Reforming States Group – November 12, 2015

Reducing Avoidable Emergency Department Utilization

First things first…

- Conflicts or disclosures: None
- Thanks and acknowledgements
- A brief follow-up from RSG 2014

Case 1 – Minor outpatient surgery

Case 1 – Medication mix-up

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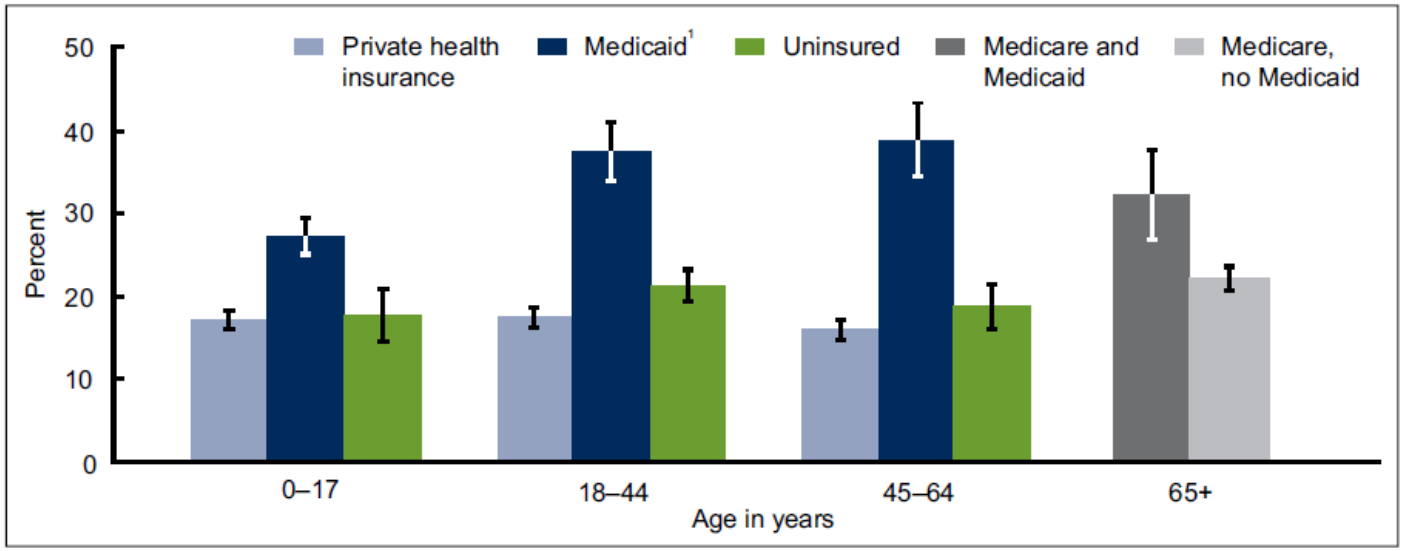
Case 2 – Swedish light bulbs

Is avoidable ED use a major problem?

The scope of the problem

Background

- About 10-15% of all ED visits are for non-urgent or primary care treatable issues
- Medicaid beneficiaries are more likely to use the ED



[1]Includes Children's Health Insurance Program coverage.
NOTES: Error bars indicate 95% confidence intervals. Private, Medicaid, and uninsured categories are mutually exclusive. Persons with both private and Medicaid coverage are categorized as having private coverage. Access data table for Figure 2 at:
http://www.cdc.gov/nchs/data/databriefs/db38_tables.pdf#2.
SOURCE: CDC/NCHS, National Health Interview Survey.

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Increasing ED Use

- EDs are now the main source of hospital admissions
  - About 70% of non-elective admissions are through the ED
- Non-elective admissions from clinics dropped by 25% between 2003 and 2009

A snapshot of ED use in the VA

Usage category (visits/year)	# of patients (%)	# of visits (%)
1	493,391 (53)	493,391 (24.5)
2-4	356,258 (38.3)	910,195 (45.3)
5-10	70,741 (7.6)	447,875 (22.3)
11-25	9,705 (1.0)	137,152 (6.8)
>25	617 (0.07)	21,669 (1.1)

Raven, et al. (2013). Annals of Emergency Medicine. 62(2):151-159

Measuring avoidable ED use

- Identifying avoidable ED visits is challenging
  - ED discharge diagnoses that are “non-emergent” or “primary care treatable”
  - Various algorithms are promoted
  - Poor correlation between the patient’s complaint and the seriousness of the issue or ultimate need for admission
    - A patient with chest pain could have acid reflux or could be having a heart attack

Raven, et al. (2013). JAMA. 309(11):1145-1153.

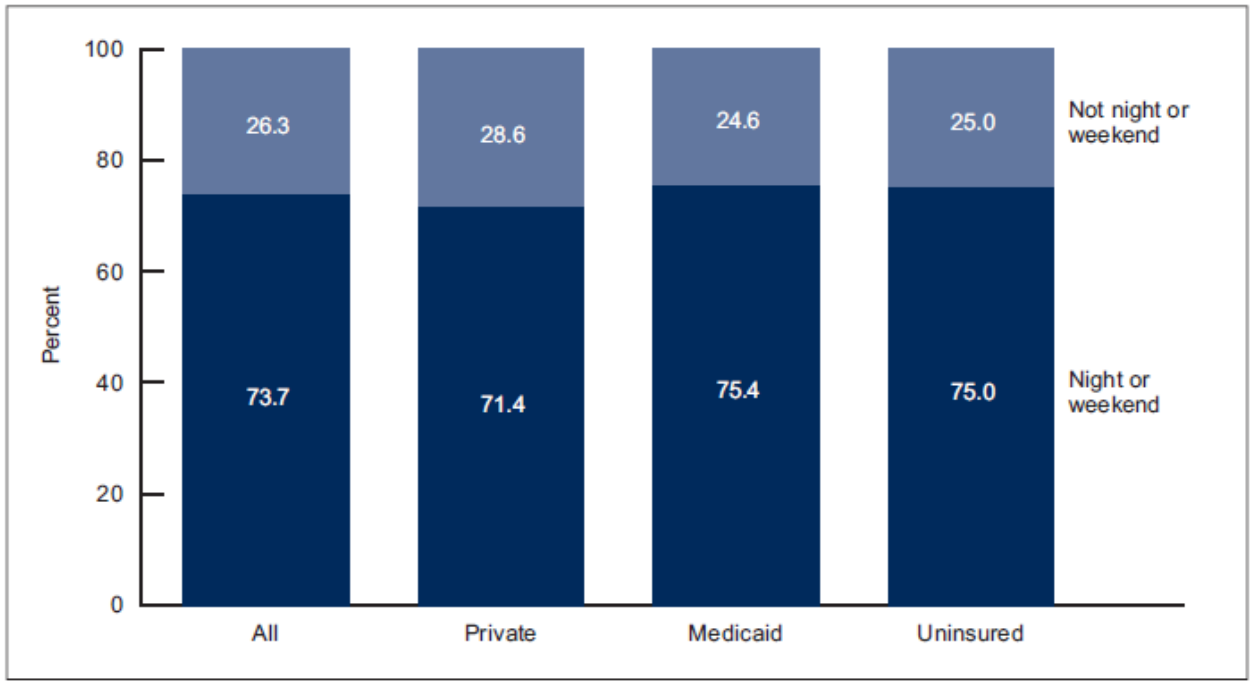
Area of interest and innovation

- CMS Diversion Grant Program, 2008-2012
  - $50 million to support 29 projects in 20 states
    - Increased primary care capacity
    - ED to primary care linkages
    - Programs targeting superutilizers
  - 12 states (16 programs) submitted brief results
  - Effect and sustainability of the programs was mixed

Why do people go to the ED anyway?

Causes of avoidable ED utilization

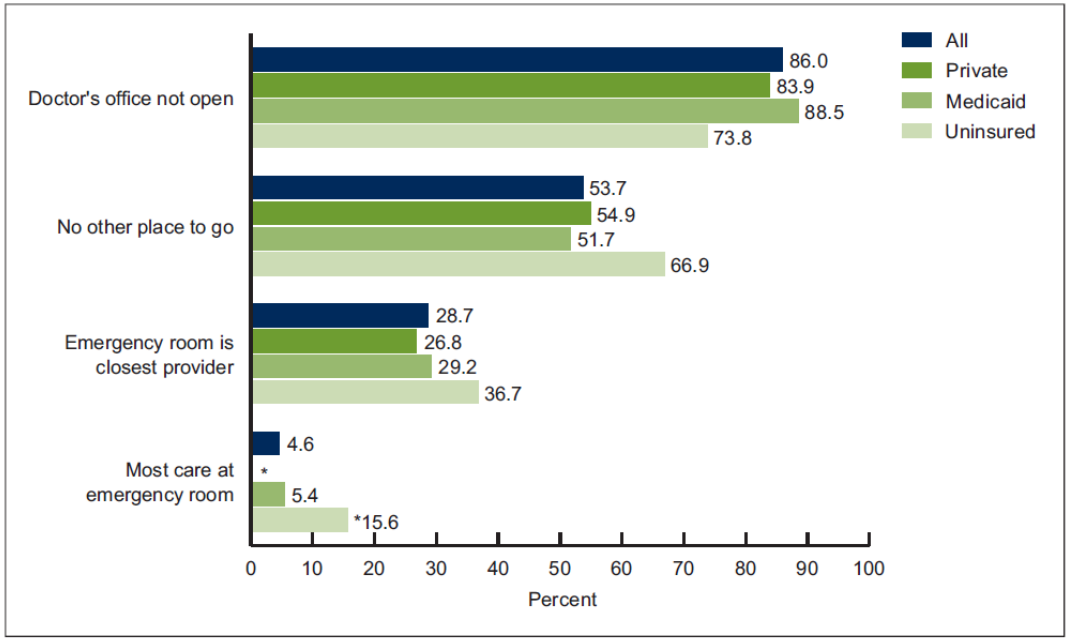
Access



SOURCE: CDC/NCHS, National Health Interview Survey, 2012.

Gindi, et al. (2014). NCHS Data Brief. No. 160

Access



* Estimate has a relative standard error (RSE) greater than 30% and less than or equal to 50% and is considered unreliable. Estimate should be used with caution. Data not shown have an RSE greater than 50%.
NOTE: "Reasons other than seriousness of the medical problem" is a summary based on positive responses to any of the related detailed reasons included in this figure. Respondents could select more than one reason.
SOURCE: CDC/NCHS, National Health Interview Survey, 2012.

Gindi, et al. (2014). NCHS Data Brief. No. 160

Patient factors

Characteristics	Odds ratio for 11-25 visits	Odds ratio for >25 visits
Homelessness	4.43	6.60
Schizophrenia	3.72	6.86
Opioid prescription	5.06	5.08
Substance abuse	2.85	2.97

Raven, et al. (2013). Annals of Emergency Medicine. 62(2):151-159

Patient factors

Patient Subgroup	Number	% of all superutilizers
Terminal cancer patients	11	0.7%
Emergency dialysis patients	30	1.8%
Orthopedic surgery patients	60	3.6%
Trauma patients	195	11.6%
Patients with serious mental health diagnosis	685	40.7%
Patients with multiple chronic conditions	701	41.6%

Johnson, et al. (2015). Health Affairs. 34(8):1312-1319.

Practice culture and patterns

- Changing relationships between PCPs, EDs, and hospitalists
- Productivity demands for PCPs make it hard to accommodate acutely ill patients
  - These patients are often referred to the ED
  - Fewer direct admissions from outpatient clinics
  - Ease of complex diagnostic work-ups

Morganti, et al. (2013). RAND Research Report.

Does overuse of the ED matter?

Impacts of avoidable ED utilization

Overcrowding

- ED use grew at twice the rate of population growth from 2001 to 2008
- 198,000 fewer hospital beds during the same period
- This has led to overcrowding and boarding
  - Associated with poorer patient outcomes

Lost opportunity for care coordination

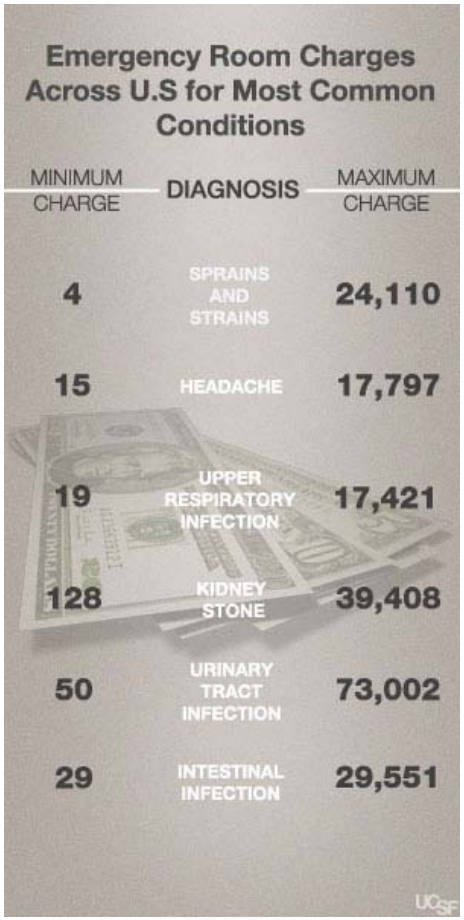
- Poor coordination with PCPs and erratic follow-up
- Preventive care falls through the cracks
- Medication errors

Perspectives on ED “cost”

Diagnosis	Mean total ED bill	Mean total PC office bill
Otitis media	$410	$157
Acute pharyngitis	$562	$152
Urinary tract infection	$776	$189

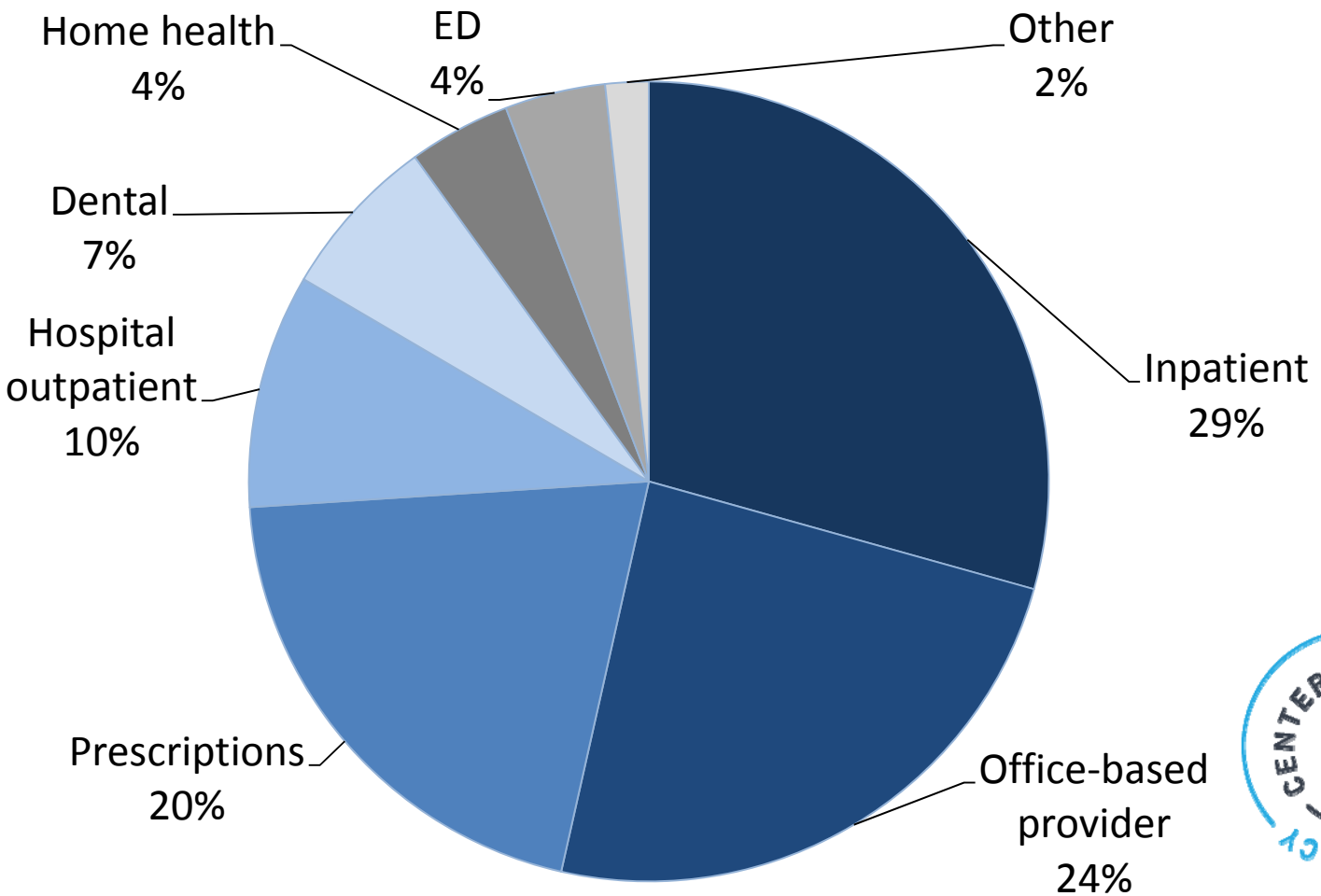
Mehrotra, et al. (2009). Annals of Internal Medicine. 151(5): 321-328.

Perspectives on ED “cost”



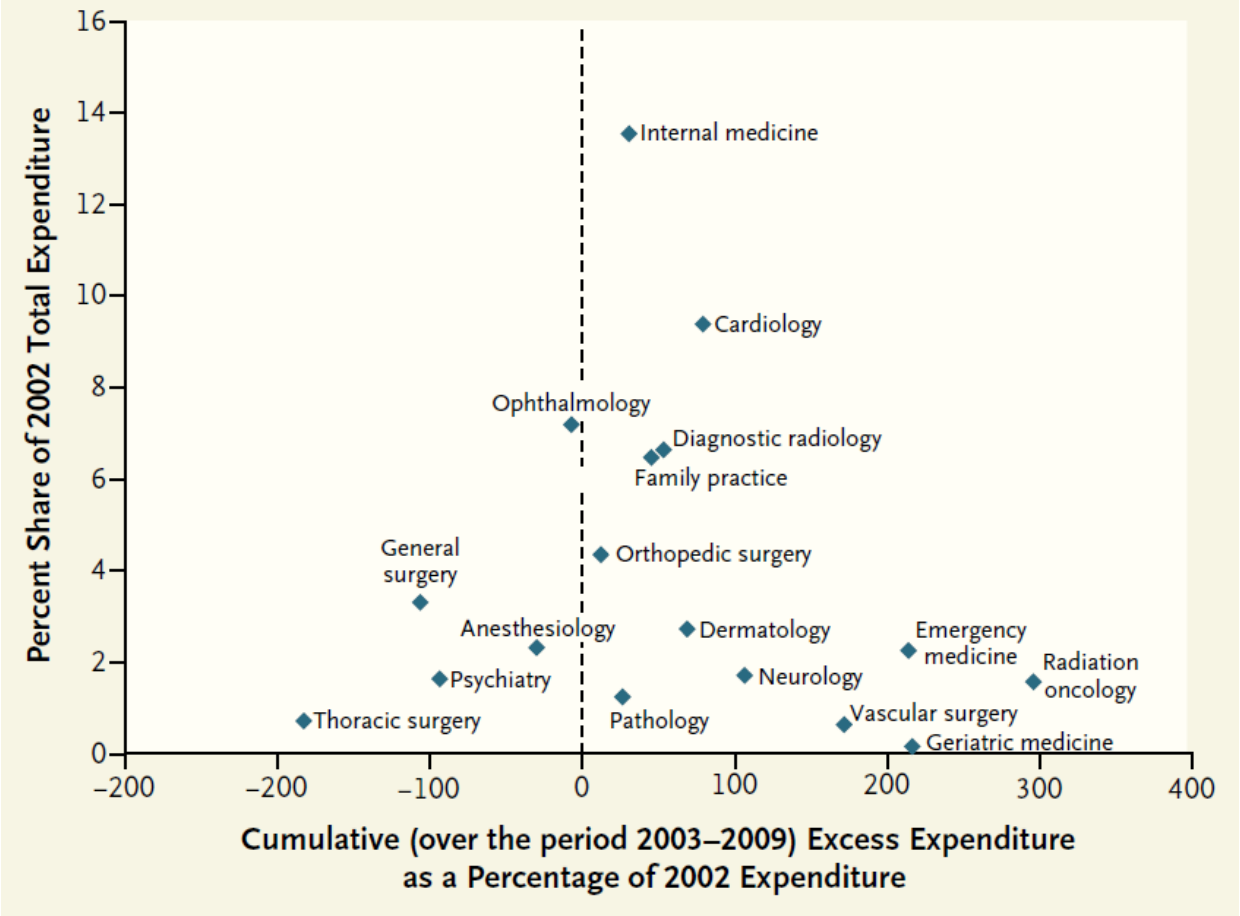
Caldwell, et al. (2013). PloS One. 8(2): e55491.

Perspectives on ED “cost”



Medical Expenditure Panel Survey, 2009

Perspectives on ED “cost”



Alhassani, et al. (2012). New England Journal of Medicine. 366(4): 289-291.

Perspectives on ED “cost”

“Put simply, when an ED is fully staffed to manage 2 major traumas, a myocardial infarction and a septic neonate at the same time, it does not take many additional resources to evaluate a sprained ankle or a headache.”

HEALTH

What Are a Hospital’s Costs? Utah System Is Trying to Learn

By GINA KOLATA SEPT. 7, 2015

Lowe, et al. (2012). Annals of Emergency Medicine. 58(3):235-238.

What is being tried to reduce avoidable ED use?

Proposed solutions

CMS Guidance

- Center for Medicaid and CHIP Services (CMCS) Bulletin on reducing non-urgent use (July 2014)
  - Three proposed strategies:
    - Expanded primary care access
    - Programs targeting super-utilizers
    - Programs addressing co-morbid mental health and substance abuse issues
  - Differential payments and cost-sharing

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

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CMS Guidance

- CMCS Bulletin on super-utilizer programs
  - Offers support by way of:
    - Enhanced federal match for MMIS redesign or health information exchanges
    - Assistance with utilization review and data analysis
    - Temporary enhanced match for Medicaid health homes
    - Shared savings methodologies for integrated care and case management
  - Super-utilizer program case studies
    - OR, NC, MN, ME, MI, VT

Studied interventions

- Patient education programs
- Increased primary care capacity
- Pre-hospital diversion
- Managed care: Capitation and gatekeeping
- Patient financial incentives

Studied Interventions

- Intensive case management programs
  - Care coordination by social workers
  - Crisis intervention
  - Supportive therapy
  - Assistance with benefits applications
  - Substance abuse treatment
  - Supportive housing
  - “Assertive community outreach”

Discussion

1. Is this issue serious enough to warrant attention from policymakers?

2. What kind of evidence would you want that these programs work before moving forward?

What does the evidence say about these programs?

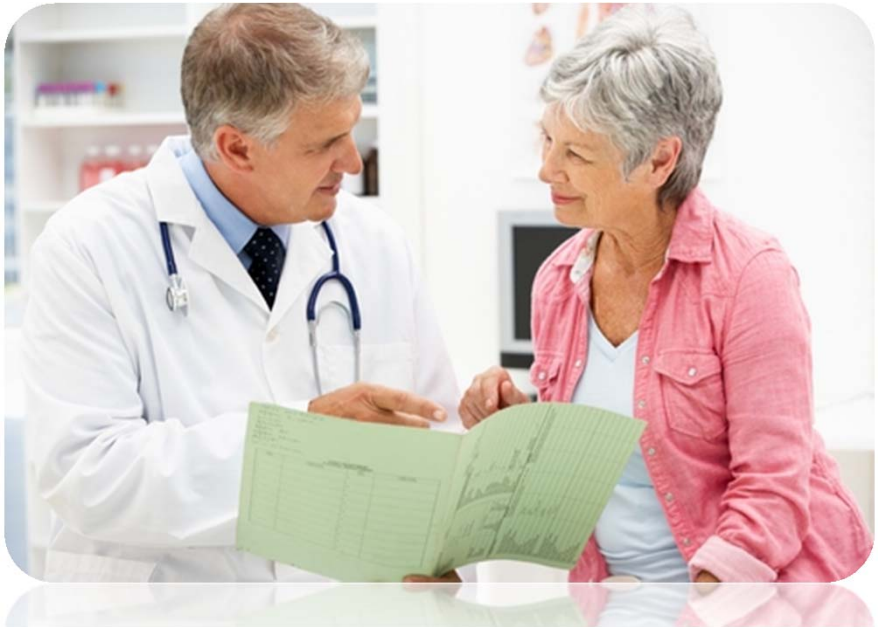
Systematic reviews of the evidence

Systematic Review – Morgan 2012

- Non-ED interventions to reduce ED visits
- 5 RCTs, 34 observational studies
- Mostly very low quality because of design
- Mix of public and private insurance
- Some studies outside the U.S.

Systematic Review – Patient Education

- Patient education interventions (5 studies)
  - 2 studies showed 20-80% decrease in ED use
  - 3 studies with non-significant decreases



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Systematic Review – Expanded access

- Expanded non-ED capacity interventions (10 studies)
  - Mix of new community clinics and increased access at existing clinics
  - 4 studies showed decreased ED use (9% to 54%)
  - 5 studies found no difference
  - 1 study found a 21% increase in ED use
  - Most found significant increase in non-ED care
  - 2 reported on total cost with mixed results (-16% to +20%)

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Systematic Review – Pre-hospital diversion

- Pre-hospital diversion interventions (2 studies)
  - 1 study (U.S.-based) offered ~1,000 low acuity patients care at home or in the PC office
  - 7% decrease in ED use compared with matched historical controls

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Systematic Review – Managed care

- Managed care interventions (12 studies)
  - 6 studies on effects of capitation, 5 studies on PC gatekeeping, 1 hybrid study
  - 9 studies found decreases in ED use of 1% to 46%
  - 3 studies found no difference in ED use
  - 2 reported total cost decreases with capitation
  - Better designed trials showed more modest effects

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Systematic Review – Financial incentives

- Financial incentive interventions (10 studies)
  - Mix of co-payments, co-insurance, or high-deductibles
  - 9 studies found decreases in ED use of 3% to 50%
  - 1 study found increased ED use of 34%
  - 3 reported mixed cost outcomes

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Systematic Review – Althaus 2011

- Programs targeting super-utilizers
- 3 RCTs, 8 before-and-after studies
- Low-to-moderate quality evidence
- About half conducted in the U.S.
- Mostly case management of varying intensity
- Relatively short follow-up periods (5 to 24 months)

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Systematic Review – Althaus 2011

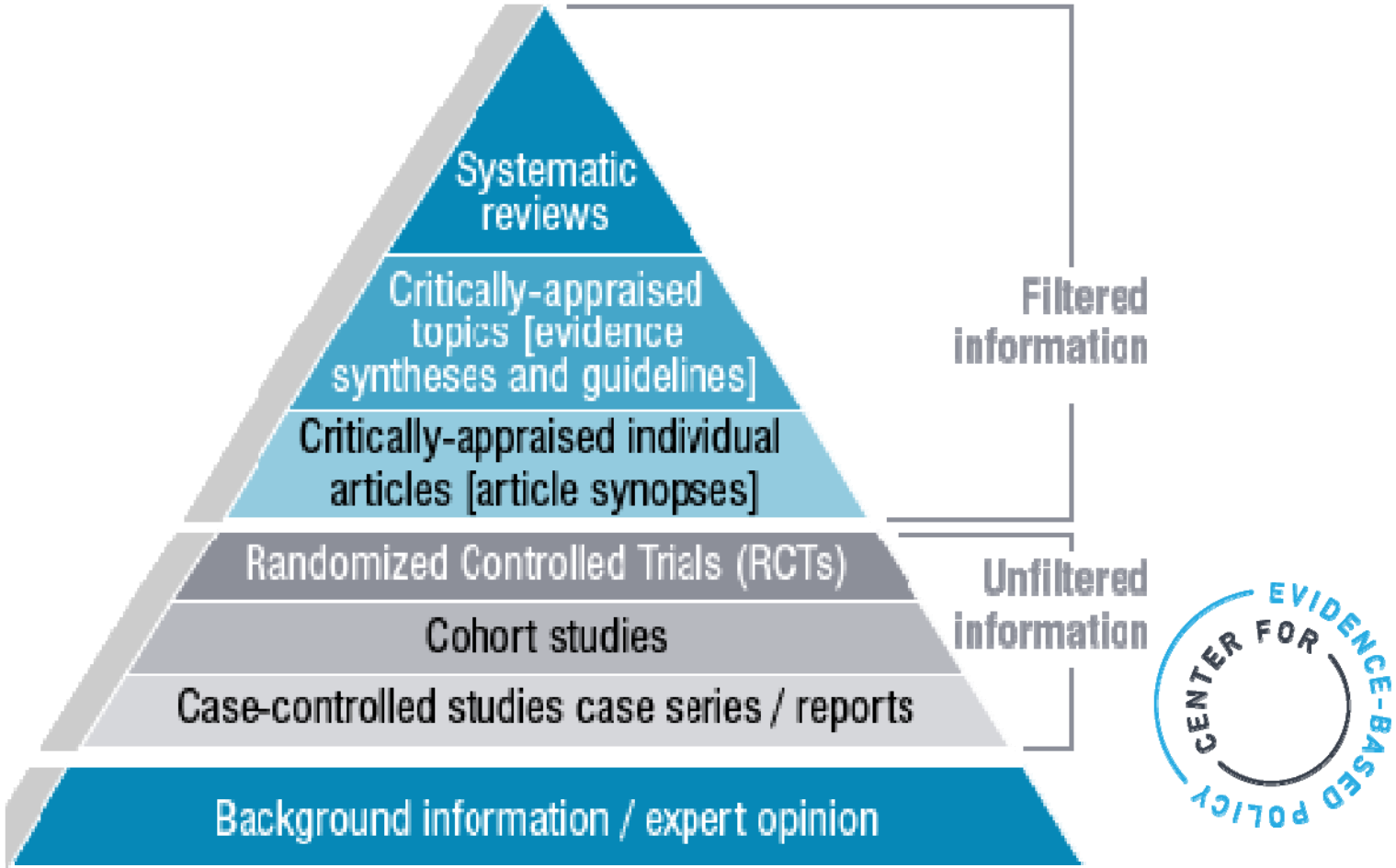
- 7 programs showed decreases in ED use
- 3 programs showed no difference
- 1 program showed an increase in ED use
- Effect on total cost (from perspective of the hospital) was mixed in 3 studies
  - 1 RCT reporting on cost found better social and clinical outcomes at the same cost as “usual care”
- Other benefits: decreased substance abuse and homelessness, increased primary care engagement

Discussion

1. Is this evidence adequate to support wider adoption of these programs?

2. What concerns do you have about the evidence, and what other outcomes would be of interest?

Risk of bias in study designs

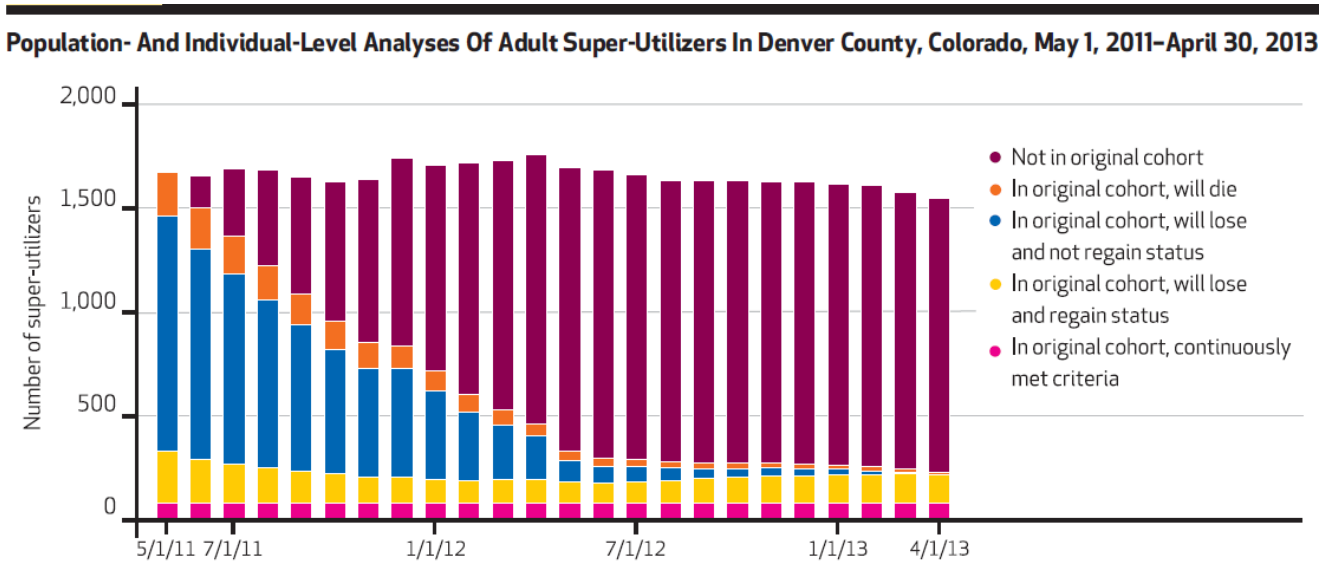


Risk of bias in study design

- Higher quality studies less likely to show effects
- Outcomes are often preliminary (6 or 12 month effects)
- Publication bias

Risk of before-and-after studies

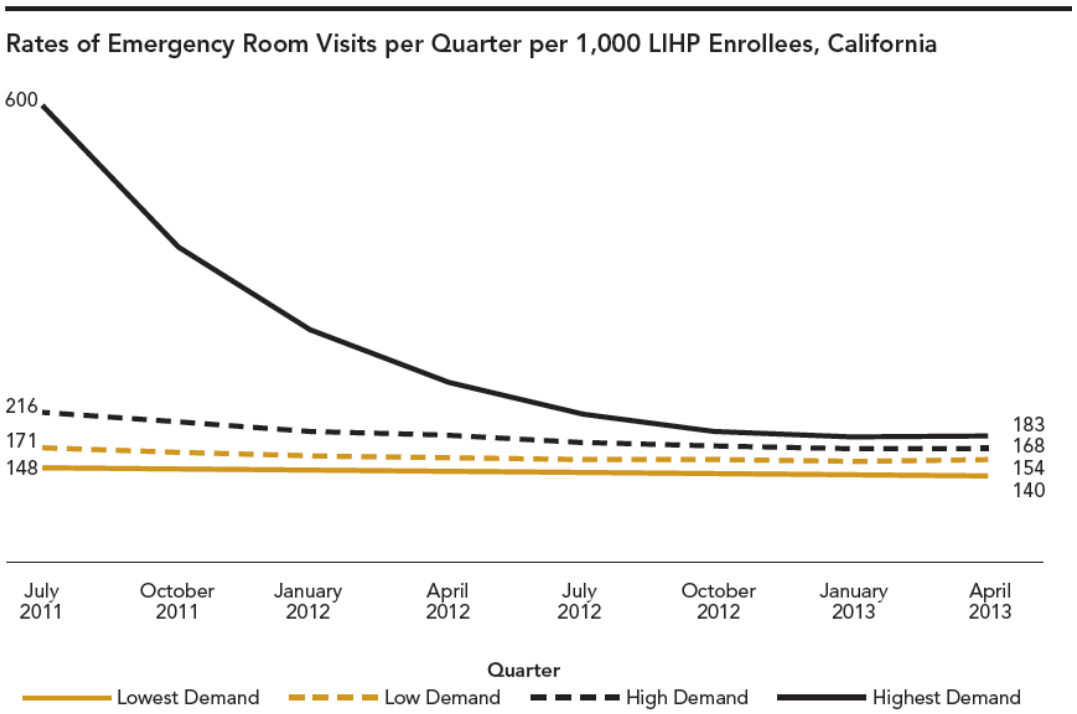
- Observed differences in a group after the intervention could be due to:
  - Other changes occurring simultaneously
  - Natural history of the problem



Johnson, et al. (2015). Health Affairs. 34(8):1312-1319.

Risk of before-and-after studies

- The natural history of ED use may also vary by enrollment time



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Indirectness

- Caution with multicomponent interventions
- Broader use of highly targeted interventions
- Lack of head-to-head comparisons (choosing among multiple policy options)

Imprecision

- Wide estimates of the effects in the studies
- “Discounting” for effects in the real world

Unintended outcomes

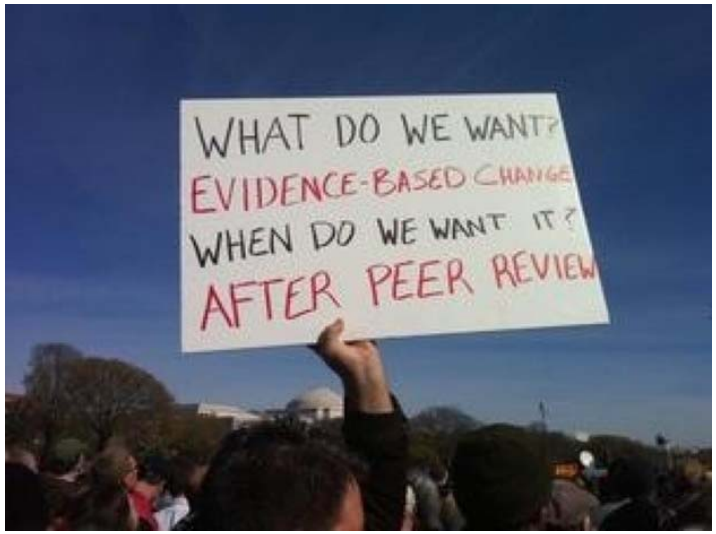
- Co-pays in Oregon Medicaid (OHP vs OHP Plus)

Service type	Probability of service use	Expenditure per user	Expenditure per person
ED	-8%	+8%	-2%
Inpatient	**+27%**	**-6%**	**+20**
Overall			+2%

Wallace, et al. (2008). Health Services Research. 43(2):1312-1319.

The evidence isn’t clear – how do we move forward?

Dealing with insufficient evidence



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An opportunity

- When the evidence is lacking, policy innovation can be even more important
  - Must be done with careful plans for evaluation
  - Focus on outcomes that matter to you as policymakers
  - Academic and agency collaborations

Washington ER is for Emergencies

- Collaboration with hospitals and providers
- Seven best practices:
  - Health information exchange
  - Patient education
  - Identification of frequent users
  - Care plans and primary care follow-up
  - Strict narcotic guidelines
  - Participation in prescription drug monitoring
  - Feedback to hospitals on performance

Washington ER is for Emergencies

- 10% reduction in ED use with a 23% reduction for the most frequent users
- Overall cost savings of $10 million in fee-for-service and $23 million in managed care

What's on the horizon?

Emerging data and ideas

Effect of primary care medical homes

- Medicare beneficiaries in PCMHs had lower rates of ED use than those in non-PCMHs
- A pilot PCMH and shared saving program in PA reduced ED (and inpatient) utilization and improved quality
- A multipayer PCMH pilot in CO reduced ED use by 8-10%

Pines, et al. (2015). Annals of Emergency Medicine. 65(6):652-660
Friedberg, et al. (2015). JAMA Internal Medicine. 175(8):1362-1368
Rosenthal, et al. (2015). Journal of General Internal Medicine. Pre-pub [Oct 8, 2015]

Cold-spotting?

- Seeks to understand and address community factors that lead to avoidable healthcare use

> The health care problems and overrun costs are not due to individual patients. Our problems are systemic and community-based. The problem sheds are not in individual homes or with individual patients—hot spots. The problem sheds are larger, wider cold spots. The cure requires a community approach, linking public health and primary care in explicit partnerships that address the needs of the individual and build an environment and community that supports healthy living. Together, when we build a community of solution, we eliminate cold spots, which will also help eliminate our hot spots.

Westfall, J.M. (2013). Journal of the American Board of Family Medicine. 26(3):228-230

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Questions and Discussion