Models for Most Appropriate Care: Population Health and Total Cost of Care Reduction at Cedars-Sinai

Sharon Isonaka, MD MS
Vice President, Clinical Transformation
Cedars-Sinai Health System

C⬥S CEDARS-SINAI®
LEADING THE QUEST™

cedars-sinai.edu

- 30-year history of providing longitudinal primary and specialty care for patients through foundation model
  - Multi-specialty medical group: Cedars-Sinai Medical Group
  - Independent practice association: Cedars-Sinai Health Associates
  - Several affiliated medical groups (geographically dispersed)
- Risk-bearing contracts are
  - Commercial HMO and ACO
  - Medicare Advantage and ACO

Clinical and cost improvement for Population Health: Focus on appropriateness of care

CEDARS-SINAI®

Appropriateness of Care must be Assessed Across the Continuum to Have Maximum Impact

- **Admissions**
  - Daily Admission Debrief (DAD) to identify opportunities
  - Care coordination and ambulatory care enhancements to safely prevent admissions

- **Length of stay**
  - Physician Advocate program
  - Targeted interventions

- **Diagnostic tests, Procedures, Treatments**
  - Clinical Decision Support
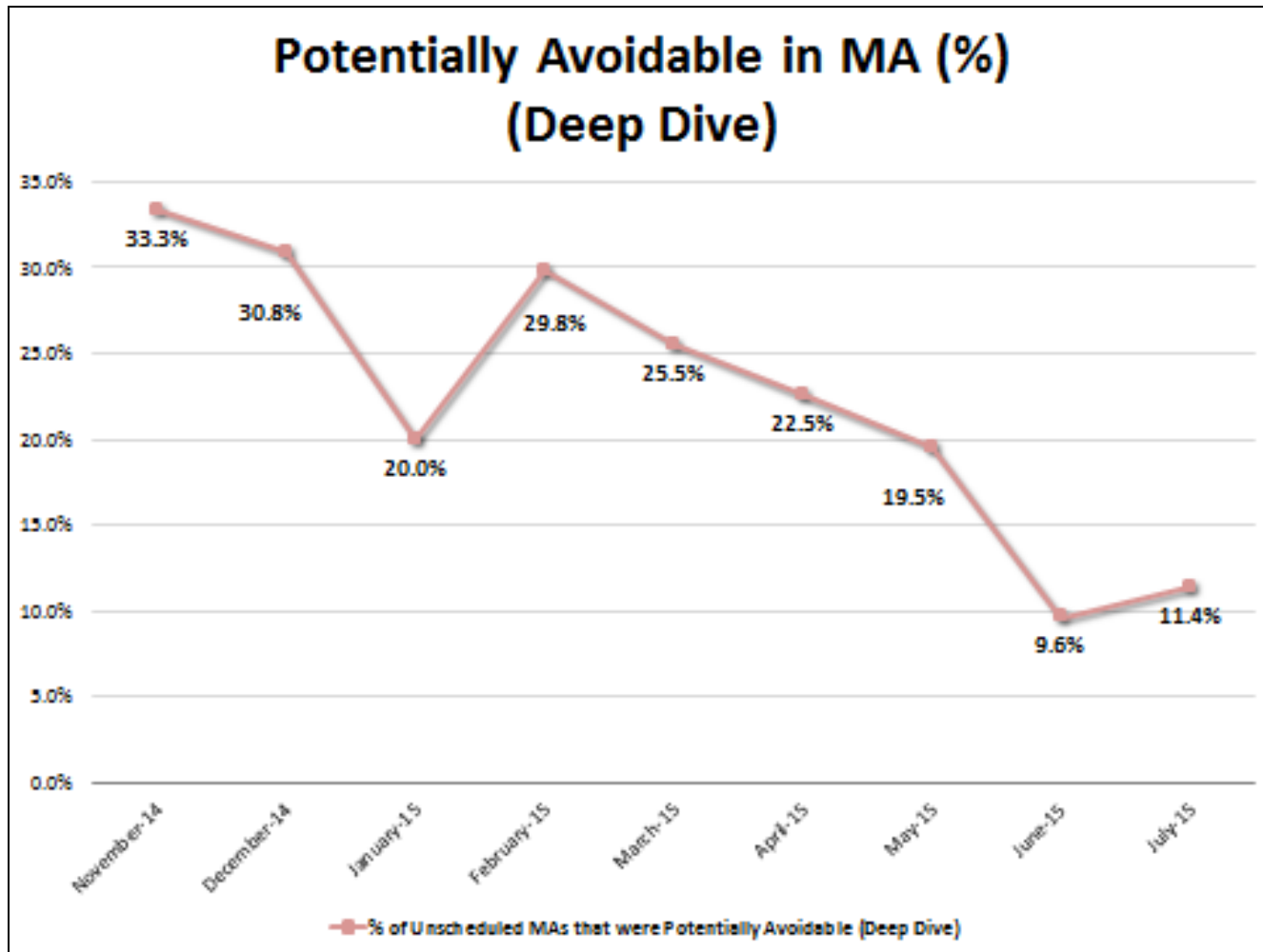 - Evidence-based Network Management

- Each admission reviewed retrospectively by 2 to 3 physicians
- Database created to monitor trends over time and identify opportunities for improvement
- Was there a possible missed opportunity in the physician office or patient's home?
- Interventions are at 3 levels
  - Case-finding for quality improvement referrals (e.g., post-operative complications)
  - Recommendations for patient care enhancements (e.g., refer to care coordination)
  - Identify opportunities for systems of care to prevent admissions (e.g., fall prevention programs)
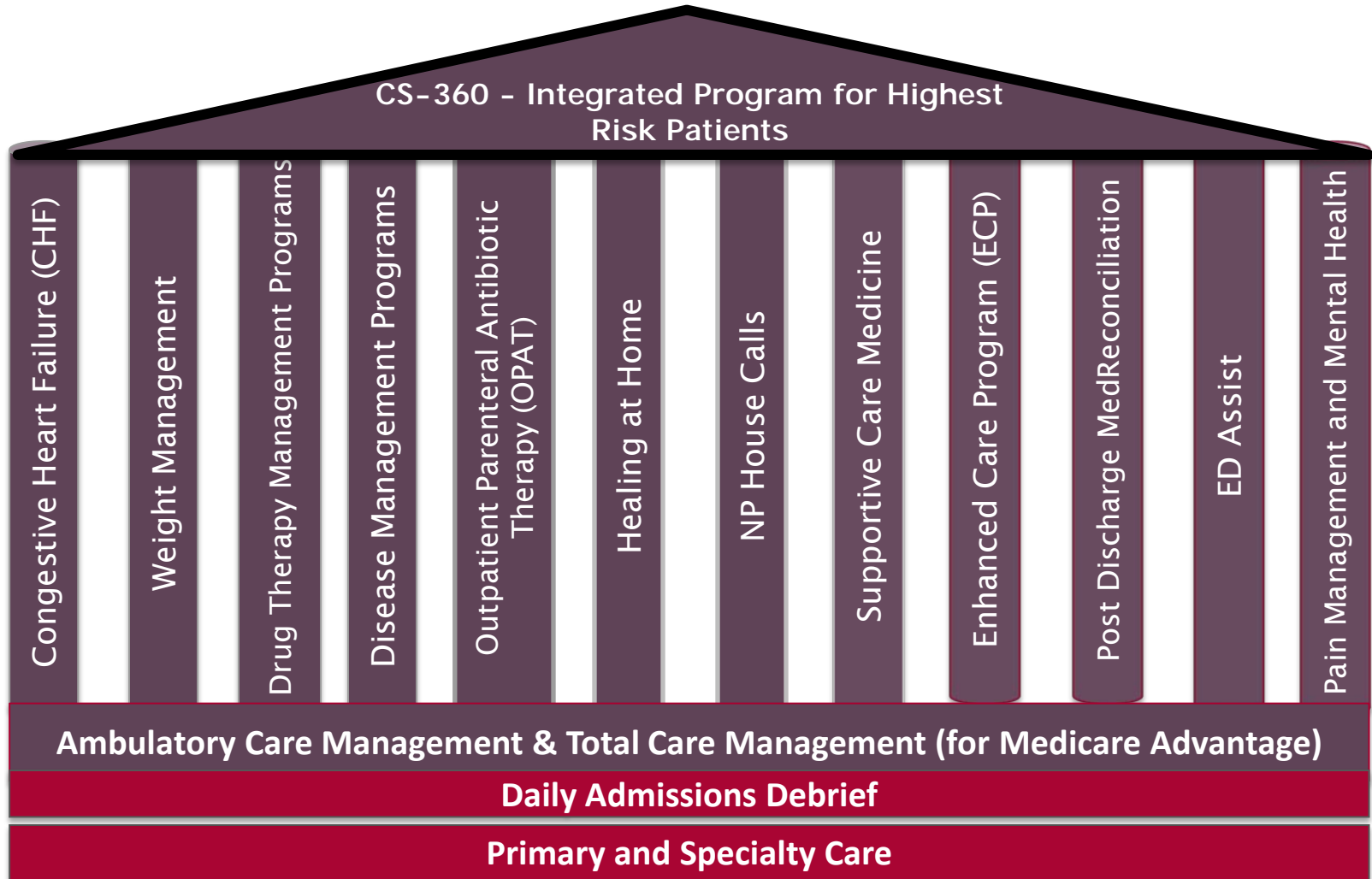
Daily Admission Debrief (DAD): Looking for Potentially Avoidable Admissions
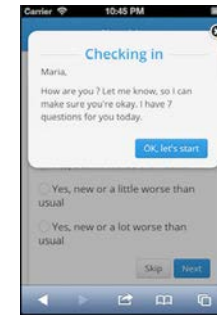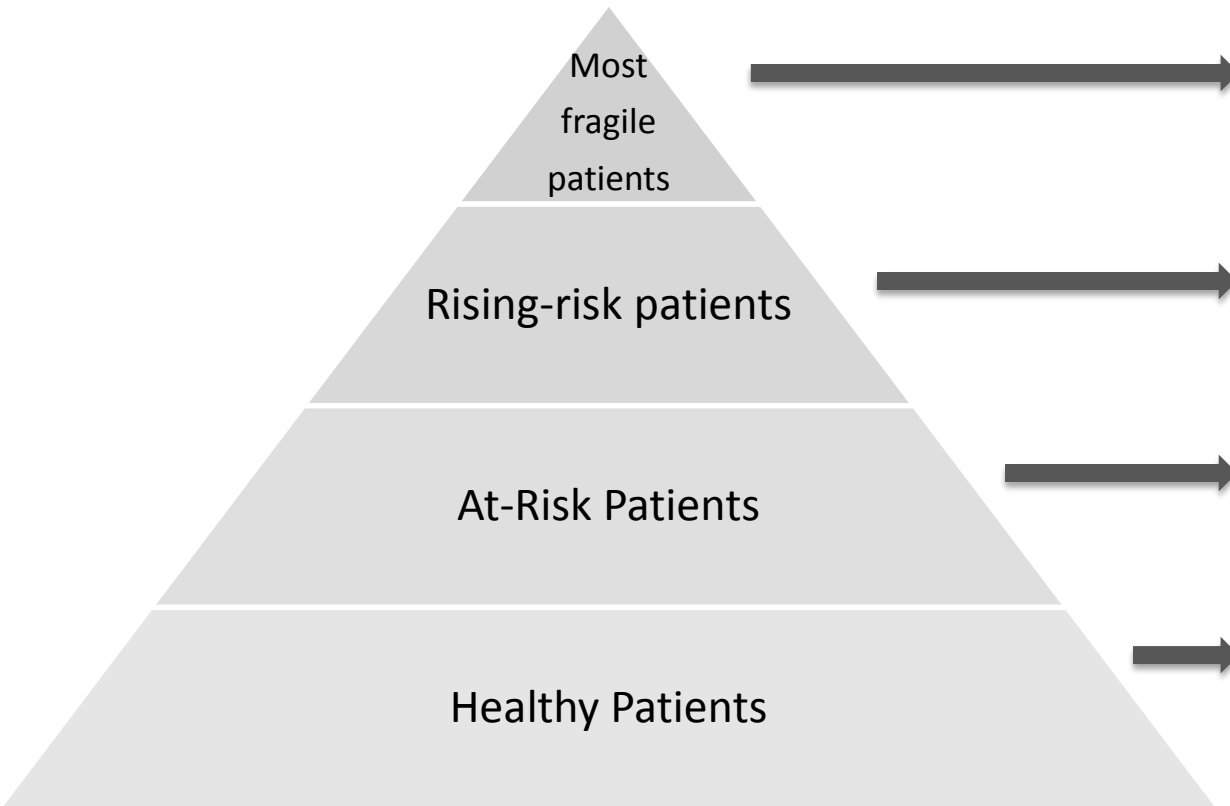
DAD Trend Over Time Demonstrated Improvement in "Avoidability"

CS–360 – Integrated Program for Highest Risk Patients

Congestive Heart Failure (CHF)

Weight Management

Drug Therapy Management Programs

Disease Management Programs

Outpatient Parenteral Antibiotic Therapy (OPAT)

Healing at Home

NP House Calls

Supportive Care Medicine

Enhanced Care Program (ECP)

Post Discharge MedReconciliation

ED Assist

Pain Management and Mental Health

Ambulatory Care Management & Total Care Management (for Medicare Advantage)

Daily Admissions Debrief

Primary and Specialty Care

Patient Engagement: Tailored Approaches to Enhance Access, Connection, Interaction

Pyramid (top to bottom):
- Most fragile patients
- Rising-risk patients
- At-Risk Patients
- Healthy Patients

Patient engagement facilitates achievement of triple aim

Impact: Achieved "Well Managed" Performance

Organization	Acute Med Surg Admits/1000
Milliman Loosely Managed	37.4 to 38.6
Anthem Regional Average	34
Optum Moderately Managed	32.4
Optum Well Managed	29.4
Milliman Well Managed	24.7 to 25.2
Cedars-Sinai Medical Group Commercial HMO FY15 Performance	**23.01**

Reducing Length of Stay: Encouraging Appropriate Care with Physician Advocate Program

- "Physician Advocates" – January 2014
- Participate in daily Progression of Care Rounds
- Review Medical Records
- Identify opportunities to improve quality, efficiency
- Contact physician, "Can I help you…."
    o Find appropriate placement or outpatient services
    o Expedite diagnostic testing
    o Clarify goals of therapy
    o Provide appropriate pain management

CEDARS-SINAI®

Impact: Meaningful Reductions in LOSI
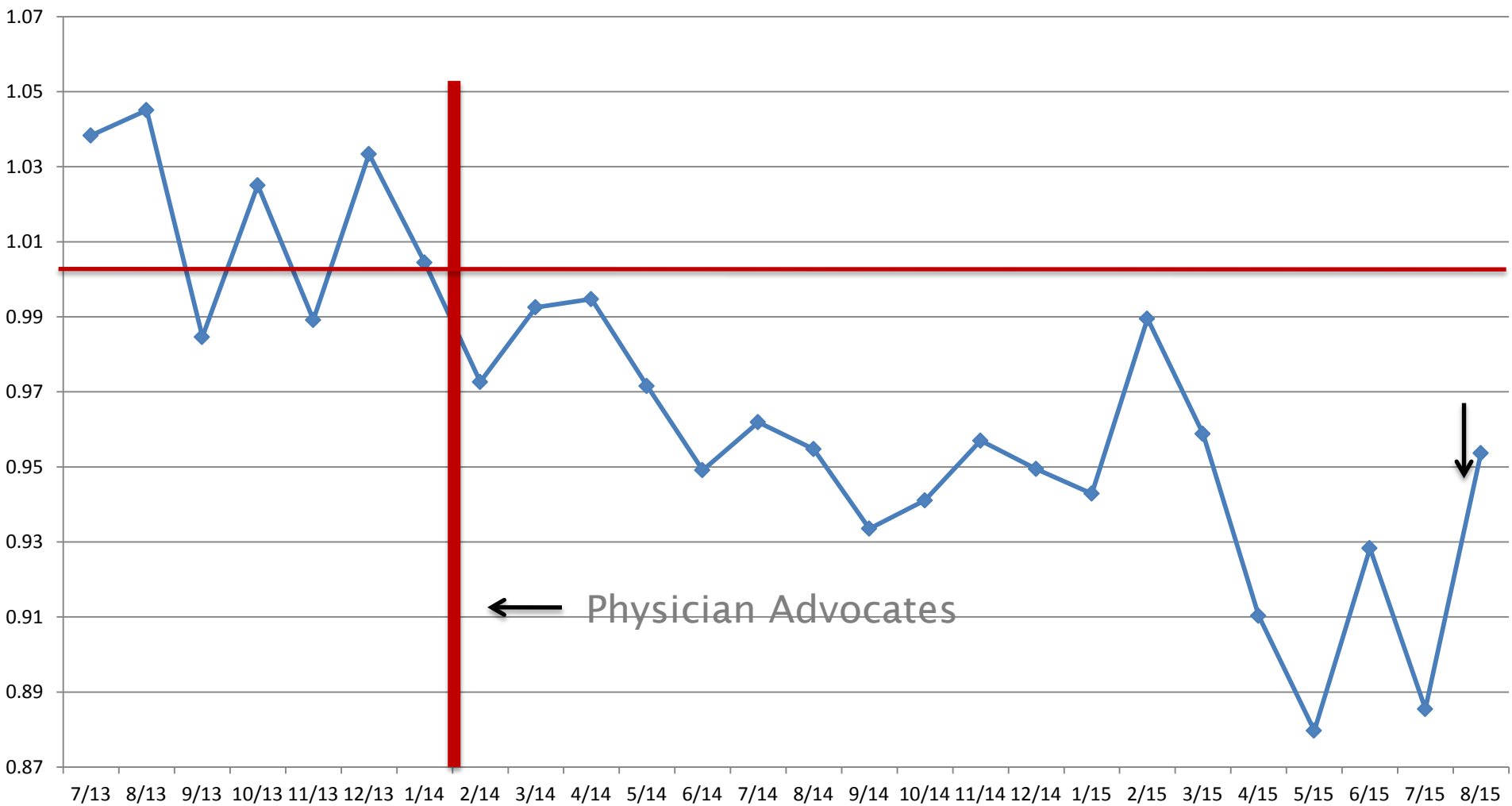
Physician Advocates

CEDARS-SINAI®

Predictors of Success	Adjusted OR
Automatic provision of decision support as part of workflow	**112**
Provision of decision support at the time and location of decision making	15
Provision of recommendation rather than just an assessment	7
Computer-based generation of decision support	6

Source: Kawamoto K, Houlihan CA, Balas EA, Lobach DF. Improving clinical practice using clinical decision support systems: a systematic review of trials to identify features critical to success. BMJ. 2005 Apr 2;330(7494):765. PMID: 15767266

Physician-Led and Vetted Content

~400 interventions from 70 medical societies

Education alone for Choosing Wisely did not work[1]

Can a physician remember 400 different Choosing Wisely guidelines?

Not from government or an insurance company

Inpatient
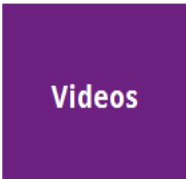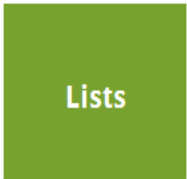
Across populations of patients

Ambulatory

Prepare for risk-based payment

[1]Early trends among seven recommendation from the Choosing Wisely Campaign. JAMA Internal Medicine. 10/12/15

12

Launch at Cedars-Sinai in November 2013

high cost
meds
13%

high cost
labs
6%

high cost
procedures
14%

nuclear
imaging
21%

CT & MRI
imaging
46%

CDS
lowers
waste & cost

CEDARS-SINAI®

Example #1: Benzodiazepine Usage in Older Adults

physician starts order in EMR

likely unnecessary

likely appropriate

order
placed

order
cancelled

Choosing Wisely: Don't use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.
(American Geriatrics Society)[1, 2, 3]

Hyperlink: Choosing Wisely – American Geriatrics Society
Information for Patients: Use of Sedatives in Elderly Patients

Reasons for override:

sleep disorder	end of life care	withdrawal / DT
non-drug options failed	peri-procedural anesthesia	

note: CDS alert displays using Epic's native best practice alerts; Epic does not allow use of actual screenshots

targeted alerts integrated into workflow with analytics

CEDARS-SINAI®

31.5% reduction in benzodiazepine use

projected reductions over 1 year

20

fall related injuries

9

ED visits

8

>6 months assistance

3

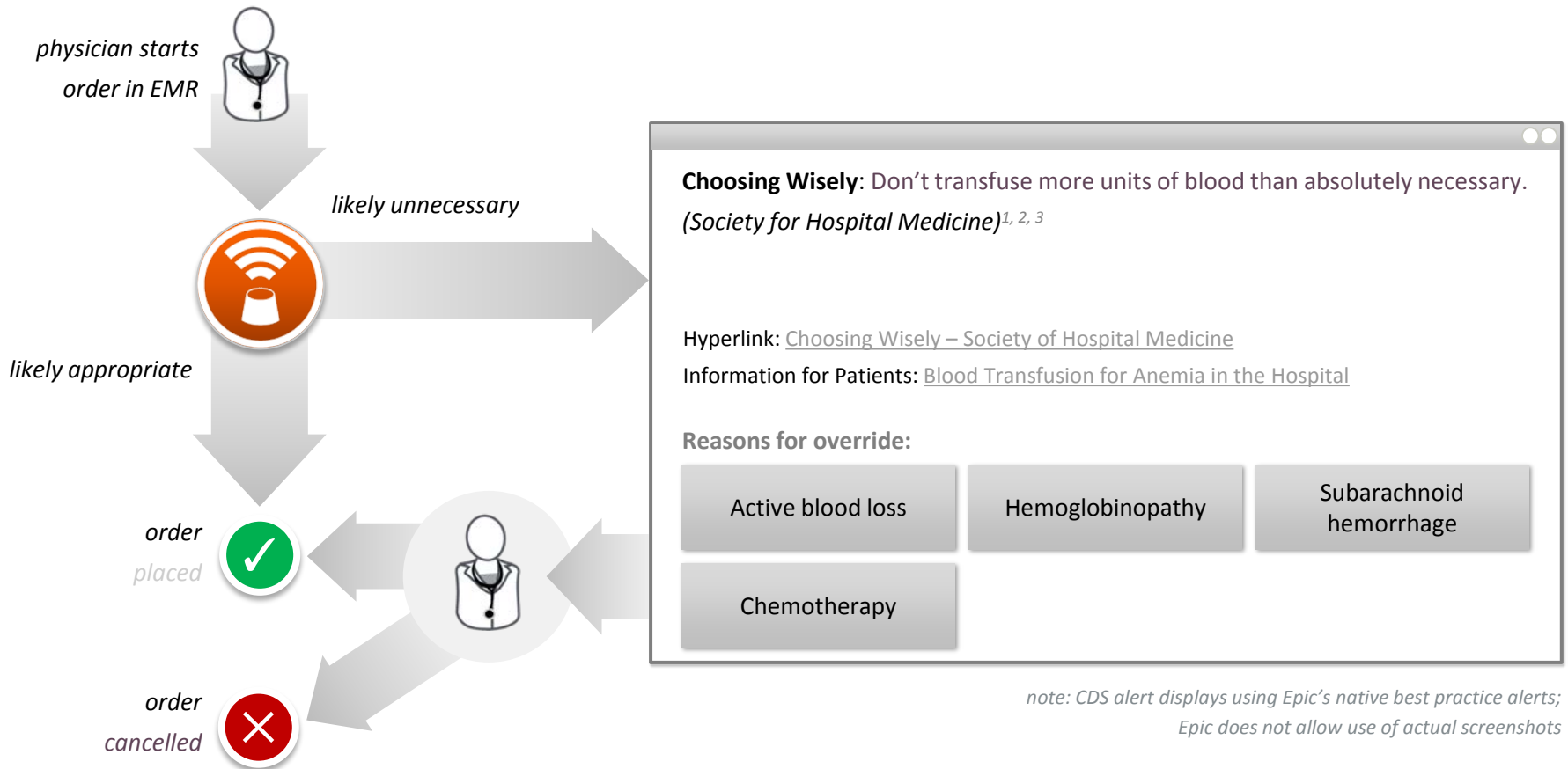hospitalizations

2

deaths from falls

potential **impact**

Woolcott et al. JAGS 2009,
CDC. MMWR Weekly 2008,
Schiller et al., Adv Data No. 392 (CDC) 2007,
*Pariente et al, Drugs Aging 2008*

CEDARS-SINAI®

Example #2: Transfusion

physician starts order in EMR

likely unnecessary

likely appropriate

order
placed ✓

order
cancelled ✗

Choosing Wisely: Don't transfuse more units of blood than absolutely necessary. *(Society for Hospital Medicine)*[1, 2, 3]

Hyperlink: Choosing Wisely – Society of Hospital Medicine

Information for Patients: Blood Transfusion for Anemia in the Hospital

Reasons for override:

Active blood loss	Hemoglobinopathy	Subarachnoid hemorrhage
Chemotherapy		

note: CDS alert displays using Epic's native best practice alerts; Epic does not allow use of actual screenshots

targeted alerts **integrated** into workflow with closed loop **analytics**

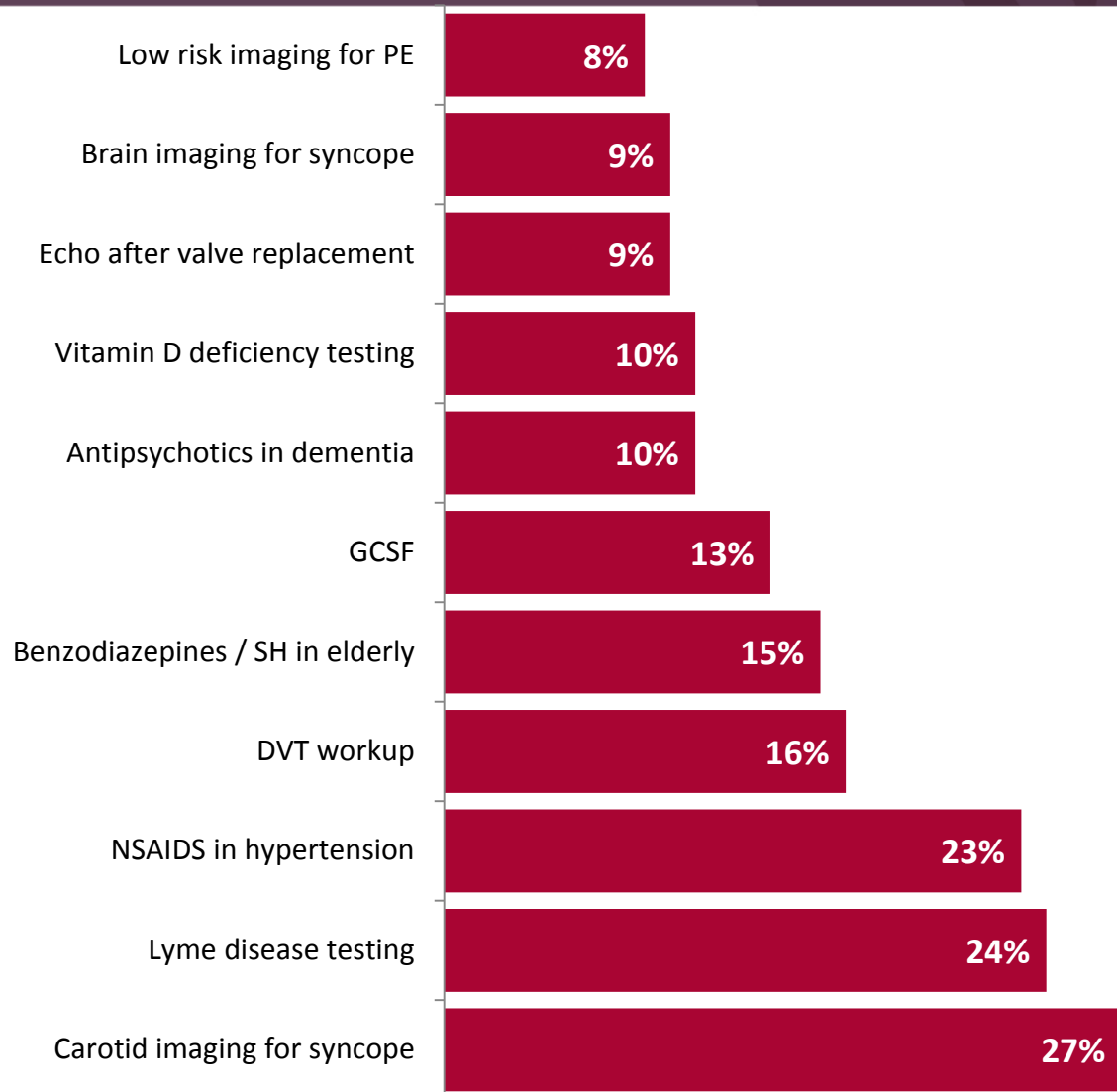17% reduction in blood utilization while CMI increased by 14%
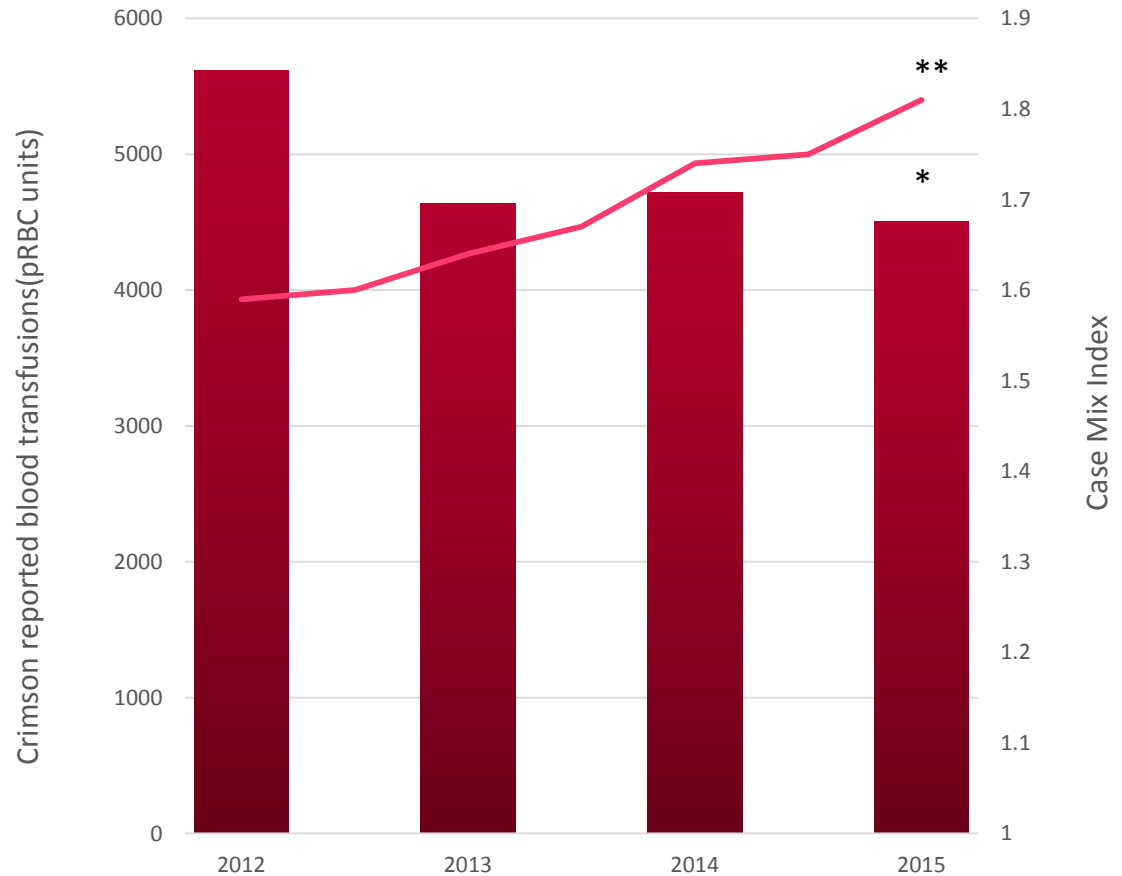
* 2015 is projected from 6 months of data

** 2015 Case Mix Index (CMI) value is from January-June data

Typical Acceptance Rates

acceptance

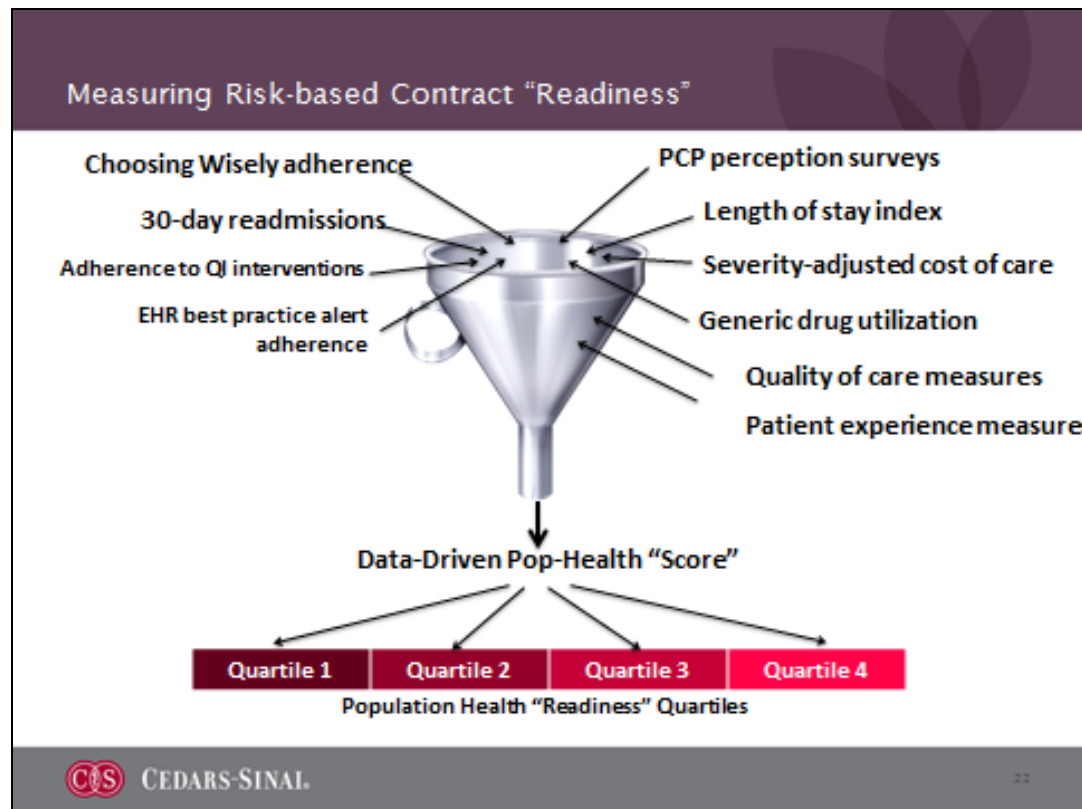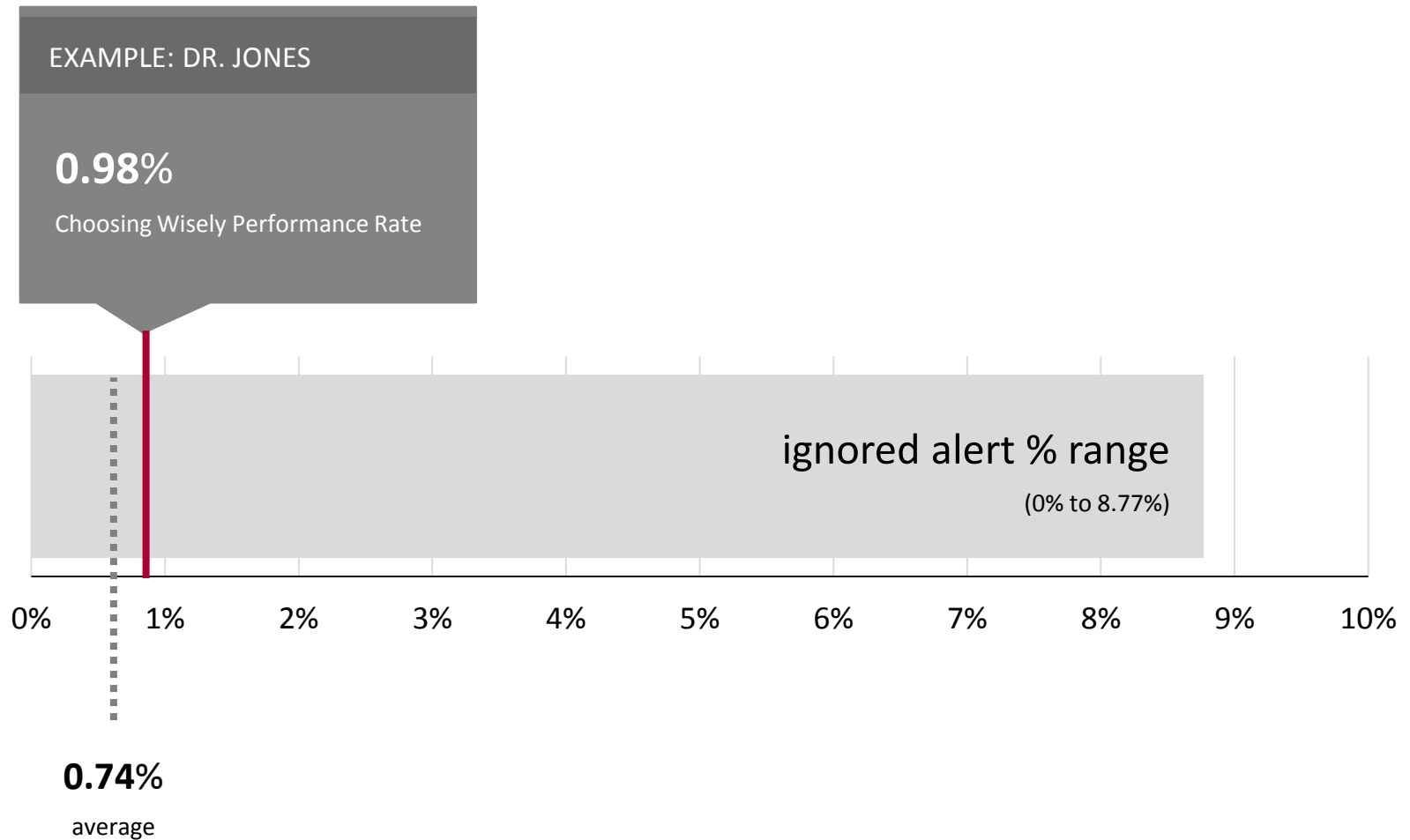| Category	Rate
Low risk imaging for PE	8%
Brain imaging for syncope	9%
Echo after valve replacement	9%
Vitamin D deficiency testing	10%
Antipsychotics in dementia	10%
GCSF	13%
Benzodiazepines / SH in elderly	15%
DVT workup	16%
NSAIDS in hypertension	23%
Lyme disease testing	24%
Carotid imaging for syncope	27%

Lessons Learned

- **Process is important**
  - Governance
  - Education
  - Clinical decision support
  - Monthly individual physician Choosing Wisely adherence feedback
- **Acceptance is high**
  - "Do" alerts vs "Don't" alerts
  - Cancellation rates for Choosing Wisely: 12% vs 2-4% for other alerts
  - Actual impact likely higher (estimated 3:1) due to "education effect"
- **Alert fatigue not a big factor**
  - Each MD typically sees only 1-5/month
  - "Retire" alerts over time and turn new ones on
- **Ongoing improvements in alert results from physician feedback**

CEDARS-SINAI®

Reinforcing Appropriate Care: Identifying Subspecialty Network

- Select subspecialists for PCP referral risk-based contracts
- Identify subspecialists who provide high quality, cost-effective care with high levels of patient satisfaction
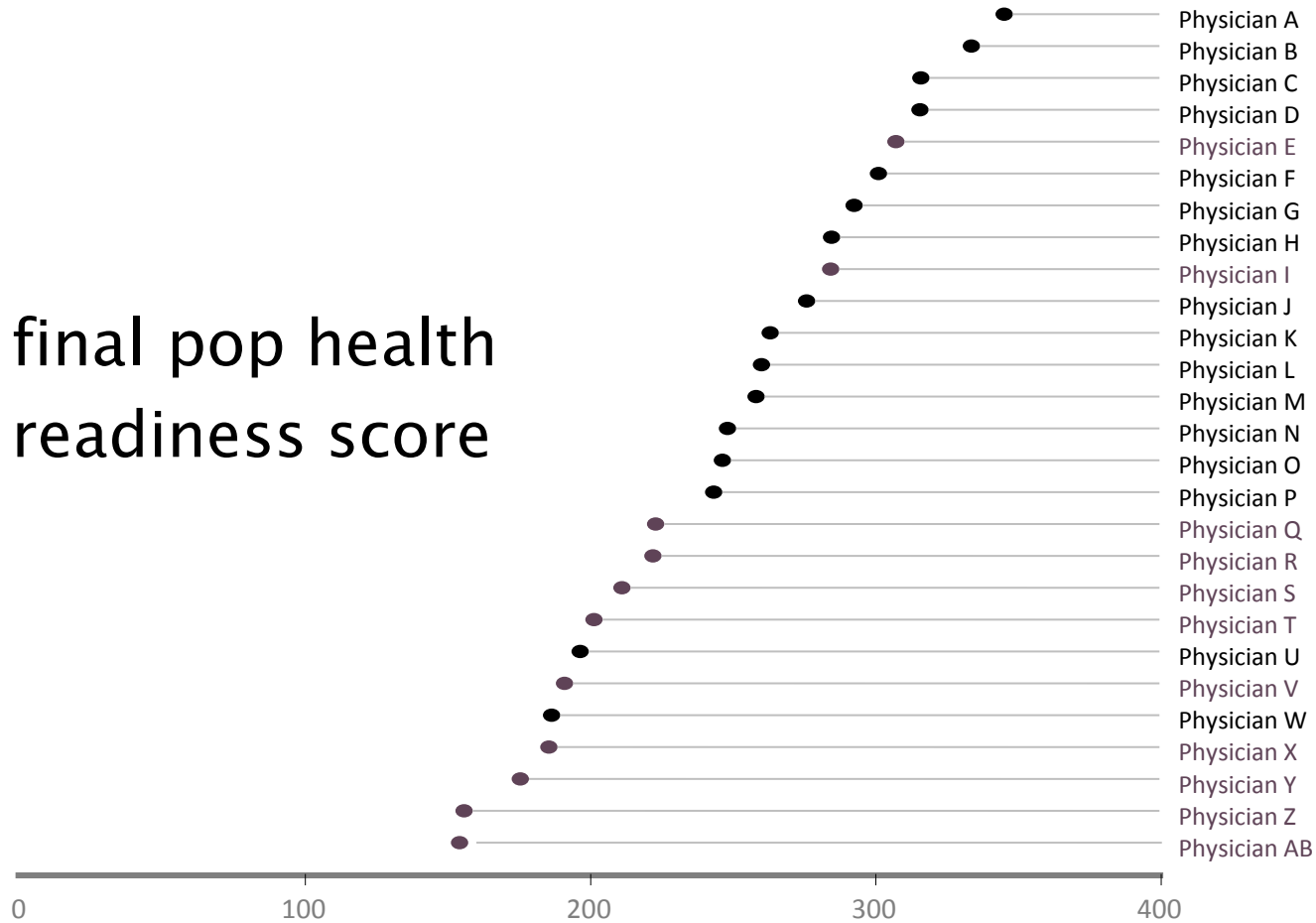- Use data to drive an evidence-based approach

How Does Performance Compare with Peers?

EXAMPLE: DR. JONES

0.98%

Choosing Wisely Performance Rate

ignored alert % range

(0% to 8.77%)

0% 1% 2% 3% 4% 5% 6% 7% 8% 9% 10%

0.74%

average

final pop health
readiness score

- **Multi-pronged approach**
  - Ambulatory and inpatient
  - Focus on physicians and extended care teams
- **Leverage the EHR with other data**
  - CDS experience
  - Incorporating EHR data to identify specialty network
- **Impact has been significant**
  - Safely reduced utilization and costs
  - Improved quality
  - Bonuses from health plans for reducing utilization
- **On the horizon**
  - Expand involvement in ACOs and risk-based contracts
  - Expand programs beyond patients under risk-based contracts