



# IQIC ASB 101

October 27<sup>th</sup>, 2022

## Behavior Change

John Lynch, MD, MPH



“Despite clear evidence, guidelines, quality measures and more than 15 years of educational efforts stating the antibiotic prescribing rate should be zero, the antibiotic prescribing rate for acute bronchitis is around 70%”

Barnett, JAMA, 2014



**164. Overtreatment of Asymptomatic Bacteriuria: A Qualitative Study**

Myriam Eyer, MD<sup>1,2</sup>; Matthias Läng, MD<sup>1</sup>; Drahomir Aujesky, MD<sup>3</sup>; Jonas Marschall, MD<sup>1</sup>; <sup>1</sup>Department of Infectious Diseases, Bern University Hospital, Bern, Switzerland; <sup>2</sup>Division of Infectious Diseases, Valais Hospital, Sion, Switzerland; <sup>3</sup>Division of General Internal Medicine, Bern University Hospital, Bern, Switzerland

**Results.** In the 21 interviews, the following thematic rationales for antibiotic overtreatment of ASB were reported (in order of reporting frequency): (1) Treating laboratory findings without taking the clinical picture into account (n = 17); (2) Psychological factors such as anxiousness, overcautiousness or anticipated positive impact on patient outcomes (n = 13); (3) External pressors such as institutional culture, peer pressure, patient expectation, and excessive workload that interferes with proper decision-making (n = 9); 4) Difficulty with interpreting clinical signs and symptoms (n = 8).

**Conclusion.** In this qualitative study we identified both physician-centered factors (e.g. overcautiousness) and external pressors (e.g. excessive workload) as motivators for prescribing unnecessary antibiotics. Also, we interpreted the frequently cited practice of treating asymptomatic patients based on laboratory findings alone as lack of awareness of evidence-based best practices.



# Antibiotic Prescribing Behavior

**The APB of healthcare professionals is governed by a set of cultural rules.** Antimicrobial prescribing is performed in an environment where **the behavior of clinical leaders or seniors influences practice of junior doctors. Senior doctors consider themselves exempt** from following policy and practice within a culture of perceived autonomous decision making that relies more on personal knowledge and experience than formal policy. Prescribers identify with the clinical groups in which they work and adjust their APB according to the prevailing practice within these groups. **A culture of “noninterference” in the antimicrobial prescribing practice of peers prevents intervention into prescribing of colleagues.** These sets of cultural rules demonstrate the existence of a “prescribing etiquette,” which dominates the APB of healthcare professionals. Prescribing etiquette creates an environment in which professional hierarchy and clinical groups act as key determinants of APB.



# Influences That Impact Physician Decision Making

- 80% of physicians feel that they have “little influence on the direction of healthcare”
- Half of all medical information is replaced every 5 years
- New information/data/interventions
- Loss of autonomy
- Habits
- Skepticism (and sometimes fear)



# Illusions

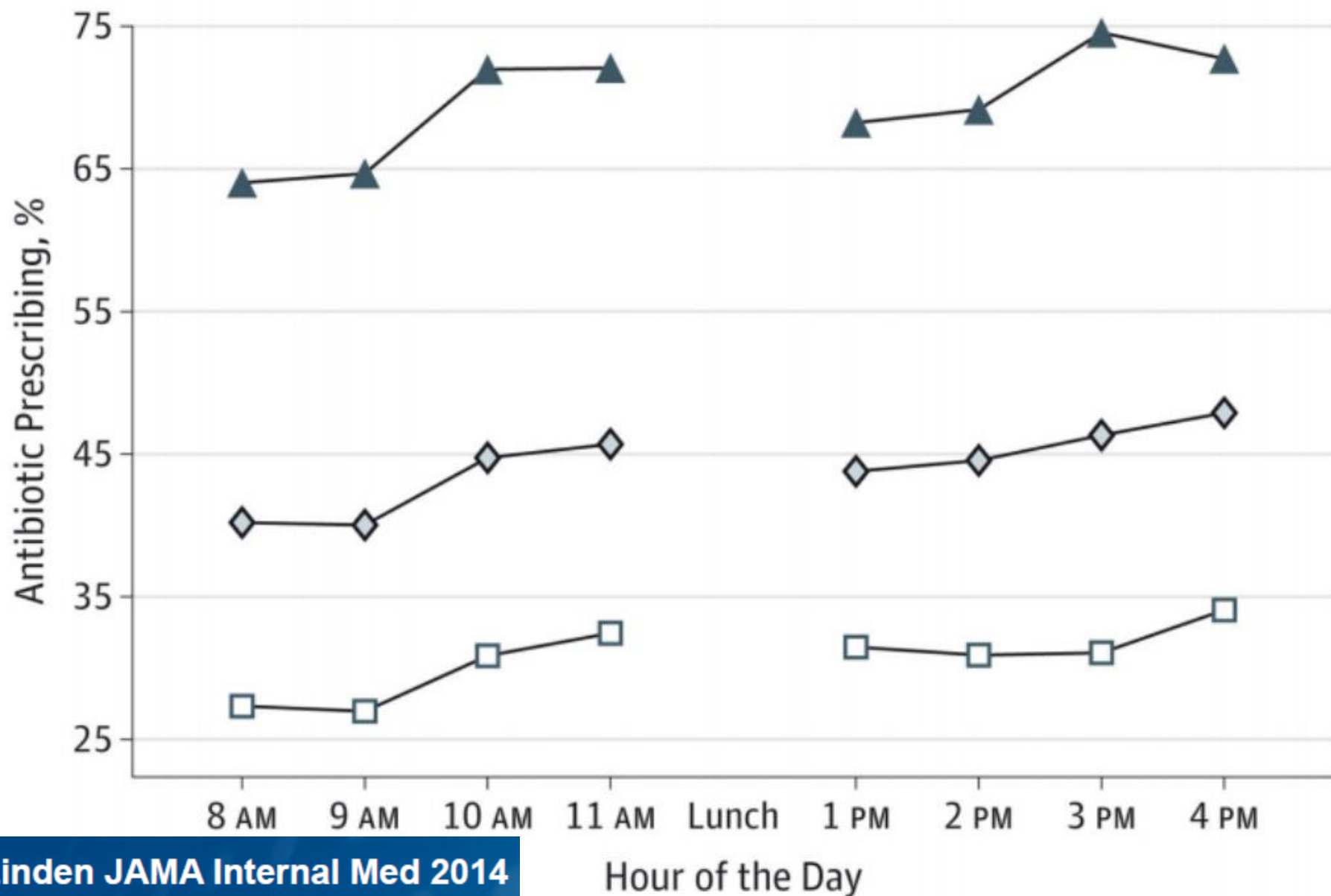
- **Illusion of control**
  - We tend to overestimate the benefits of the actions we take
- **Illusion of superiority**
  - We tend to think we perform better than we actually do
- **Illusion of individuality**
  - “But my patients are different”

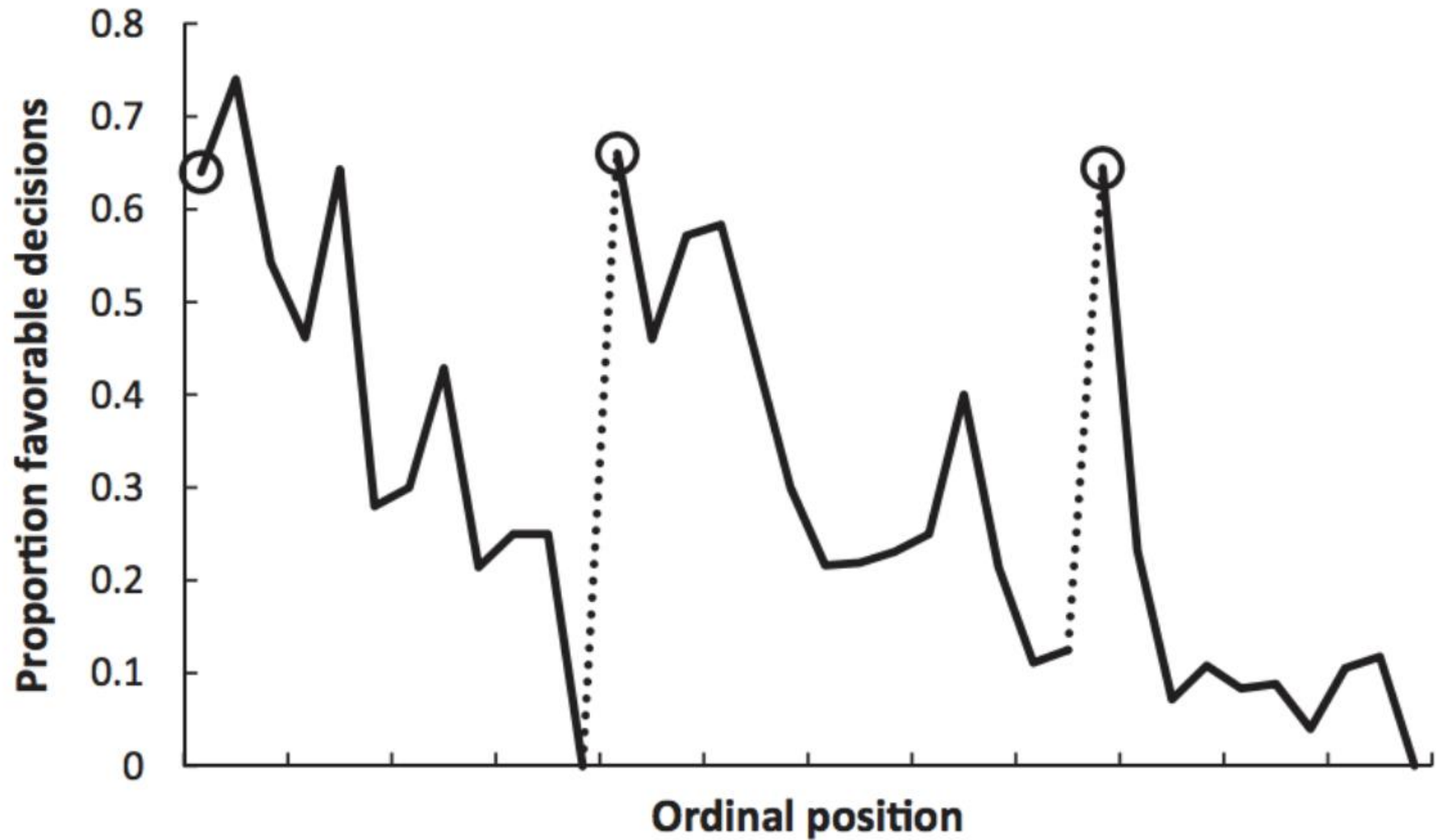


▲ Antibiotics sometimes indicated (n = 7544)

◇ Overall (n = 21867)

□ Antibiotics never indicated (n = 14323)







# Context and Decision Making

- Work compression
- Fatigue
- Burnout
- Time of the day/week/holidays
- Treatment availability



# Limits of Willpower

“Relying on provider vigilance to achieve optimal performance is unlikely to produce sustained improvement”

Ezekial Emanuel

Ann Int Med 2016



# How do clinicians make choices?



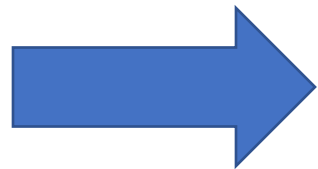
# What Do Clinicians Want?

- Autonomy
- Mastery
- Efficiency
- Good outcomes



# What Influences Clinician Behavior?

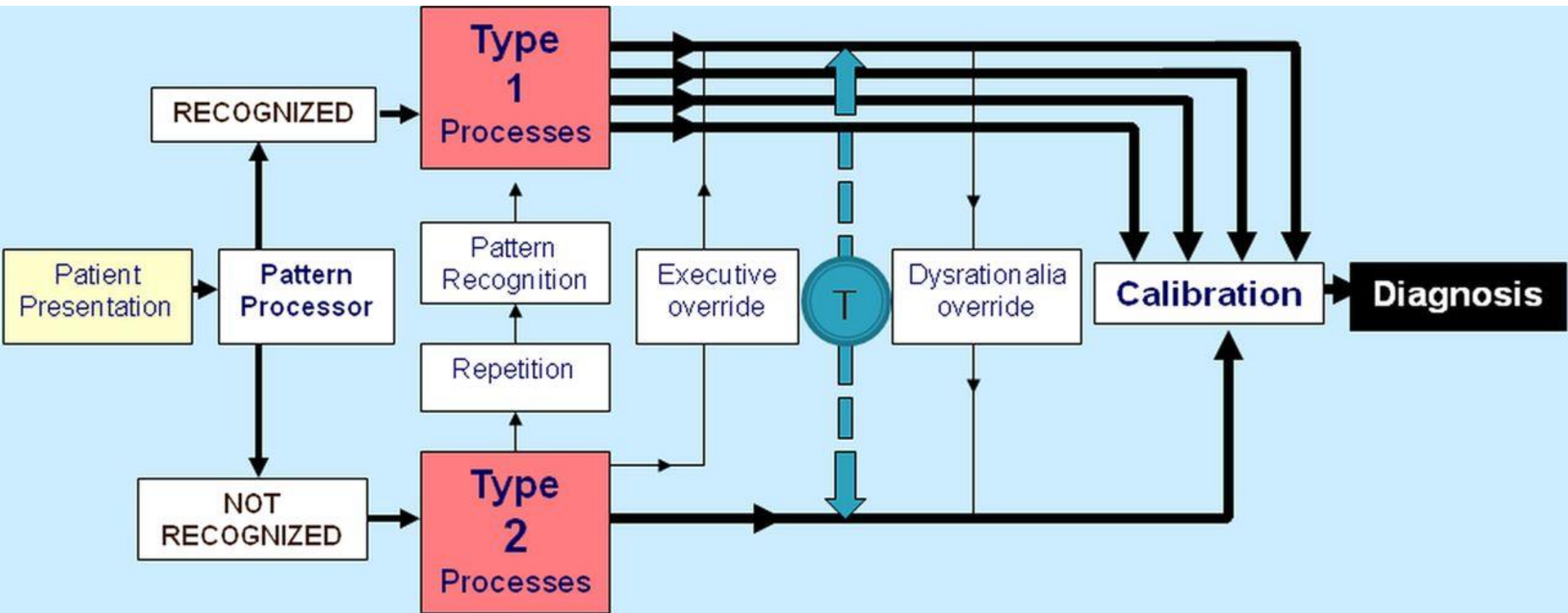
- Data (usually)
- Ease of use
- Peers (esp. influential ones)
- Outcomes

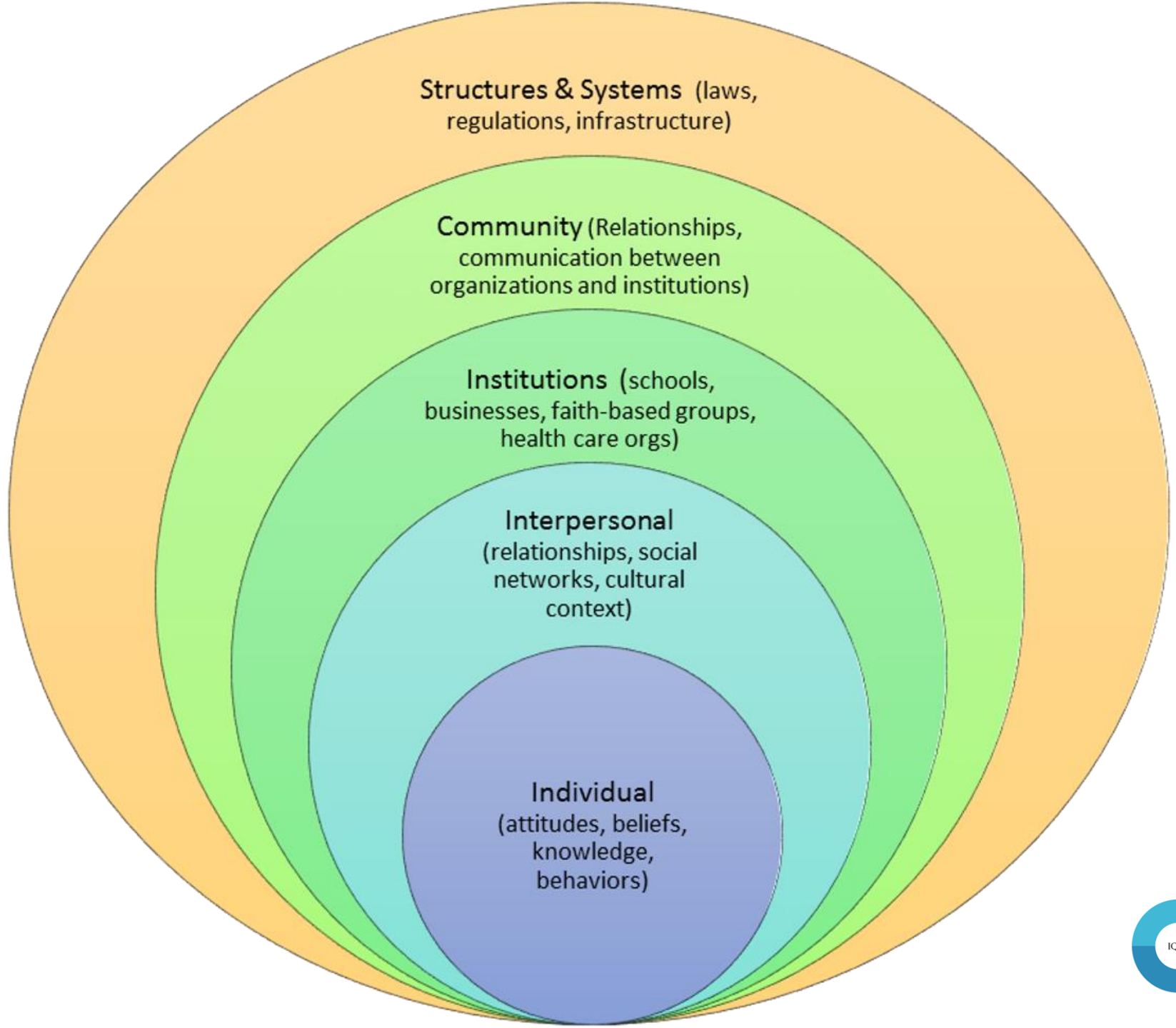


**The heart and the head**



<b>System</b>	<b>Automatic (System 1)</b>	<b>Reflective (System 2)</b>
<b>Characteristic</b>	Uncontrolled	Controlled
	Effortless	Effortful
	Emotional	Deductive
	Fast	Slow
	Unconscious	Self-aware
<b>Examples of use</b>	Speaking in your original language  Taking the daily commute	Learning another language  Planning an unfamiliar journey





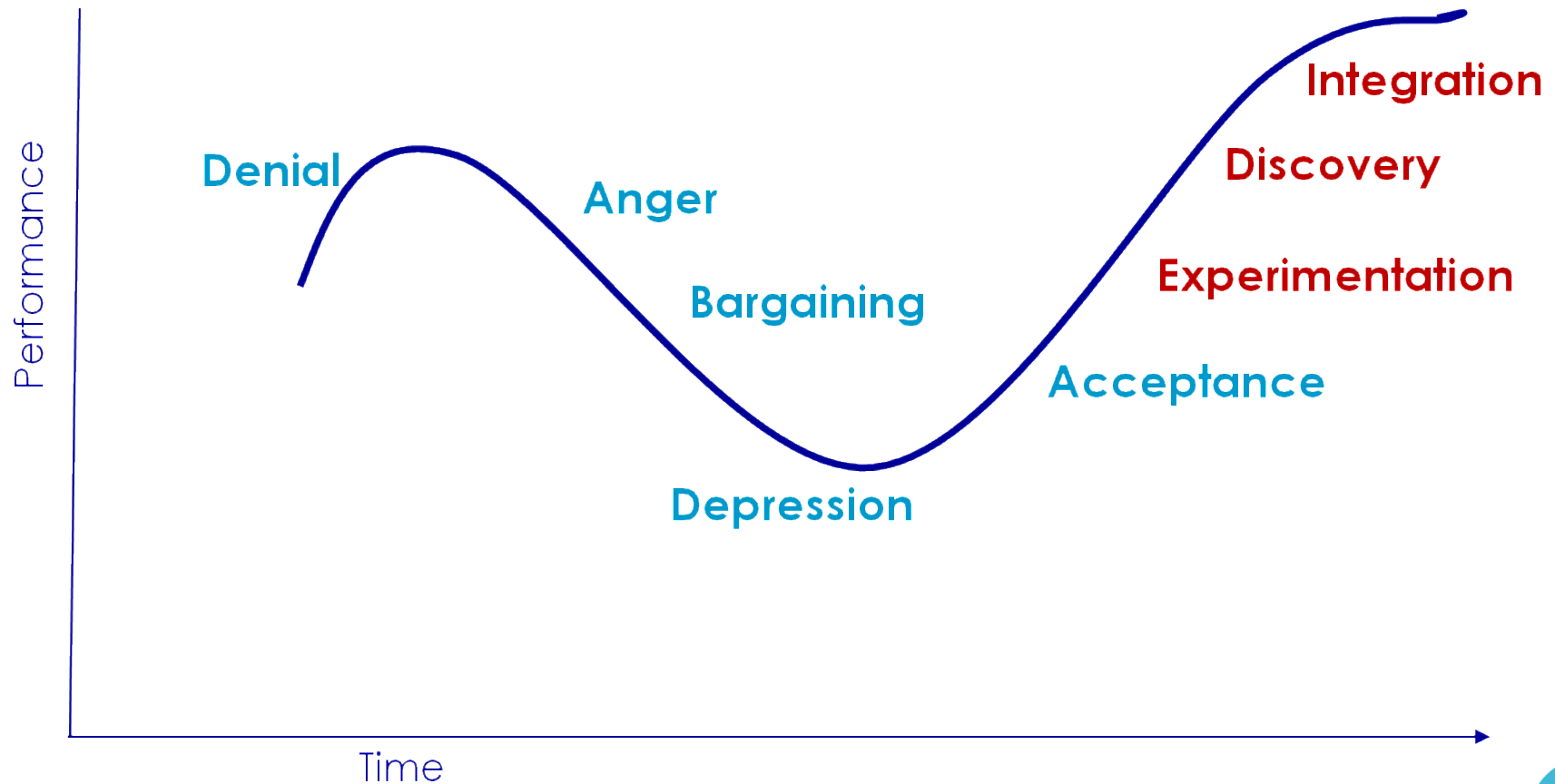


# “Buy-in”

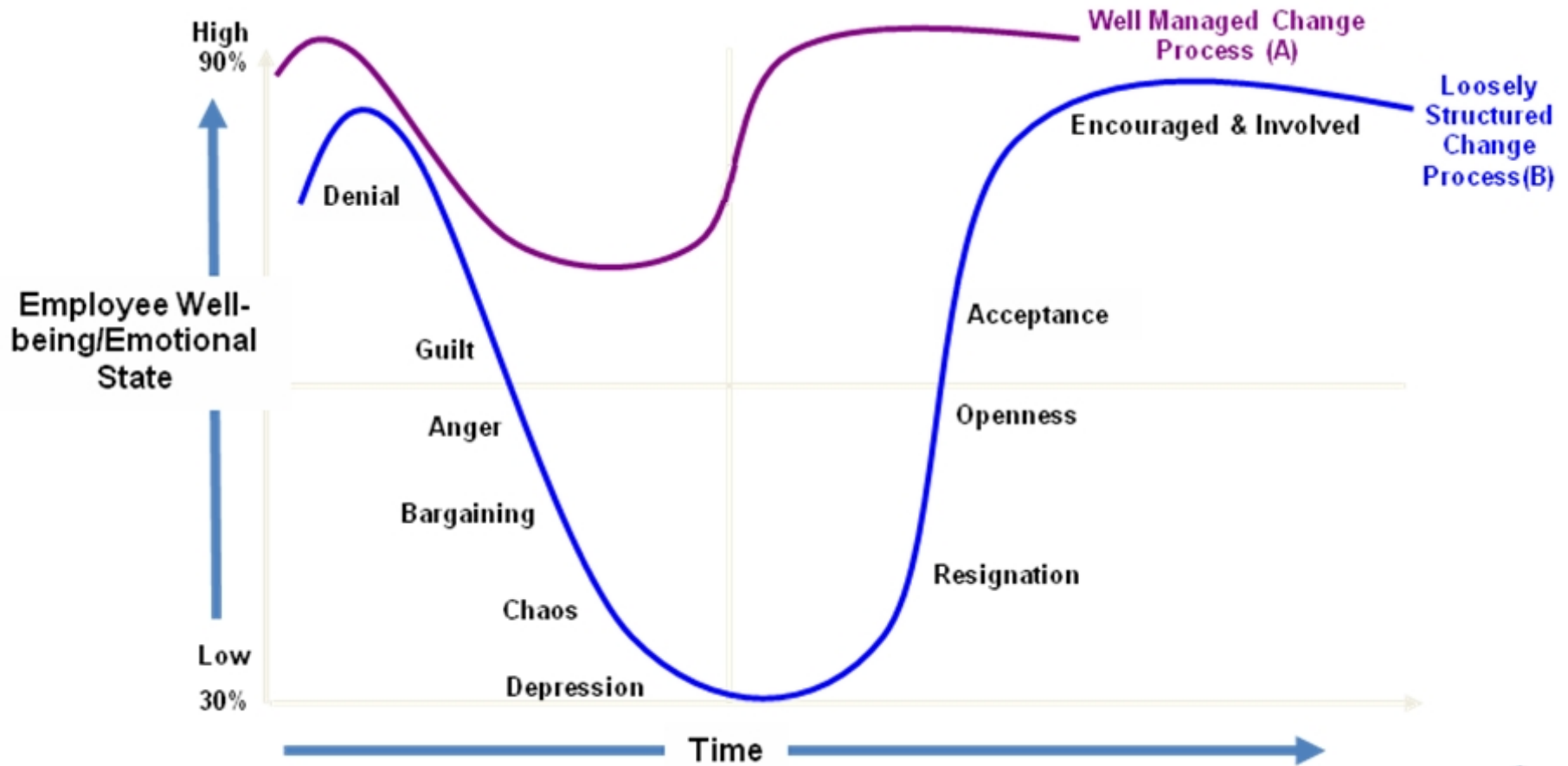
- To believe in and support an idea, concept, or system
- To agree with; to accept an idea as worthwhile
- *Change management*



# Getting to Change



# Getting to Change



# A Couple of Frameworks



# The Nudge

- A nudge is any aspect of decision making that alters people's behavior in a predictable way without forbidding any options.
- “Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not.”





# Dimensions of Nudges

- Boosting self control vs activating a desired behavior
- Externally-imposed vs self-imposed
- Mindful vs mindless
- Encourage vs discourage



# MINDSPACE

<b>Messenger</b>	we are heavily influenced by who communicates information
<b>Incentives</b>	our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
<b>Norms</b>	we are strongly influenced by what others do
<b>Defaults</b>	we 'go with the flow' of pre-set options
<b>Salience</b>	our attention is drawn to what is novel and seems relevant to us
<b>Priming</b>	our acts are often influenced by sub-conscious cues
<b>Affect</b>	our emotional associations can powerfully shape our actions
<b>Commitments</b>	we seek to be consistent with our public promises, and reciprocate acts
<b>Ego</b>	we act in ways that make us feel better about ourselves

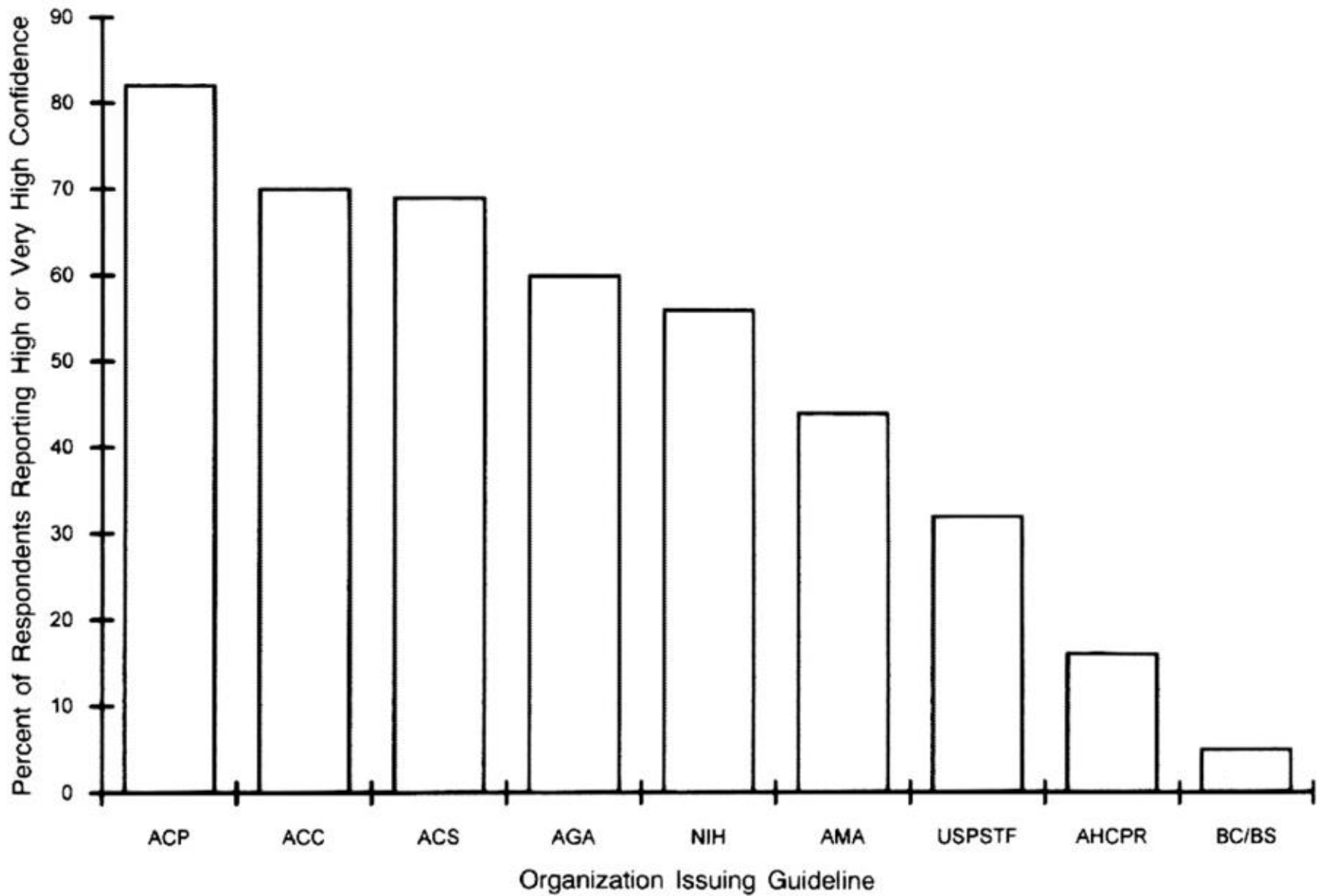


# Messenger

*Stop Freakin' ... Call Beacon Spokesman 206.452.3130*



*Beast Mode #24/7 Marshawn Lynch | Beast Mode!*



# Incentives

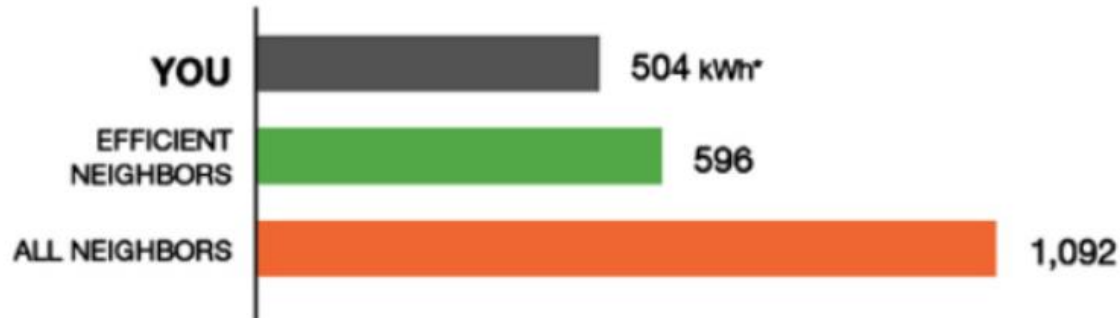
- Massachusetts General Physicians Organization Quality Incentive Program
  - Advance Incentive Payment
- MACRA and MIPS
  - Medicare Payment Adjustments (+ and -) based on measures of quality/value



# Norms

## Last Month Neighborhood Comparison

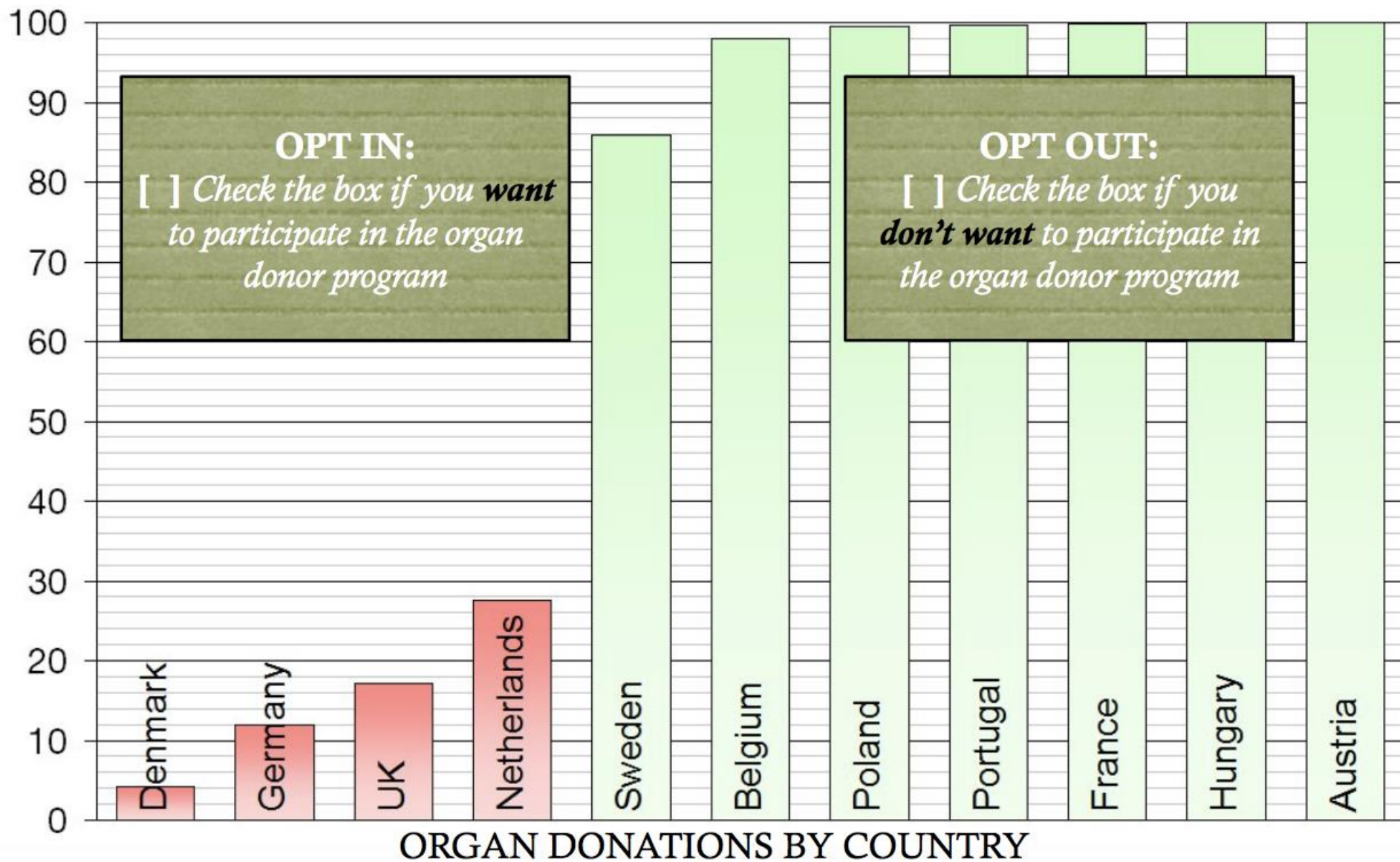
Last month you used **15% LESS** electricity than your efficient neighbors.



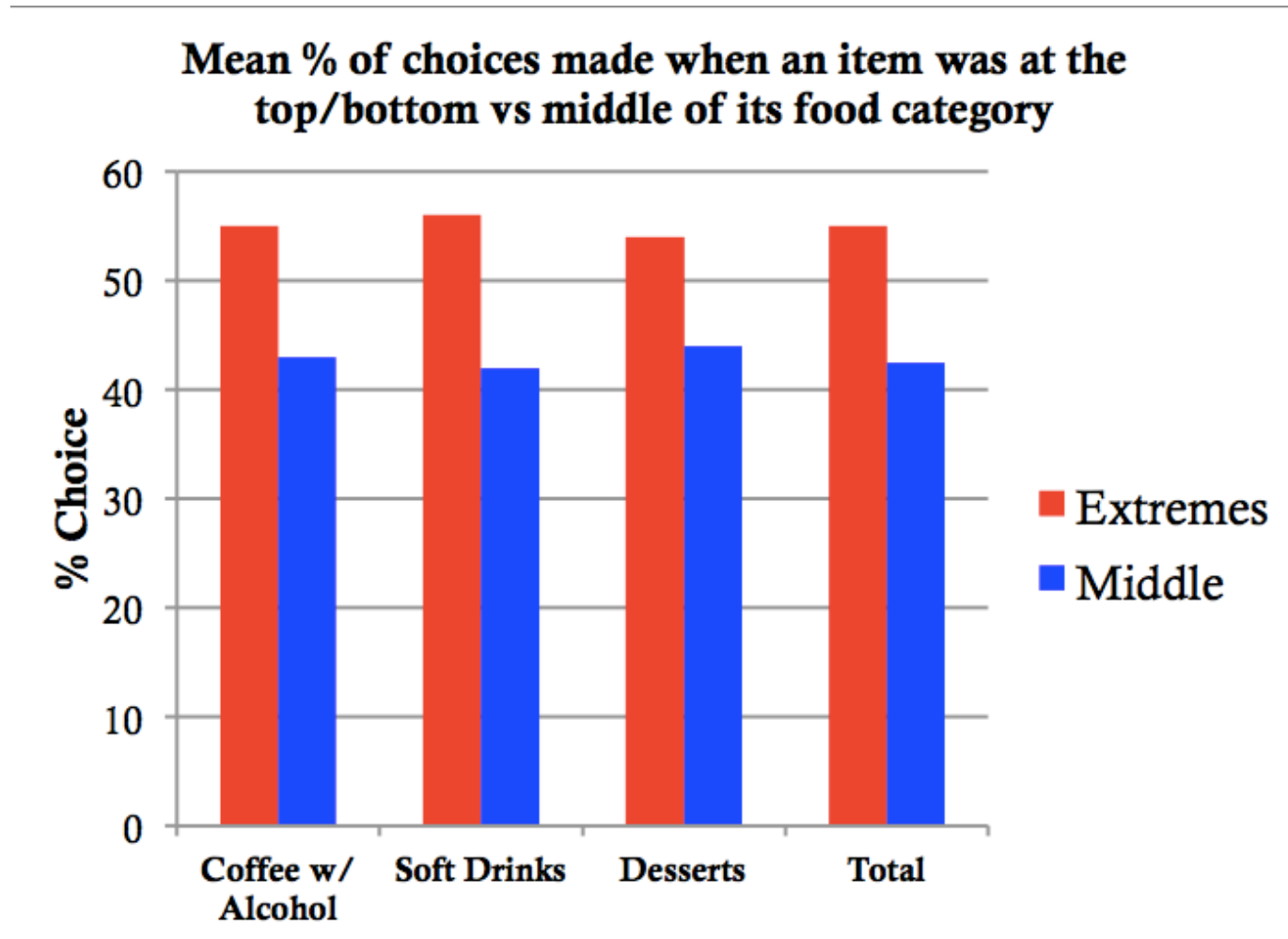
YOUR EFFICIENCY STANDING:



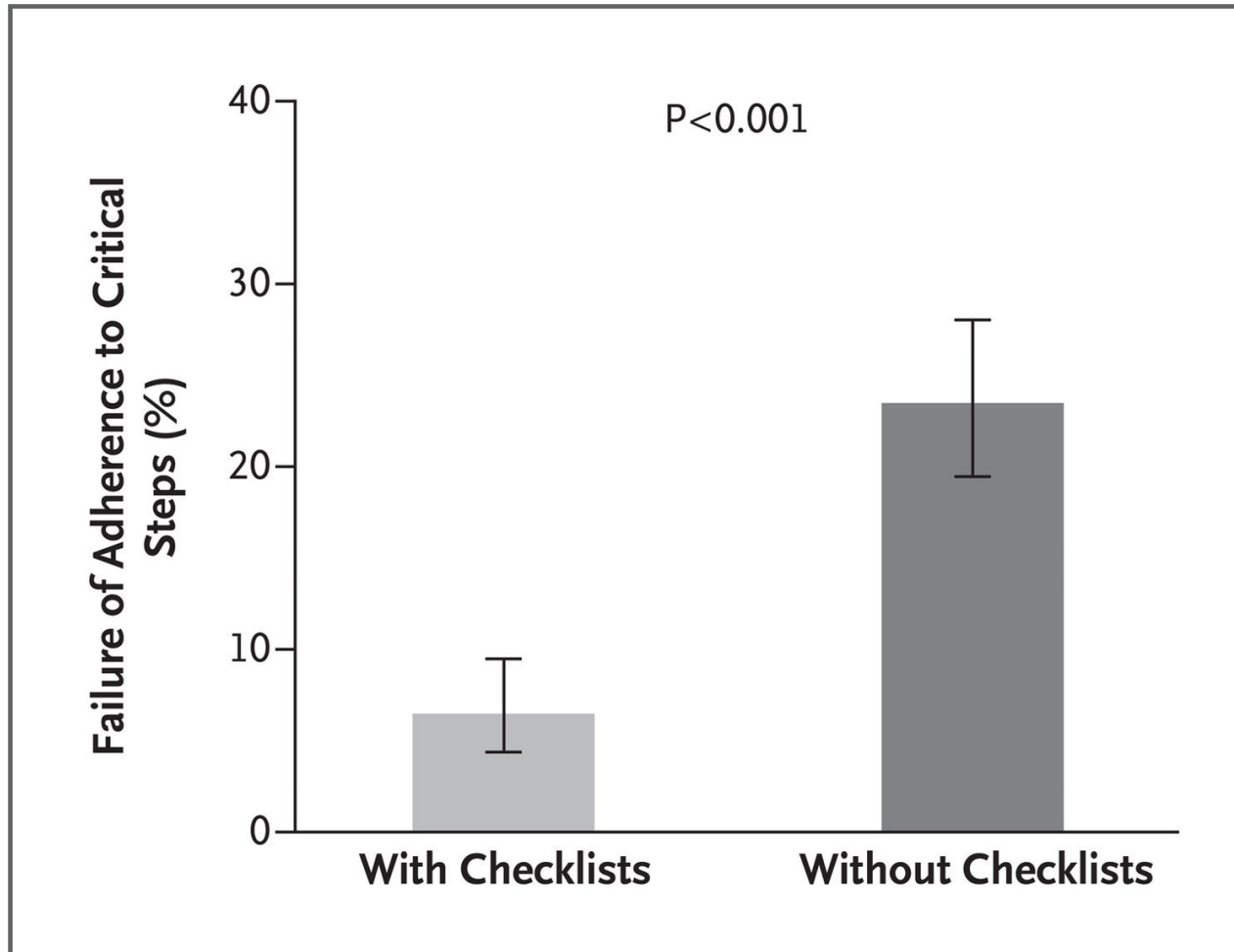
# Defaults



# Saliience



# Saliience



# Priming



+18% ( $p < .05$ )



No Difference



+32% ( $p < .001$ )





# Affect

- Stories and individuals

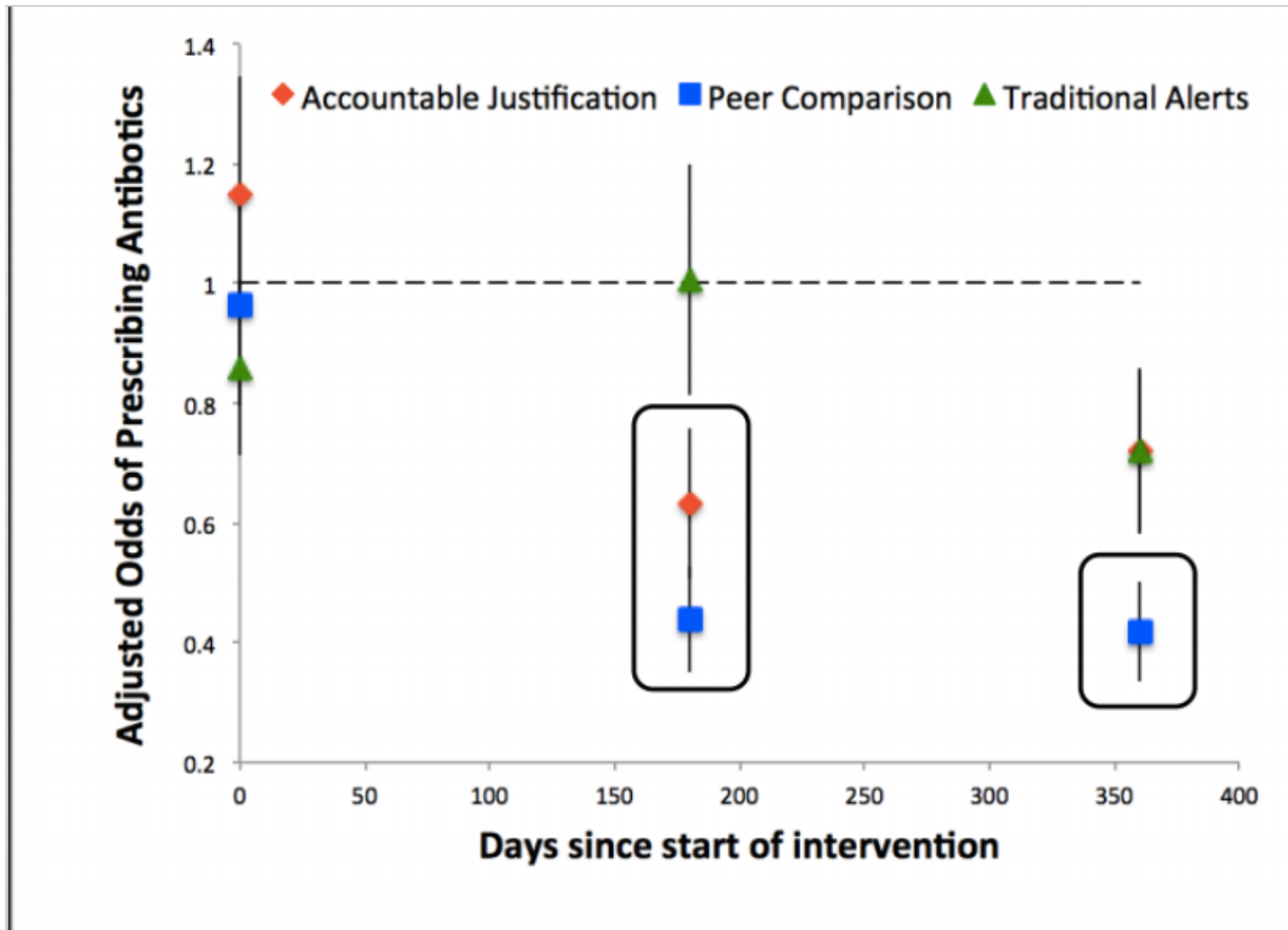


# Commitment

- Displayed poster sized “commitment letters” in exam rooms for 12 weeks during cold and influenza season
- Letters had photo of PCP and signature
- Randomized 14 clinicians, 5 clinics, 1000 adult patients with URI
- Baseline prescribing rates 42.8% intervention arm and 43.5% control arm
- Reduction of 10% in Rx rate in intervention arm ( $p < .05$ )



# Ego



# Summary

- Overuse and underuse are pervasive throughout US healthcare
- How we make decisions (bias and context) impact our ability to provide high value care
- Changing behavior is hard but is possible
- Using a framework for behavior change can be very helpful when designing an intervention



# The Heart and the Head

1. Communicate the change as conversation
  - Quantity
  - Quality
  - Relation
  - Manner
2. Address the emotions in the room

# The Heart and the Head

3. Repeat, repeat, repeat
4. Vary the medium of communication
5. Use metaphors, analogies, examples and stories
6. Develop an elevator pitch
  - Here's what our change initiative is about ...
  - It's important to do because ...
  - Here's what success will look like, especially for you ...
  - Here's what we need from you ...

# The Heart and the Head

7. Be transparent

8. Walk the talk

9. Know who to shut out\*

10. Celebrate successes

11. Physician involvement in  
governance

8 oz



12 oz



16 oz





12 oz



16 oz



20 oz



- Lack of guidelines
- Poor familiarity of guidelines
- Time pressure (emphasis on shorter LOS or productivity)
- Explaining to patients why tests/tx not indicated takes time
- Discomfort with diagnostic uncertainty
- Lack of appreciation of harms
- Patient Expectations
- Lack of knowledge of cost including impact of setting on cost
- Lack of centrally available information on prior tests
- Local Standards of care
- Defensive Medicine (i.e. fear of litigation)
- Local Standards
- Misaligned financial incentives

# Barriers to Change – “Choice”

- Time pressure (emphasis on shorter LOS or productivity)
- Explaining to patients why tests/tx not indicated takes time
- Discomfort with diagnostic uncertainty
- Lack of appreciation of harms
- Patient Expectations
- Local Standards of care
- Defensive Medicine (i.e. fear of litigation)
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Aggressive treatments listed individually

Aggressive treatments grouped together

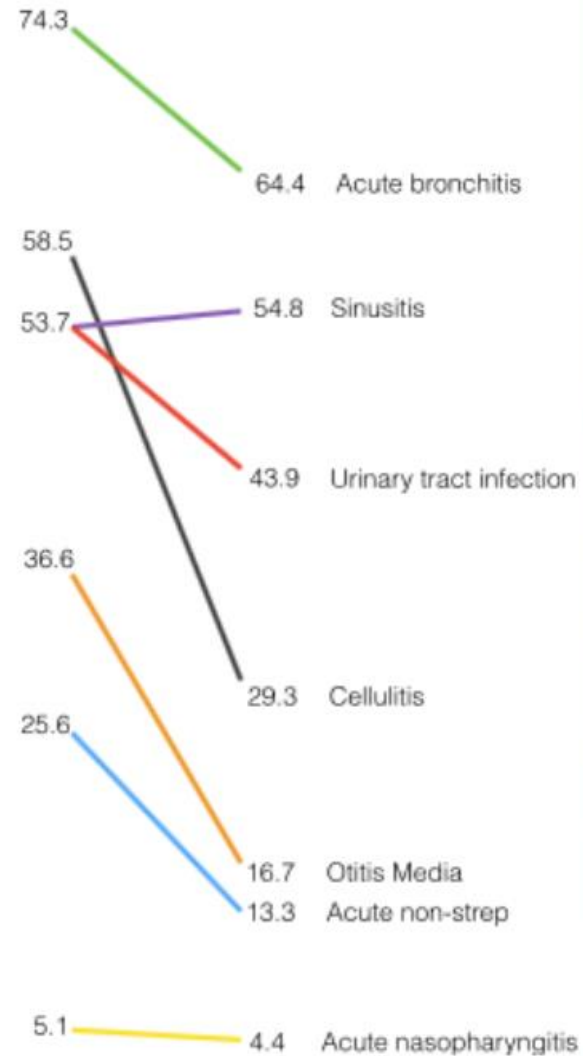
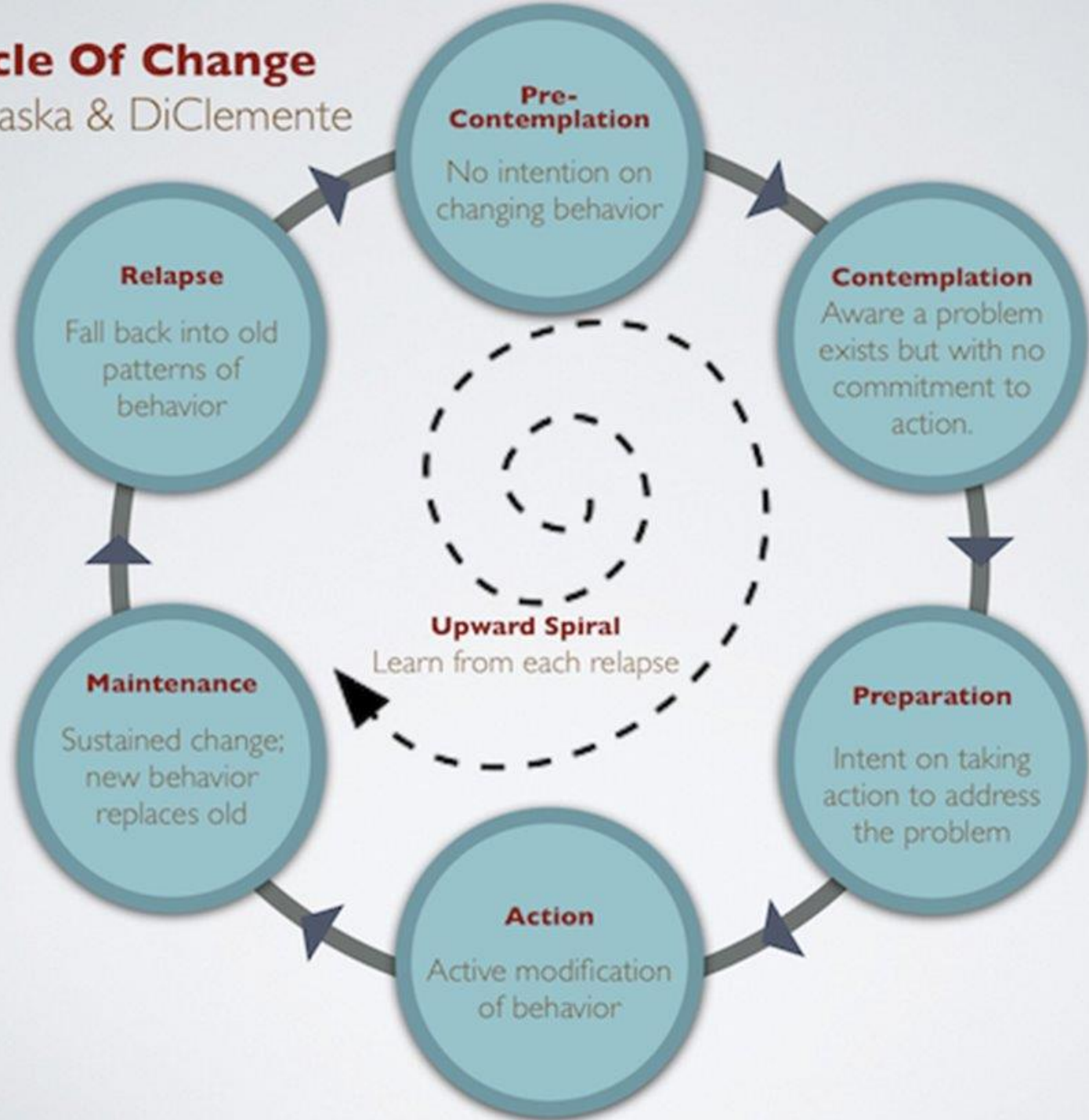


Fig. 2. Percentage of providers choosing aggressive treatment options (i.e., prescription drugs for antibiotic-inappropriate vignettes and broad-spectrum antibiotics for antibiotic-appropriate vignettes) as a function of menu partition

# Cycle Of Change

Prochaska & DiClemente



# BEARI Trial – Meeker JAMA 2016

- Cluster randomized trial of primary care clinics
- Suggested Alternatives vs Accountable Justification vs Peer Comparison

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## ***“You are a Top Performer”***

You are in the top 10% of clinicians. You wrote 0 prescriptions out of 21 acute respiratory infection cases that did not warrant antibiotics.

## ***“You are not a Top Performer”***

Your inappropriate antibiotic prescribing rate is 15%. Top performers' rate is 0%. You wrote 3 prescriptions out of 20 acute respiratory infection cases that did not warrant antibiotics.

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20567913 (BWH)

01/01/1960 (54 yrs.) F

BIMA

Home

Select

Desktop

Pt Chart: Medications

Custom

Reports

Admin

Sign

Results

?

Resource

Popup

### Warning

You are ordering: AMOXICILLIN

Alert Message:

Antibiotics are not generally indicated for non-specific upper respiratory infections. Please consider the following alternative prescriptions, treatments, and materials to help your patient.

#### Alternatives

##### Over-the-counter medications

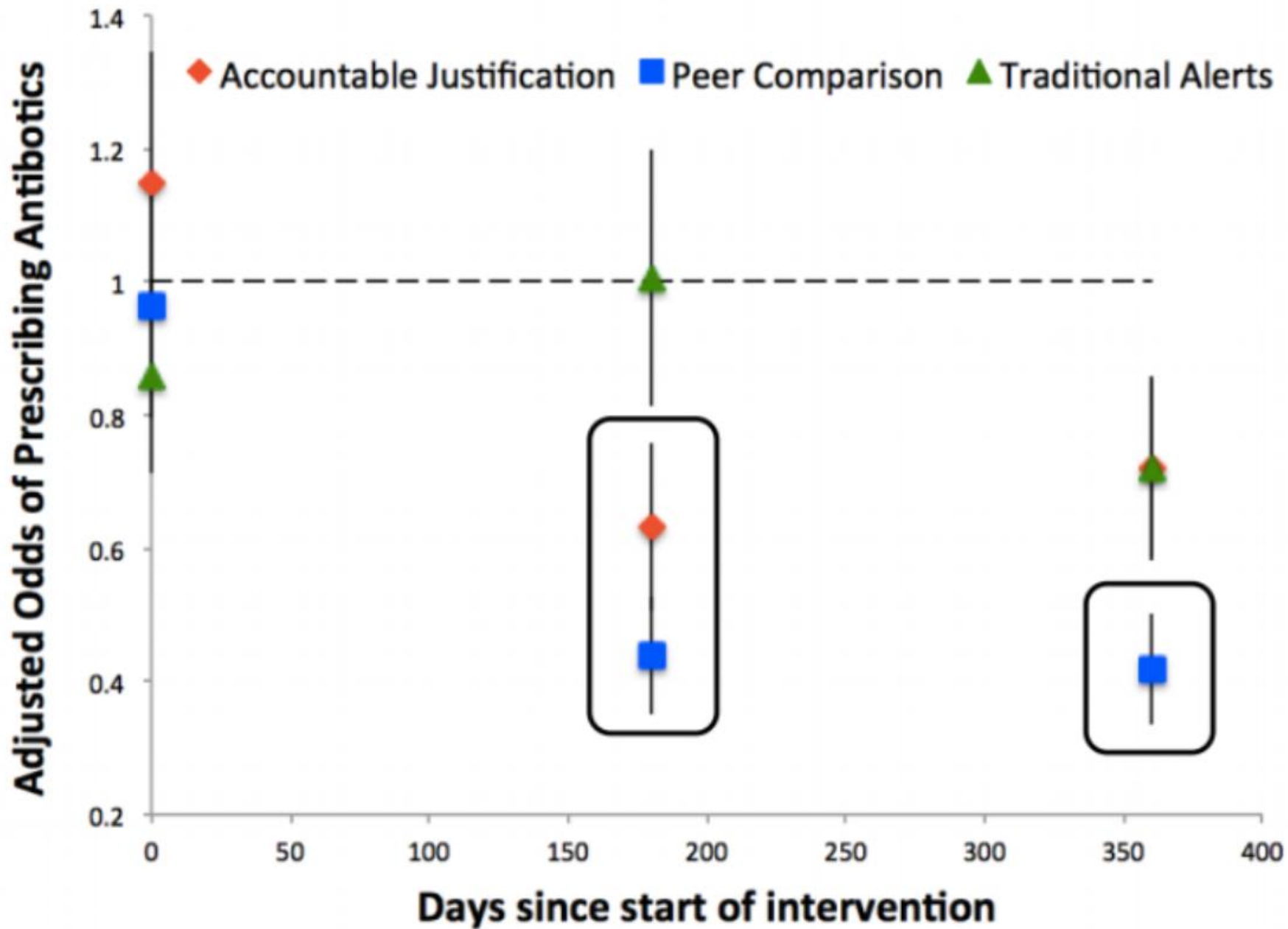
##### Decongestants

- Oxymetazoline HCL (0.05 % SPRAY )  
2 SPRAY (0.05 % SPRAY ) NAS BID or PRN but no more frequently than every 6 hours. Do not use more than 3 days. Dispense: 1 Bottle(s) Refills: 0
- Pseudoephedrine (30 MG TABLET )  
60 MG (30 MG TABLET Take 2) PO Q6H PRN as needed for nasal congestion. Dispense: 50 Tablet(s) Refills: 0

##### Antihistamines

- Diphenhydramine ORAL (25 MG TABLET )  
25 MG (25 MG TABLET Take 1) PO Q6H PRN not to exceed 6 doses in 24 hours. Dispense: 24 Tablet(s) Refills: 0
- Loratadine (10 MG TABLET )  
10 MG (10 MG TABLET Take 1) PO QD PRN Dispense: 30 Tablet(s) Refills: 0





# Tips for Effective Collaboration

- Know your stuff
- Provide unbiased information
- Make concrete recommendations
- Be concise
- Be confident
- Be aware that you may not know the whole story....humility is KEY
- Keep the lines of communication open
- Focus on building long-term relationships