

Knowledge Gaps and Overuse

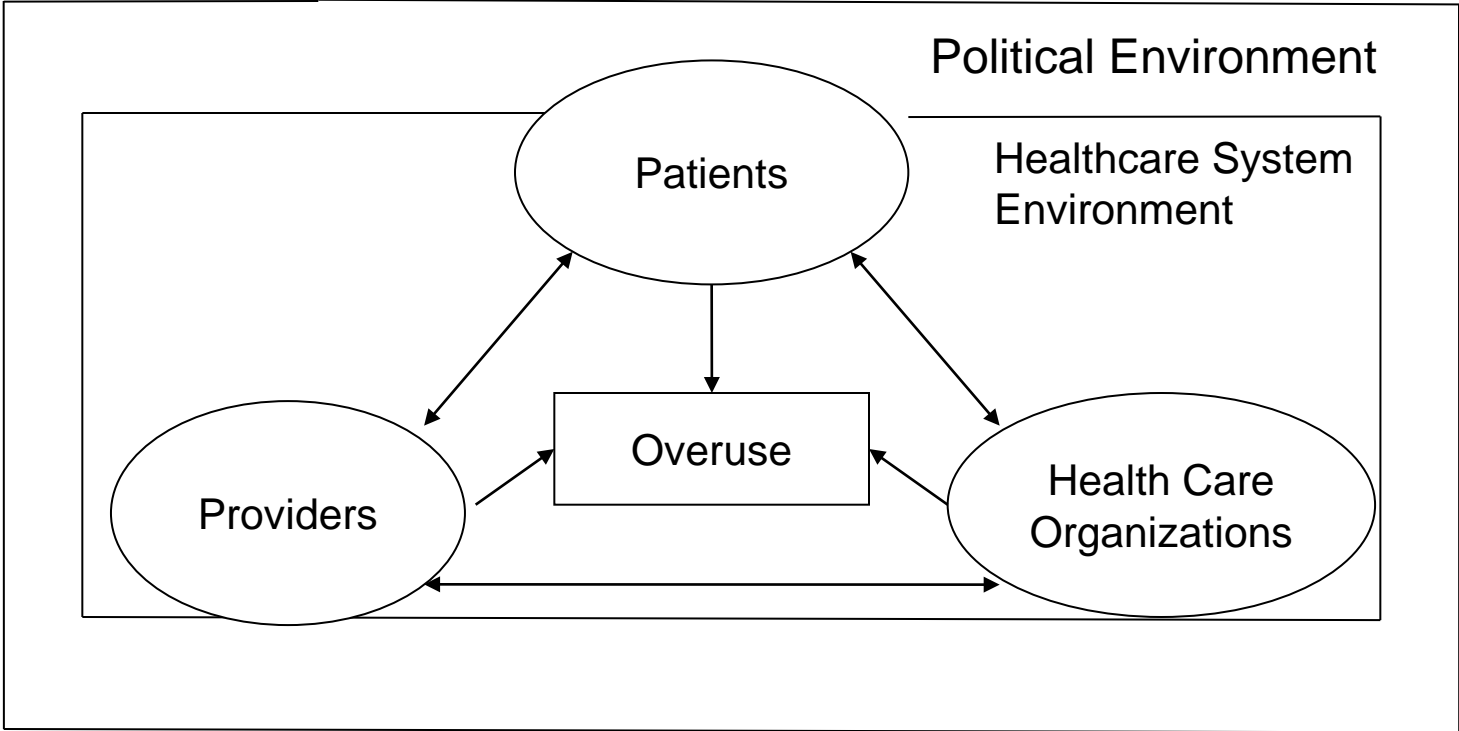
Salomeh Keyhani MD MPH

Assistant Professor

University of California, San Francisco

San Francisco VA Medical Center

A Conceptual Model of Overuse in the US Health Care System



Provider factors
 Payment Incentives
 Evidence
 Guidelines/Measures
 Knowledge
 Defensive Medicine

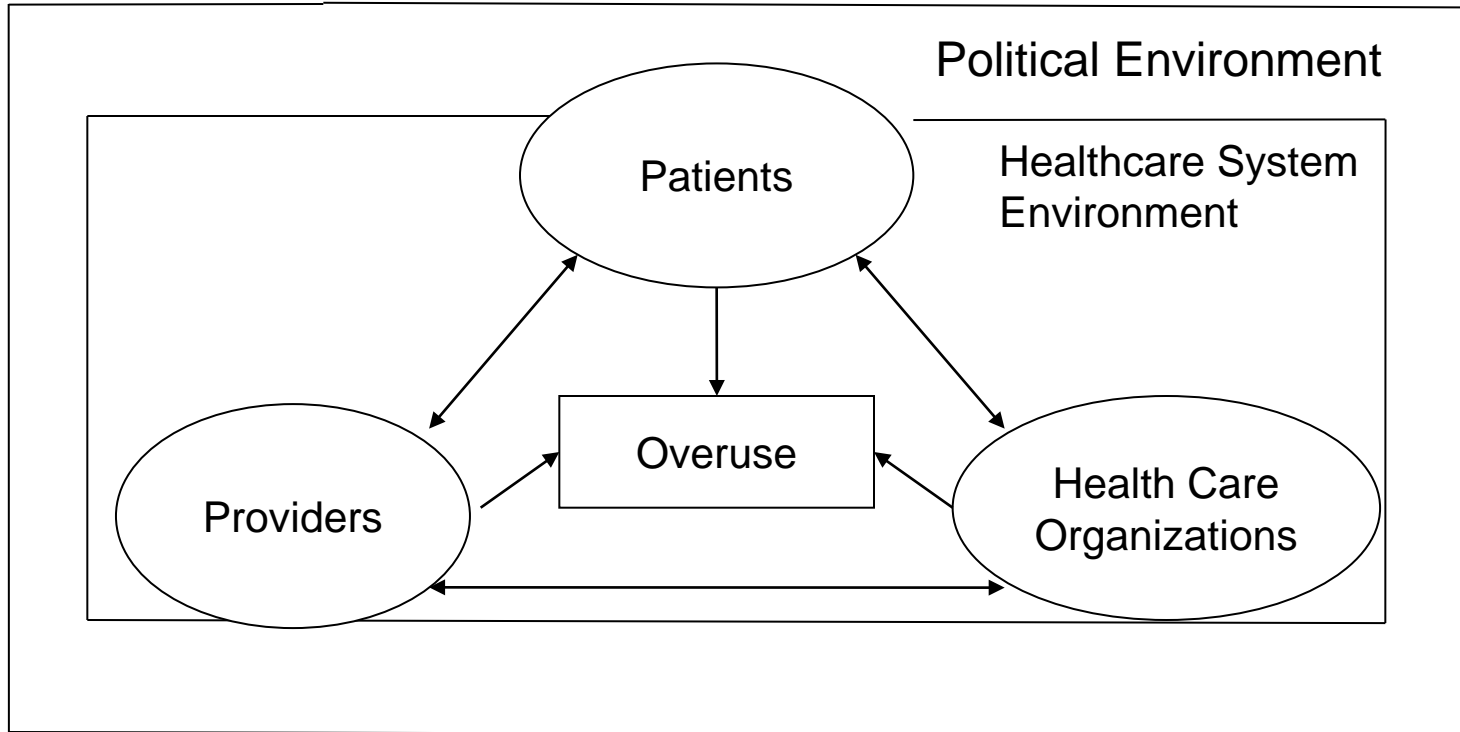
Patient Factors
 Sources of Information
 Preferences
 Direct-to-Consumer
 Advertising

Health Care Organizations
 Payment Incentives

Health Care Environment
 Conflicts of Interest
 Industry relationships

Political Environment
 Regulation
 Industry location

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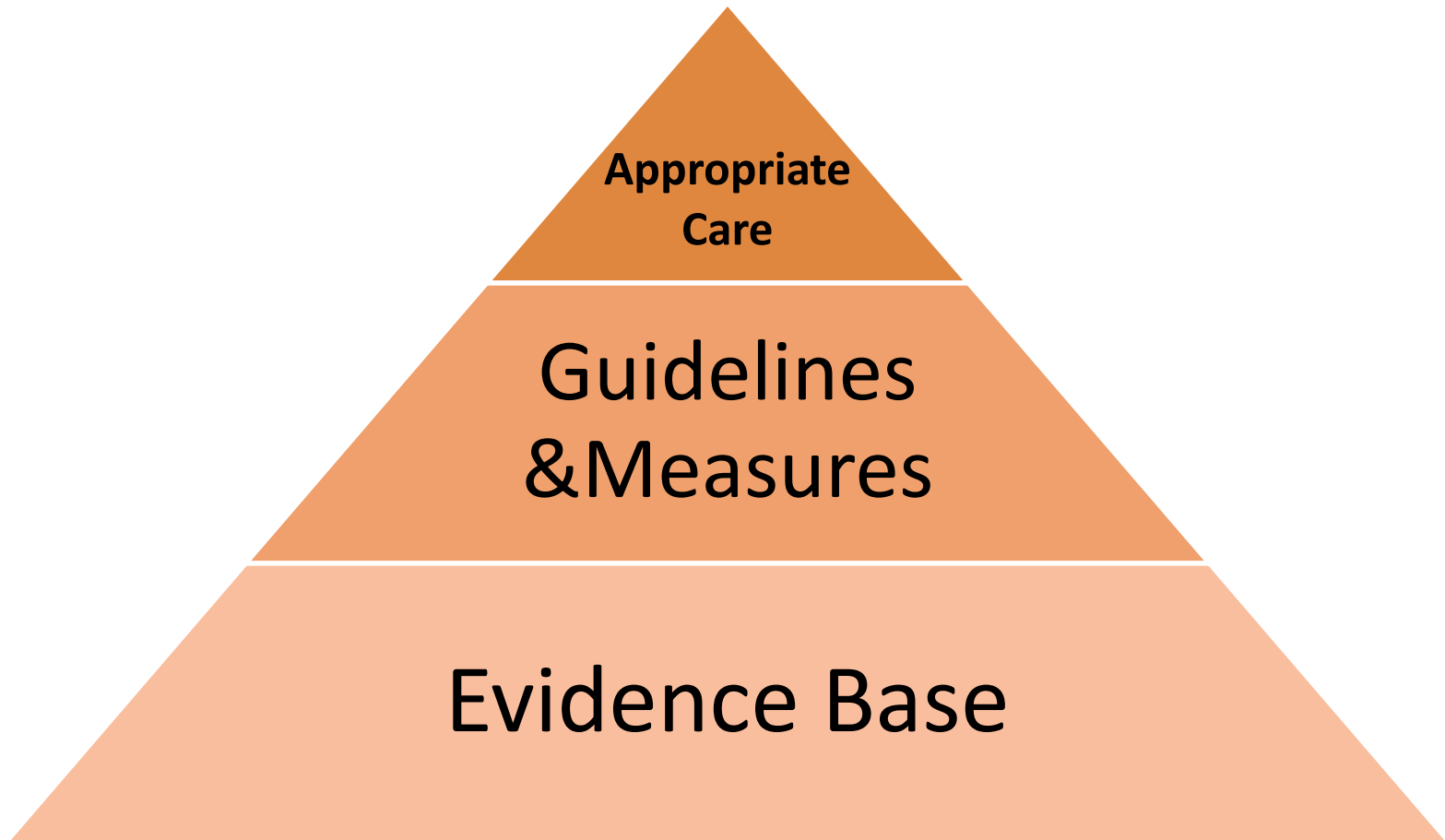
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A poor foundation to rest upon



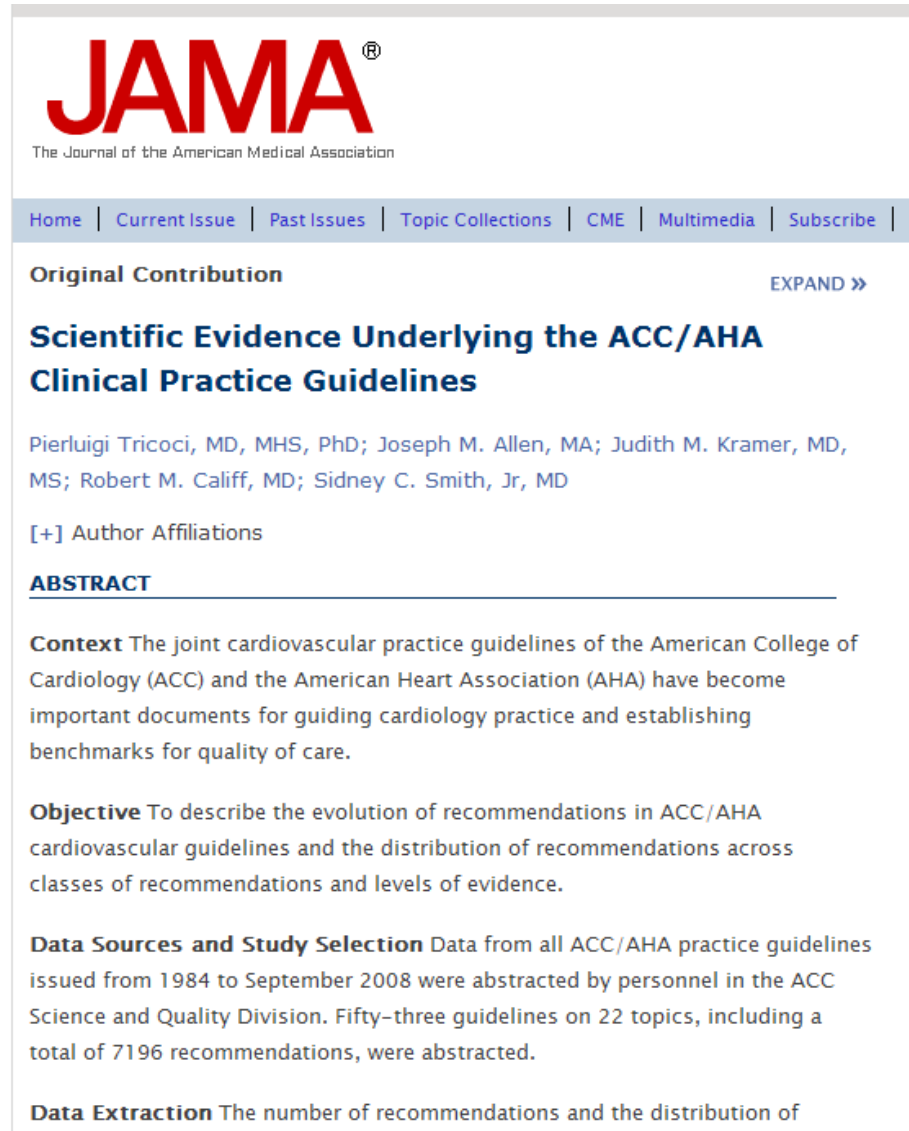
Evidence Base

Problem	Source
13% Clinical Trials Refuted in one Year	Frequency of Medical Reversal, Archives of Internal Medicine 2011
Pro Industry Bias in Publications	Pharmaceutical industry sponsorship and research outcome and quality: systematic review, BMJ 2003
Tampering with design	Pharmaceutical industry sponsorship and research outcome and quality: systematic review, BMJ 2003
Null findings less likely to be published	Publication bias in clinical trials due to statistical significance or direction of trial results. Cochrane Database Systematic Review, 2009
Academic conflicts (Pro-intervention interpretation of evidence)	Claims for improved survival from systemic corticosteroids in diverse conditions: an umbrella Review. European Journal of Clinical Investigation, 2012
Lack of needed trials	Exploring the Geometry of Treatment Networks, Annals of Internal Medicine 2008

Guidelines

- Quality of Guidance
- How easy is it to follow the guideline?

Quality of Recommendations



The image is a screenshot of a web page from JAMA (The Journal of the American Medical Association). The page features the JAMA logo in red at the top left, with the text 'The Journal of the American Medical Association' below it. A navigation bar contains links for 'Home', 'Current Issue', 'Past Issues', 'Topic Collections', 'CME', 'Multimedia', 'Subscribe', and 'P'. The main content area is titled 'Original Contribution' with an 'EXPAND »' link. The article title is 'Scientific Evidence Underlying the ACC/AHA Clinical Practice Guidelines'. The authors listed are Pierluigi Tricoci, MD, MHS, PhD; Joseph M. Allen, MA; Judith M. Kramer, MD, MS; Robert M. Califf, MD; and Sidney C. Smith, Jr, MD. There is a '[+] Author Affiliations' link. The 'ABSTRACT' section is underlined and contains three paragraphs: 'Context', 'Objective', and 'Data Sources and Study Selection'. The 'Context' paragraph states that ACC and AHA guidelines are important for guiding practice and establishing benchmarks. The 'Objective' paragraph describes the study's goal to analyze the evolution and distribution of recommendations. The 'Data Sources and Study Selection' paragraph details that data from 1984 to 2008 was abstracted, resulting in 7196 recommendations. The 'Data Extraction' paragraph is partially visible at the bottom.

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Scientific Evidence Underlying the ACC/AHA Clinical Practice Guidelines

Pierluigi Tricoci, MD, MHS, PhD; Joseph M. Allen, MA; Judith M. Kramer, MD, MS; Robert M. Califf, MD; Sidney C. Smith, Jr, MD

[\[+\] Author Affiliations](#)

ABSTRACT

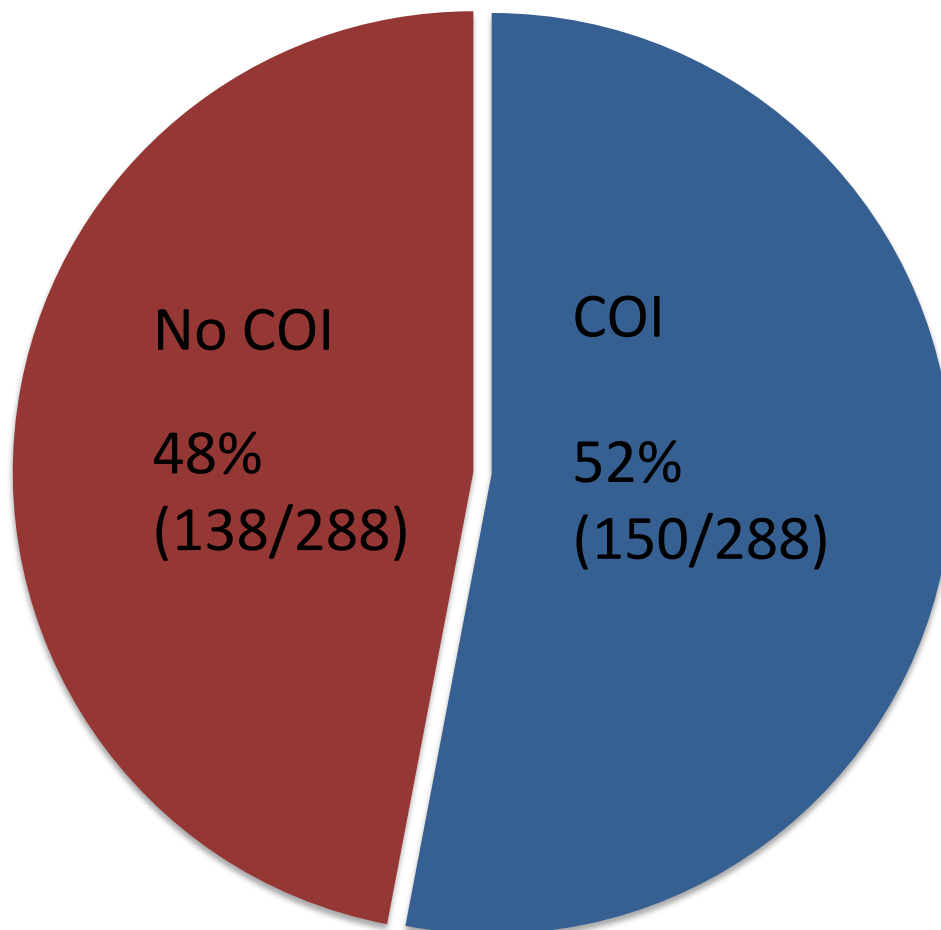
Context The joint cardiovascular practice guidelines of the American College of Cardiology (ACC) and the American Heart Association (AHA) have become important documents for guiding cardiology practice and establishing benchmarks for quality of care.

Objective To describe the evolution of recommendations in ACC/AHA cardiovascular guidelines and the distribution of recommendations across classes of recommendations and levels of evidence.

Data Sources and Study Selection Data from all ACC/AHA practice guidelines issued from 1984 to September 2008 were abstracted by personnel in the ACC Science and Quality Division. Fifty-three guidelines on 22 topics, including a total of 7196 recommendations, were abstracted.

Data Extraction The number of recommendations and the distribution of

Quality of Recommendations-- Conflicts of Interest (COI) Among Guideline Panelists



Neuman J, Korenstein D, Ross JS, Keyhani S, "Prevalence of Conflicts of Interest Among Guideline Panel Members, BMJ 2011

How Easy is it to Follow the Guideline?

Guidelines Asymptomatic Carotid Stenosis

The American Academy of Neurology recommends that “it is reasonable to consider CEA for patients between the ages of 40 and 75 years and with asymptomatic stenosis of 60 to 99% if the patient has an expected 5-year life expectancy and if the surgical stroke or death frequency can be reliably documented to be 3%.”

Case of Tympanostomy

- Guideline for the Surgical Treatment of Otitis Media with Effusion

The American Academies of Pediatrics, of Family Medicine, and of Otolaryngology – Head and Neck Surgery 2004 guideline states that tympanostomy tube insertion is appropriate after 4 months of persistent effusion with bilateral hearing loss.

Free Market Place of Guidance

Organization	Population	Age	Interval
US Preventative Services Task Force	Asymptomatic with sustained BP > 135/80	adults	optimal interval unknown
American Association of Clinical Endocrinologists	Risk factors for DM	>=30	annually
American Diabetes Association	Consider screening	>=45	3 years
American Heart Association	All patients	>=20	5 years
	Risk factors for diabetes	>=20	2 years
American College of Obstetrics and Gynecology	All women	>=45	3 years
	Risk factors for diabetes	>= 13	unspecified

When should screening stop?

Keyhani, Kim, Mann and Korenstein, Health Affairs, 2011

Overuse measures

- Guidance isn't enough, physicians rarely follow guidelines, need to incorporate guidance at the point of care.
- Measures are needed to track, monitor and incorporate into practice
- Harder to measure inappropriateness than appropriateness

Measures of Overuse?

- National measures of quality focus primarily on the underuse and misuse of health services
- Among the 37 Healthcare Effectiveness Data and Information Set measures proposed for Medicare in 2010, almost all address underuse or misuse of health services. Similar situation for the proposed ACO measures.
- How can you reduce overuse if you only create underuse performance measures?

Challenges

- RAND Appropriateness Method
 - Creates exhaustive and mutually exclusive list of scenarios
 - Cumbersome
 - Expensive

Limited Areas of Focus

- Systematic Review of the Literature

- 172 article measuring overuse

52 on therapeutic procedures

38 diagnostic tests

81 medications

--52% of all studies focused on four areas

CA, CEA, CABG and URI

Opportunities

- Better guidance with recommendations on start/stop
- Screening may be an area where measures may be more easily developed though cultural challenges remain
- Creating measures where guidelines are already available.