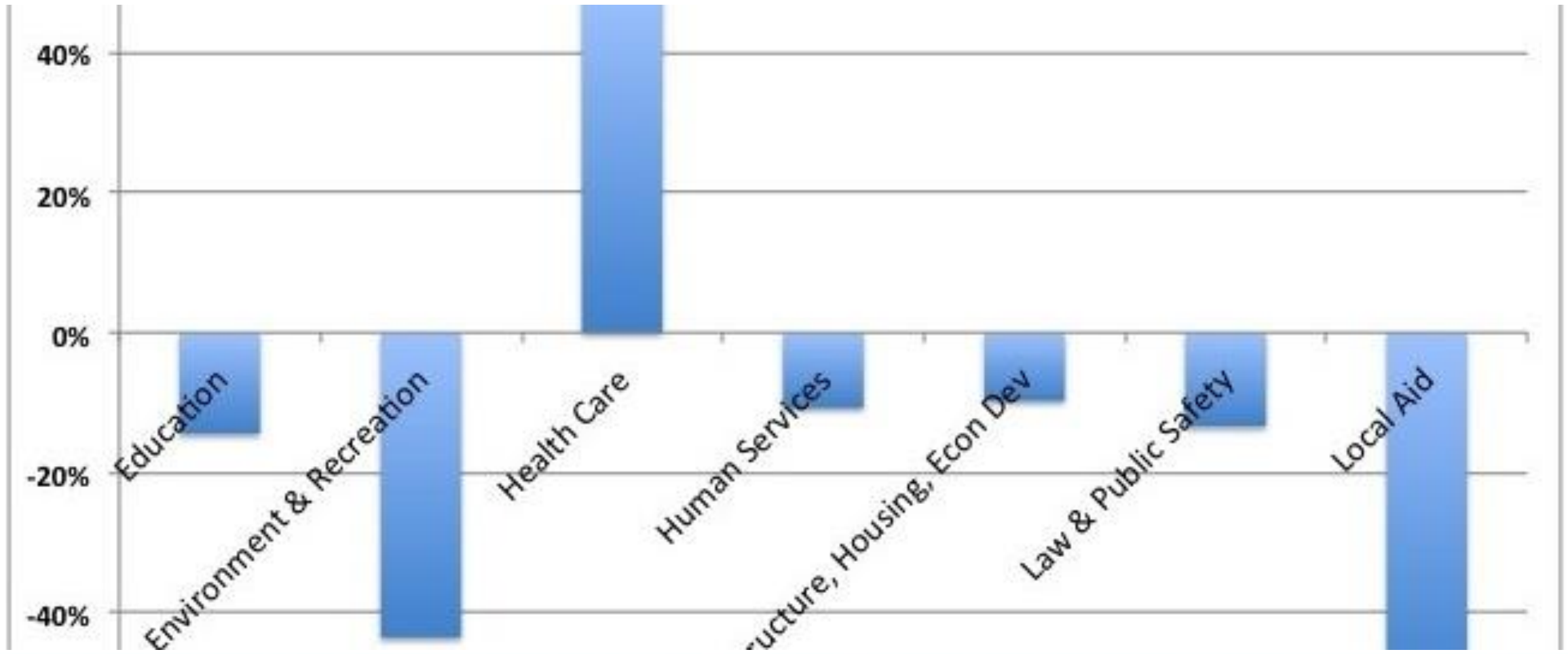
**US Health Care System Theoretical Waste**  
(Aggregate Waste 2011 - 2019)



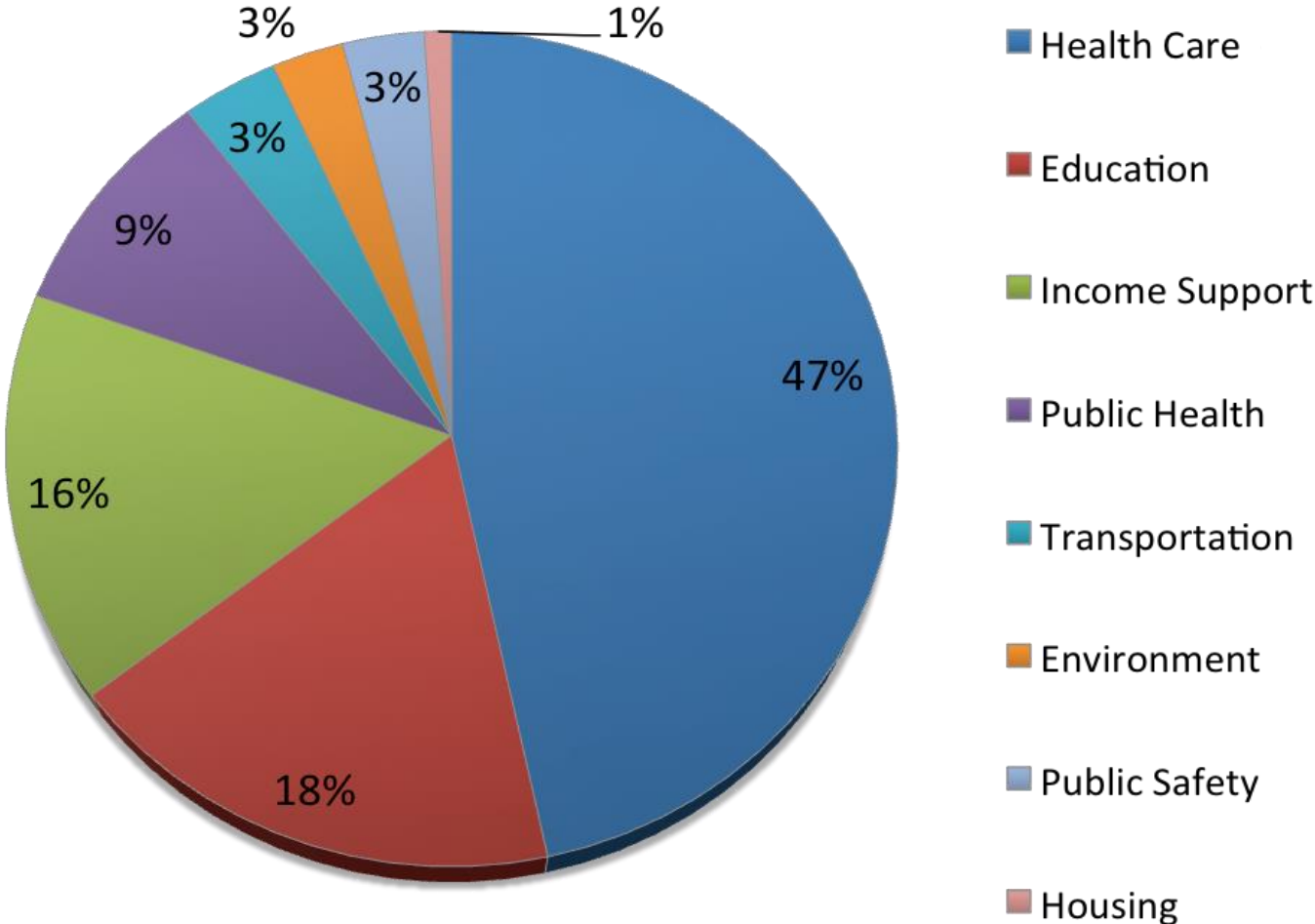
Berwick, Donald M., and Andrew D. Hackbarth. "Eliminating waste in US health care." *JAMA* 307.14 (2012): 1513-1516.  
Congressional Budget Office & OMB



# Percent Change in Massachusetts State Budget FY2001-FY2015



# Average Spending by Category in the States



## Trade offs

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- 1 Emergency department visit = 1 month's rent
- 2 Hospitalizations = 1 year of child care
- 20 MRIs = 1 social worker for a year
- 60 Echocardiograms = 1 public school teacher for a year



# The First Law of Improvement

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Every system is perfectly designed to achieve exactly the results it gets.

Dr. Paul Batalden



# Changes on the horizon

TODAY (REALITY ON THE GROUND)	TOMORROW (WHERE WE MAY BE HEADED)
Place-based provision of care	Telehealth for >80% of care
Fee-for-service & good commercial rates	Mostly government pay, bundles & capitation
Employed clinicians	Gig economy comes to healthcare
Physician-convenient care	Patient-centered care
Spotty evidence-based care	EBC becomes a purchasable commodity
Hospital as the revenue center	Hospital are considered telephone poles (costly infrastructure that drives short-term thinking)
Charges don't reflect cost of care	Price transparency
HC is MD-directed, full-service	Healthcare is retail, self-service
Payment based on inputs, processes	Payment based on value, outcomes (end-products & outputs)
Integrated delivery systems	Many functions outsourced
MD burnout highly prevalent	New care models allow MDs to practice compassionate, evidence-based care



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2. Learn from variation
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5. Return to joy in work

Fou

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Maitland, FL



# DOCTOR'S OFFICE

THOSE WHO ALREADY SELF-DIAGNOSED  
THEIR SYMPTOMS ON GOOGLE AND JUST  
WANT A SECOND OPINION, PLEASE CHECK  
YAHOO.COM





# AI-Fueled Symptom Checkers

## Urgent Care

**500**

Urgent Care Patients

**90%**

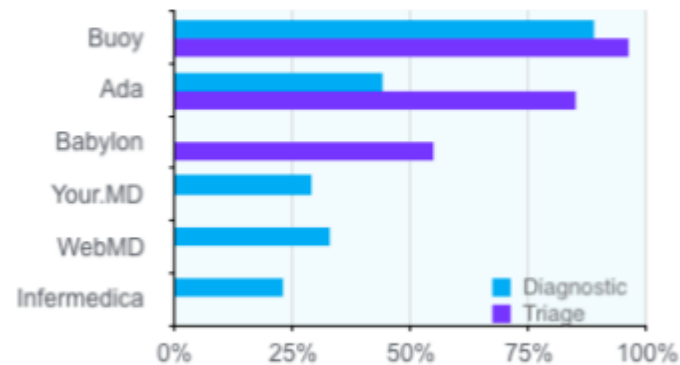
Diagnostic Accuracy\*

**92%**

Triage Accuracy\*

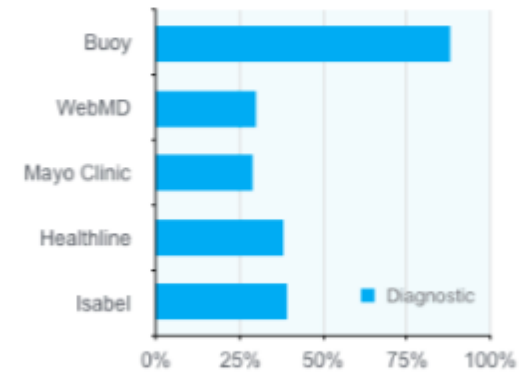
## Chest Pain

Diagnostic & Triage Accuracy

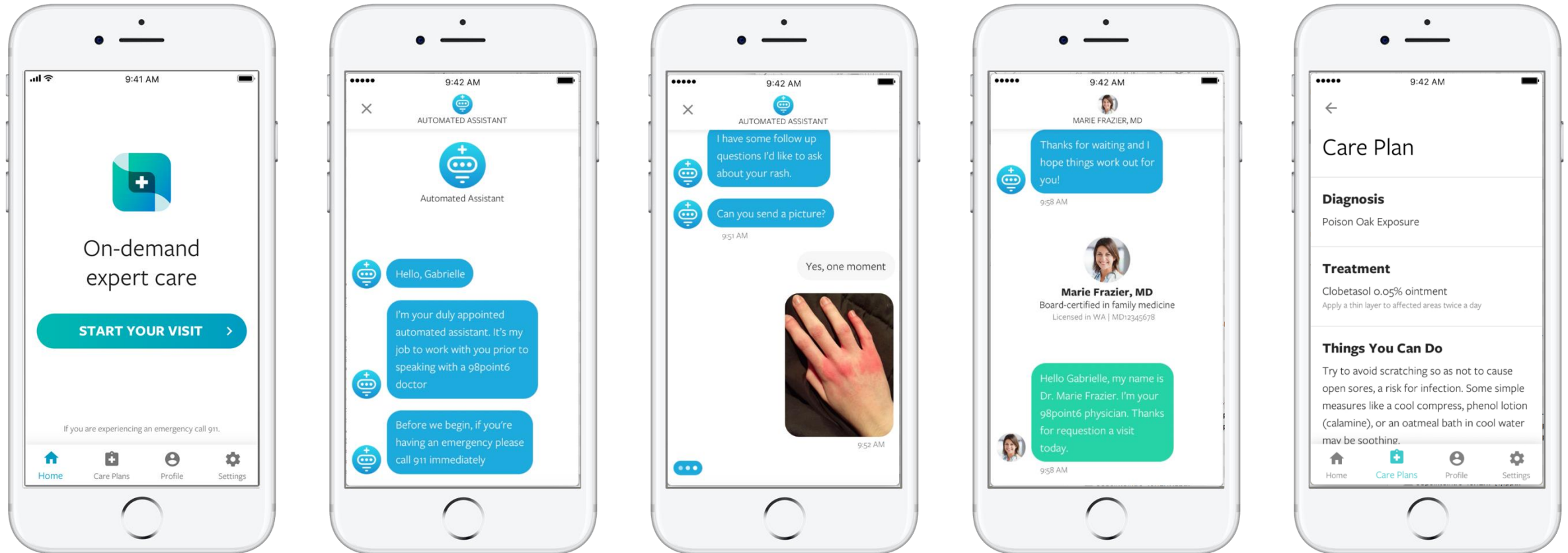


## Headache

Diagnostic & Triage Accuracy

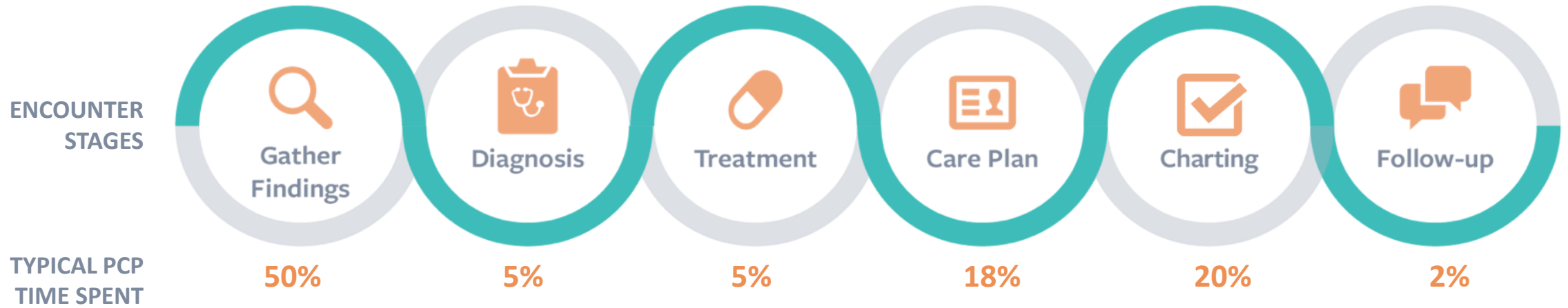


# Completely Virtual Primary Care Today:



Service extends beyond episodic care, including answering medical questions, diagnosis and treatment, prescriptions, labs, referrals, follow-up, reminders and more. Available on iOS, Android and web platforms.

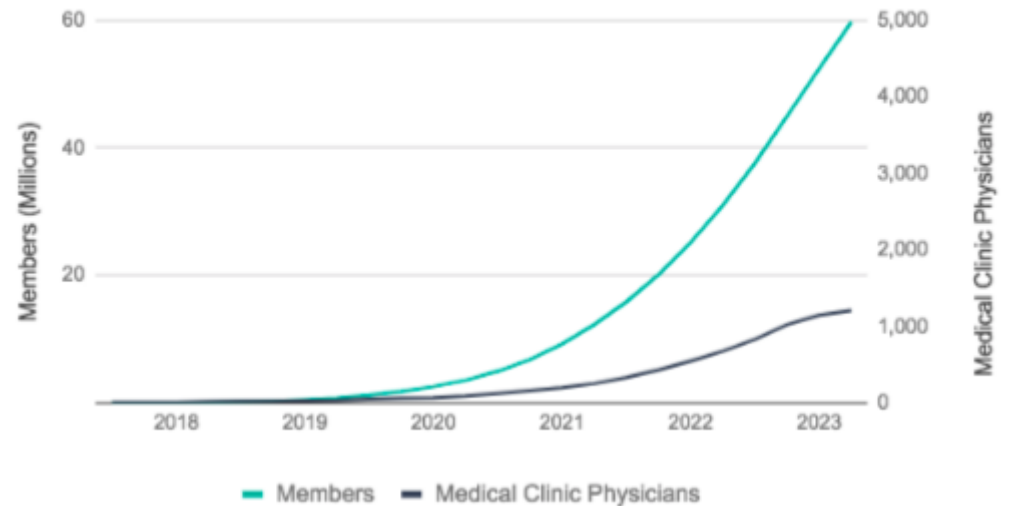
# Automated Assistant, Physician-By-Text



## Technology-Augmented Team of Physicians

- Massively extends the reach of care
- Time is focused on highest value activities
  - Review of findings, diagnosis, care plan
- Attracts forward-thinking physicians
- Improves reported physician quality of life

## Ratio of Members and Physicians



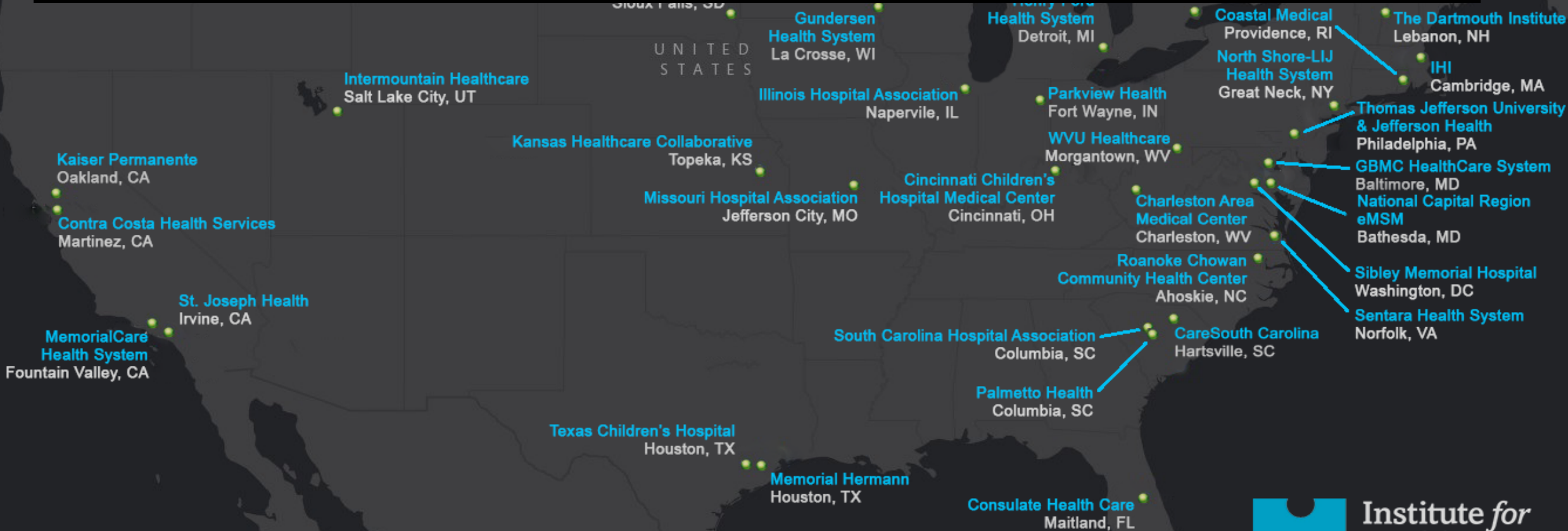
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Oakland, CA

Contra Costa Health Services  
Martinez, CA

Kansas Healthcare Collaborative  
Topeka, KS

Missouri Hospital Association  
Jefferson City, MO

Cincinnati Children's  
Hospital Medical Center  
Cincinnati, OH

WVU Healthcare  
Morgantown, WV

Charleston Area  
Medical Center  
Charleston, WV

Roanoke Chowan  
Community Health Center  
Ahoskie, NC

& Jefferson Health  
Philadelphia, PA  
GBMC HealthCare System  
Baltimore, MD  
National Capital Region  
eMSM  
Bethesda, MD

Sibley Memorial Hospital  
Washington, DC

Sentara Health System  
Norfolk, VA

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St. Joseph Health  
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# Learning from Variation: “Bright spotting”

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# THE NEW YORKER

REPORTING & ESSAYS

ARTS & CULTURE

HUMOR

FICTION & POETRY

THE TALK OF THE TOWN

ONLINE ONLY

NOVEMBER 25, 2009

## THE POLITICAL SCENE

Evan Osnos on Obama's visit to China, and John Cassidy on the economy.



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## LATEST POSTS

**Ben Greenman:** Smells Like Live Music 1:35 PM

**Sasha Frere-Jones:** Freedom 1:17 PM

**Richard Brody:** Mixed Metaphors 1:04 PM

**Blake Eskin:** Video: Amar Lahiri Makes Pulao 12:54 PM

**Jon Michaud:** Reading List:

ANNALS OF MEDICINE

## THE COST CONUNDRUM

*What a Texas town can teach us about health care.*

by Atul Gawande

JUNE 1, 2009

TEXT SIZE: A | A | A

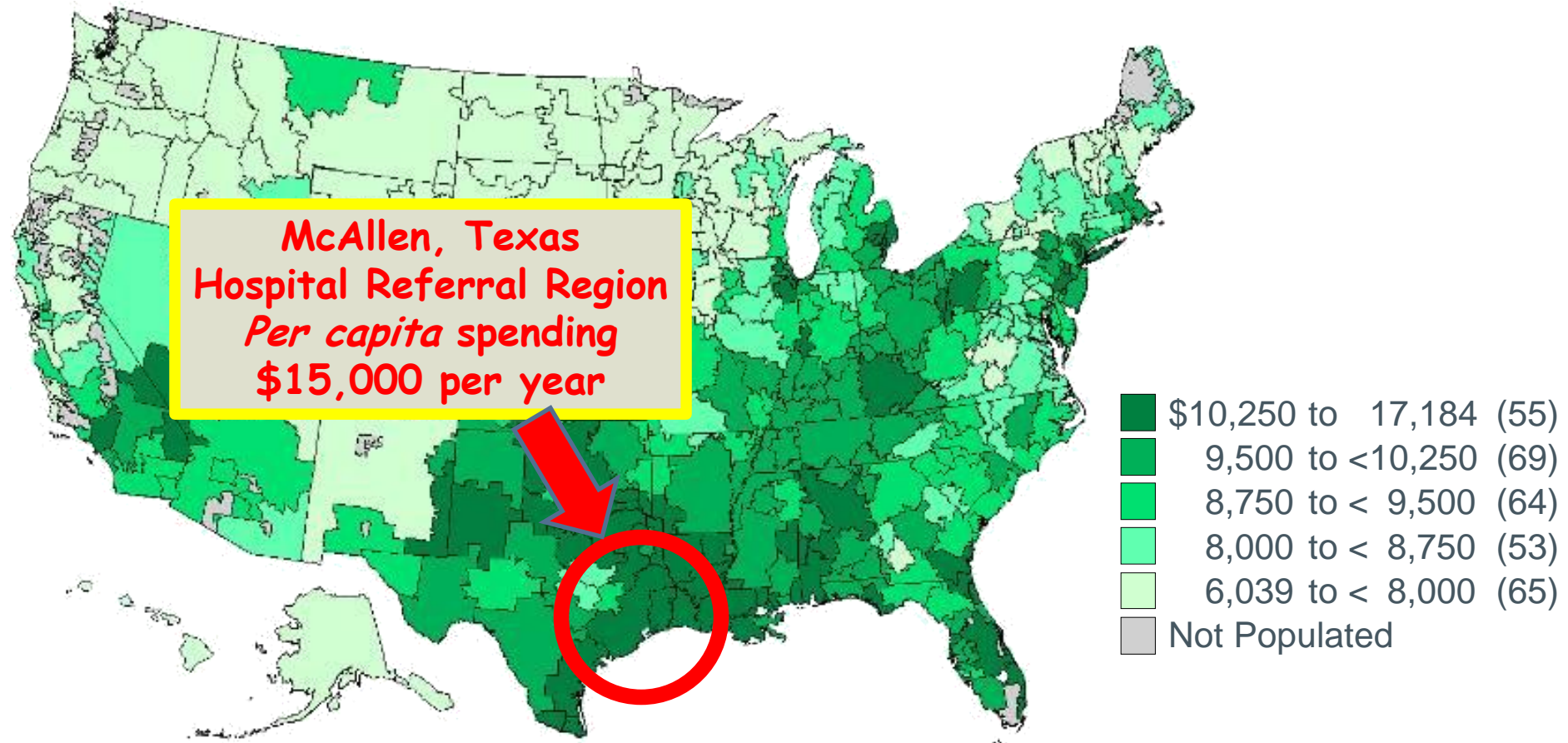
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It is spring in McAllen, Texas. The morning sun is warm. The streets are lined with palm trees and pickup trucks. McAllen is in Hidalgo County, which has the lowest household income in the country, but it's a border town, and a thriving foreign-trade zone has kept the unemployment rate below ten per cent. McAllen calls itself the Square Dance Capital of the World. "Lonesome Dove" was set around here.



# The Dartmouth Atlas

## Regional Variation in Medicare Spending *per Capita*

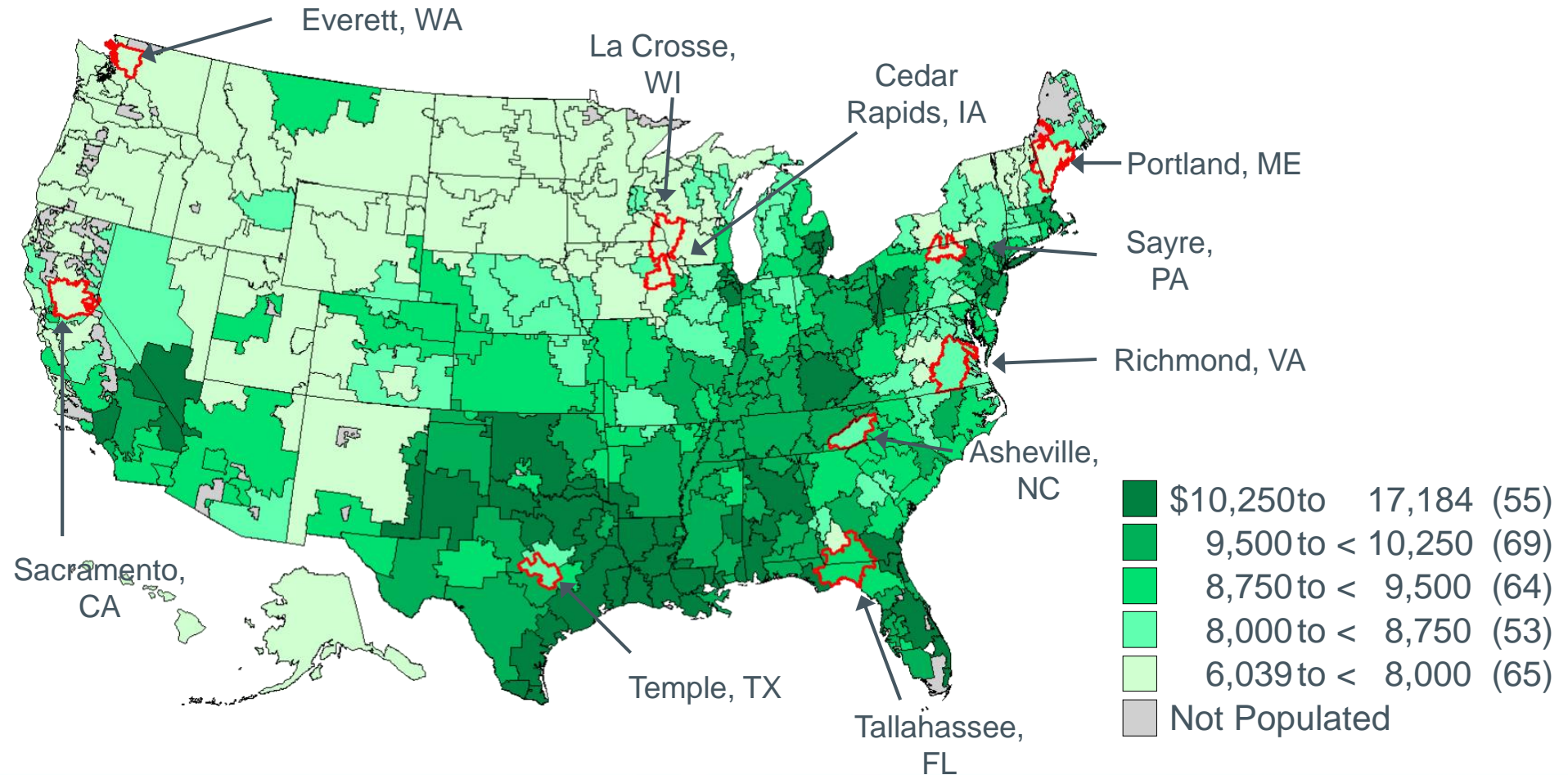


Source: The Dartmouth Atlas Project



# 10 HRRs We Studied

Price-Adjusted *per Capita* Medicare spending



Source: The Dartmouth Atlas Project



# “How did they do that?”

National Press Club

	Top 10 regions	All other regions (232)
<b>Claims-based rates</b>		
<b>Medicare spending</b>		
Average price-adjusted spending per capita, 2006	\$7,924	\$9,695
Average increase in spending per beneficiary, 1992-2006	\$2,297	\$3,376
Average annual growth rate	3.0%	3.6%
<b>Care of chronically ill patients during last two years of life</b>		
Hospital days per patient	16.4	20.4
Physician visits per patient	48.3	64.1
Percent seeing 10 or more physicians during last six months	23.5	32.0

**Potential Annual Savings: 12.7% - 16.2%**

Source: The Dartmouth Atlas Project & IHI R&D



# How we do it

## Lower Cost, Higher Quality

### Patient Level Characteristics

### Comparison to Peers

- Care Mgmt/Coordination of Care >90%tile
- Availability of EHR >90%tile
- Length of stay <10%tile
- Use of Generics >90%tile
- Advance Care Planning >95%tile
- High Quality EOL Care >90%tile

	Avg. Yearly Costs <sup>1</sup>	Last 2 Years of Life <sup>1</sup>	Hip <sup>2</sup>	Knee <sup>2</sup>	CABG <sup>2</sup>	Office Visit <sup>2</sup>	CT <sup>2</sup>
La Crosse, WI	\$5,812	\$18,359	\$1,240.08	\$1,323.51	\$1,727.98	\$88.49	\$341.99
Miami, FL	\$16,351	\$63,821	\$1,654.94	\$1,771.64	\$2,253.48	\$99.34	\$430.37

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# Assume Abundance

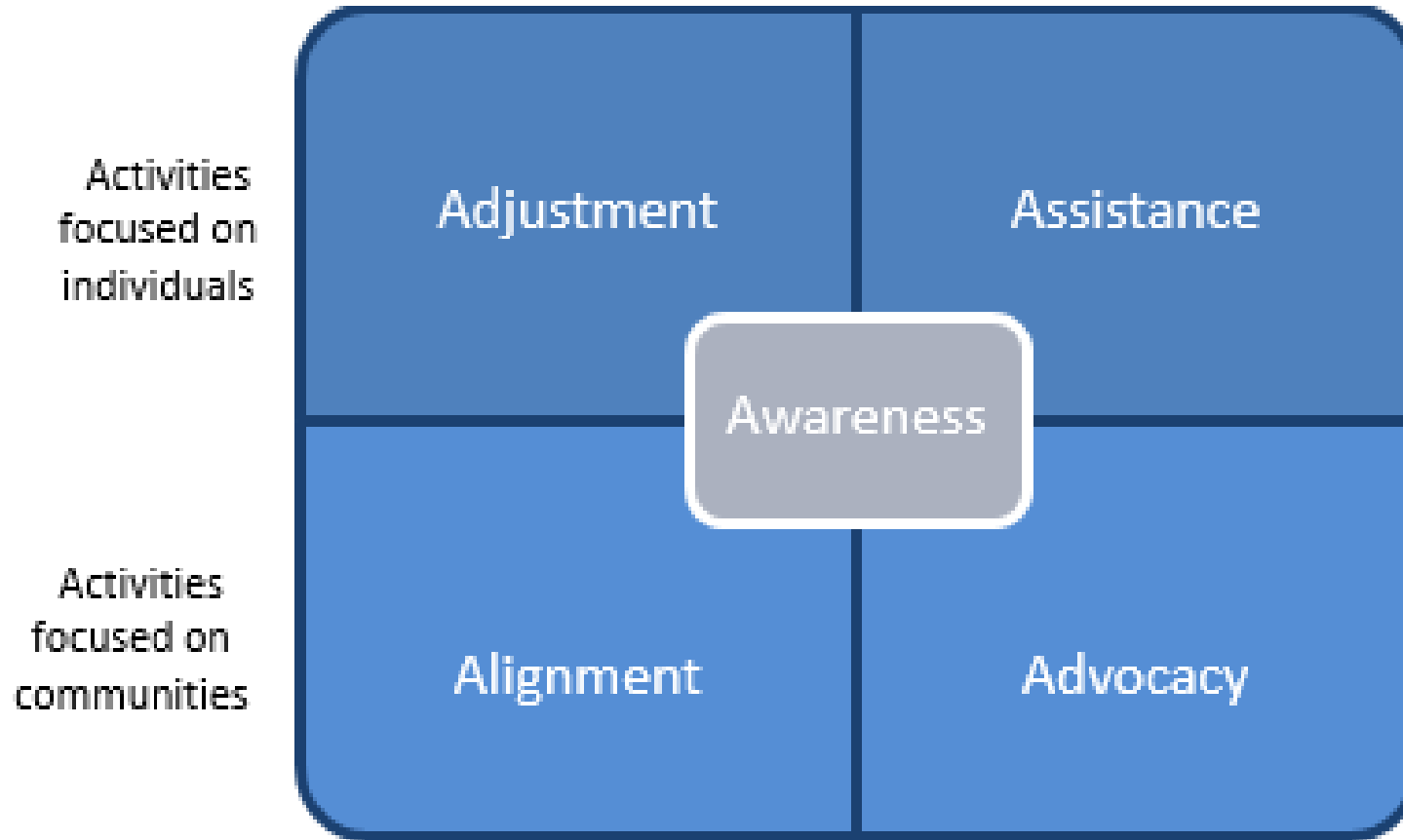
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- Use all resources that can help
- Remember the assets of individuals and families
- Look beyond the walls of healthcare





# Strategies to Address Complex Needs



**INTEGRATING SOCIAL CARE INTO THE DELIVERY OF HEALTH CARE**

**MOVING UPSTREAM TO IMPROVE THE NATION'S HEALTH**

*The National Academies of  
SCIENCES • ENGINEERING • MEDICINE*

There is up to a 16-year gap in life expectancy between the Loop and West Side neighborhoods





# ***MANY VOICES...ONE WEST SIDE***

**WEST SIDE UNITED**

# West Side United addresses the social determinants of health by adopting four guiding principles



- Partnership with communities to drive priorities and execute initiatives
- Increase visibility and scale existing programs that work at the community level
- Together, health institutions are able to magnify their impact through collaboration and distributed leadership
- Leverage private sector resources and expertise to ensure meaningful progress to life-expectancy goal

# West Side United: Who We Are and What We Have Done

FOUNDED  
IN **2017**

**OUR GOAL:** to close the life expectancy gap by 50% in each of its ten neighborhoods of focus by 2030.



## ECONOMIC IMPACT



**6,000 & 43,800**

Annual Hires

Employees

**\$5.4B**

In Employee  
Spending Potential

**\$4B** 

In Salaries/Wages

**89,117**



Annual  
Admissions

**~\$2.8B**

In Supply/Service Expenses



**2,190**

Hospital Beds

**7,125**

Hospital Births



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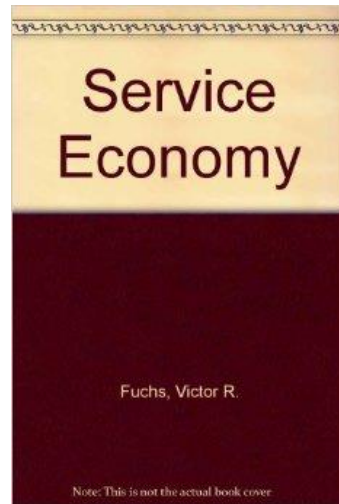
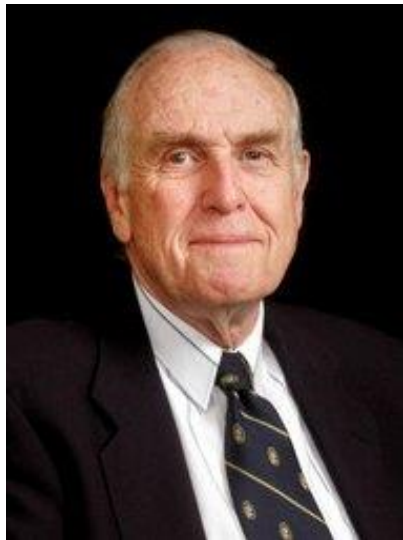
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# Change the Balance of power

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- Co-produce health with patients & families



**Making a service is fundamentally different from making goods and products.**

**All service is produced by professionals *and* those who receive the benefit.**

**Victor Fuchs**

1968





# What is a healthcare service?

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**Relationship**.....(Knowledge, Skill, Habit, Vulnerability).....**Activity**





# Christian Farman

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# Lessons to Date

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From Christian (patient):

- “I have a new definition of health.”
- “I want to live a full life. I have more energy and am complete.”
- “I learned and I taught the person next to me, and next to her. The oldest patient on self-dialysis is 83 years old.”
- “The care is safer in my hands.”



# Lessons to Date

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From nurse leader:

- Surprised at design differences between patients, family, and staff
- Managing at 1/2 – 1/3 less cost per patient
- Evidence of better outcomes, lower costs, far fewer complications and infections
- “We brought in the county’s employment, helped the patients make or update the CVs, and trained them for a new career.”





Central Texas Nephrology Associates, P.A.



# Results, Waco TX

2015	Mortality	Hospitalizations/ patient-year
Usual HD (n = 560)	16.1%	1.69
Self-dialysis (n = 191)	2.60%	0.65
National Avg	16%	1.7



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# Elvin

- “I am lucky to care for a 37 year old who developed an oral tongue cancer...”



“The Friday before Labor Day will be a day that many of us who have helped care for this 37 year old man will never forget...”

“The woman who has been with him, supporting him throughout this year and a half, informed us that they were planning to get married in November and wondered if this should be moved to a more near date...”

“This morning while I was reviewing our new cancer treatment plan, or what I thought he wanted from healthcare, the patient’s fiancée informed me that what he **really, really** wanted was to get married today.”





# Elvin

- “I wish I knew all the of the people who helped make this happen today.”



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# Thank you

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