Practice Improvement, Evidence-Based Medicine and Clinical Prevention

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Disclaimer

Although I am a member of the U.S. Preventive Services Task Force (USPSTF), materials provided in this presentation reflect my individual views only and do not represent the views or recommendations of the USPSTF except where noted on individual slides. The overall presentation should not be attributed to the USPSTF.

An ounce of prevention?

- Maciosek, Health Affairs 29, no.9 (2010):1656-1660
  - Twenty preventive services: USPSTF recs, plus basic immunization series
  - Raising current levels of use to 90% (in 2006)

  - Saves $3.7b
  - Saves 2.3 million life-years

  - BUT – factored in only cost of procedures.
  - To get to 90% - probably more costs.

How many ounces was that, again?

- Yarnall et al. **Primary Care: Is There Enough Time for Prevention?** American Journal of Public Health. 2003;93(4):635-641.
- *Results. To fully satisfy the USPSTF recommendations, 1773 hours of a physician's annual time, or 7.4 hours per working day, is needed for the provision of preventive services.*

Objectives

- I hope, as a result of thinking about this talk, that you will:
  - Practice evidence-based medicine – as it was originally intended.
  - Use your clinical expertise to effectively deliver evidence-based clinical preventive services.
  - Assist your patients in creating an evidence-based health maintenance plan for themselves.
  - Recognize and engage in the practice transformation represented and required by the new regulations for healthcare.

Milestones

- Evidence-based medicine
  - Colorectal cancer screening
- Cognitive bias in prevention
- Shared Decision-making
  - Breast cancer screening
- PCMH and practice transformation
  - Cervical cancer screening
- DSRIP, etc. and the importance of context

EBM has been hijacked!

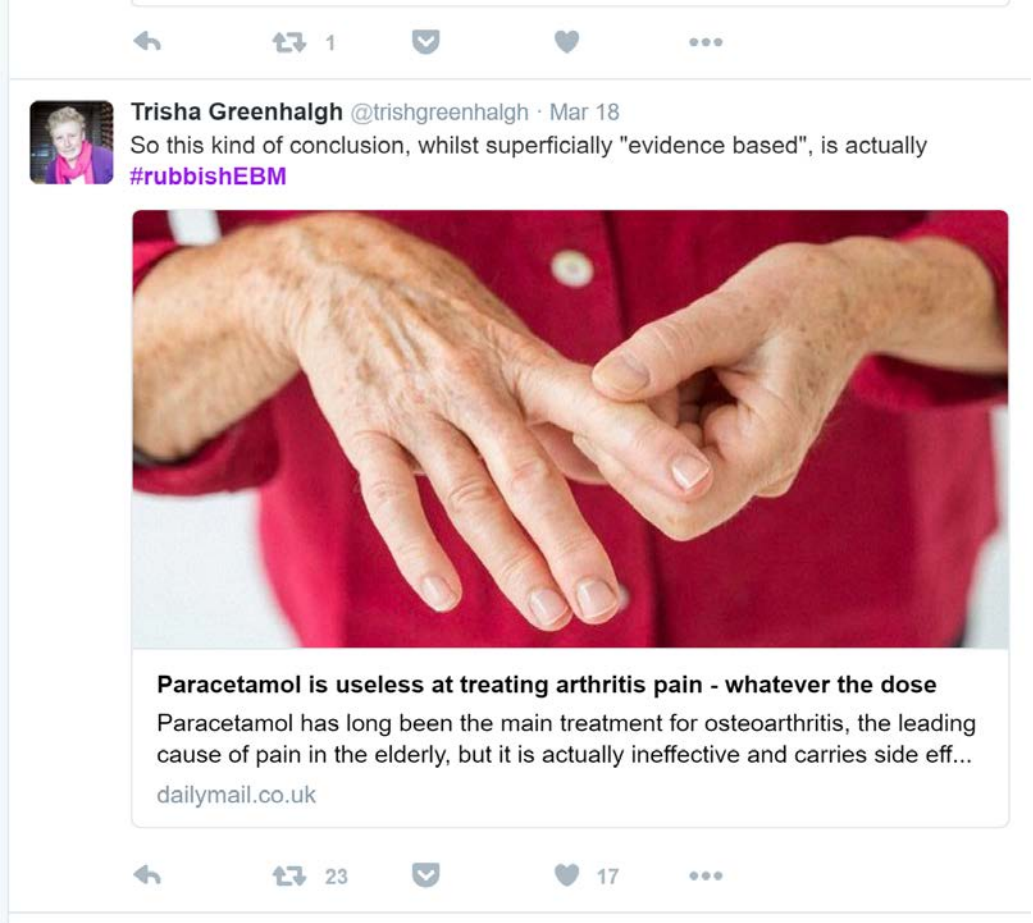
- Sackett (BMJ, v312, 13 January 1996)
  - “Some fear that evidence based medicine will be hijacked by purchasers and managers to cut the costs of health care….EBM may cost more.”
- Ioannidis (J Clin Epi 2016) – “Report to Dr. Sackett”
  - EBM forced to serve agendas different from what it originally aimed for.
  - Meta-analyses and guidelines have become a factory, mostly also serving vested interests.
  - Under market pressure, clinical medicine has been transformed to finance-based medicine.
  - Science denialism and quacks are also flourishing and leading more people astray in their life choices, including health.
  - EBM still remains an unmet goal, worthy to be attained

EBM – Movement in Crisis

- Greenhalgh - BMJ 2014;348:g3725
- Real evidence based medicine:
  - Makes the ethical care of the patient its top priority
  - Demands individualized evidence in a format that clinicians and patients can understand
  - Is characterized by expert judgment rather than mechanical rule following
  - Shares decisions with patients through meaningful conversations
  - Builds on a strong clinician-patient relationship and the human aspects of care
  - Applies these principles at community level for evidence based public health

#RubbishEBM

- Greenhalgh (2015)
- Favors “Journal Article conclusions”
- Fails to consider:
  - Outcomes
  - Patient specifications
  - Comparators



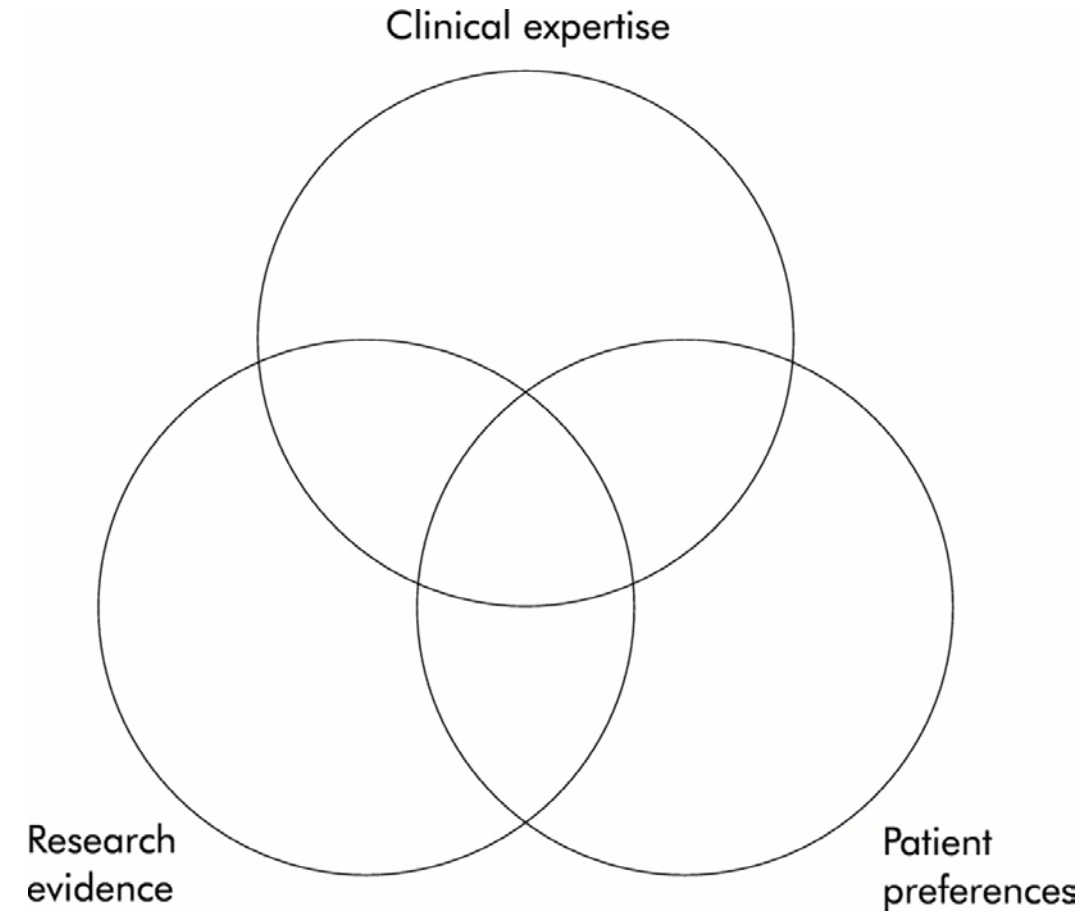
What’s an EBM guy/gal to do?

- Retreat?
- Or Re-commit?
- Back to the basics…

Evidence-Based Medicine

Evidence-based medicine is the *conscientious*, *judicious* and *explicit* use of the current best evidence in the care of individual patients.

Evidence-based clinical decisions
The “early model”



R Brian Haynes et al. Evid Based Med 2002;7:36-38

EBM

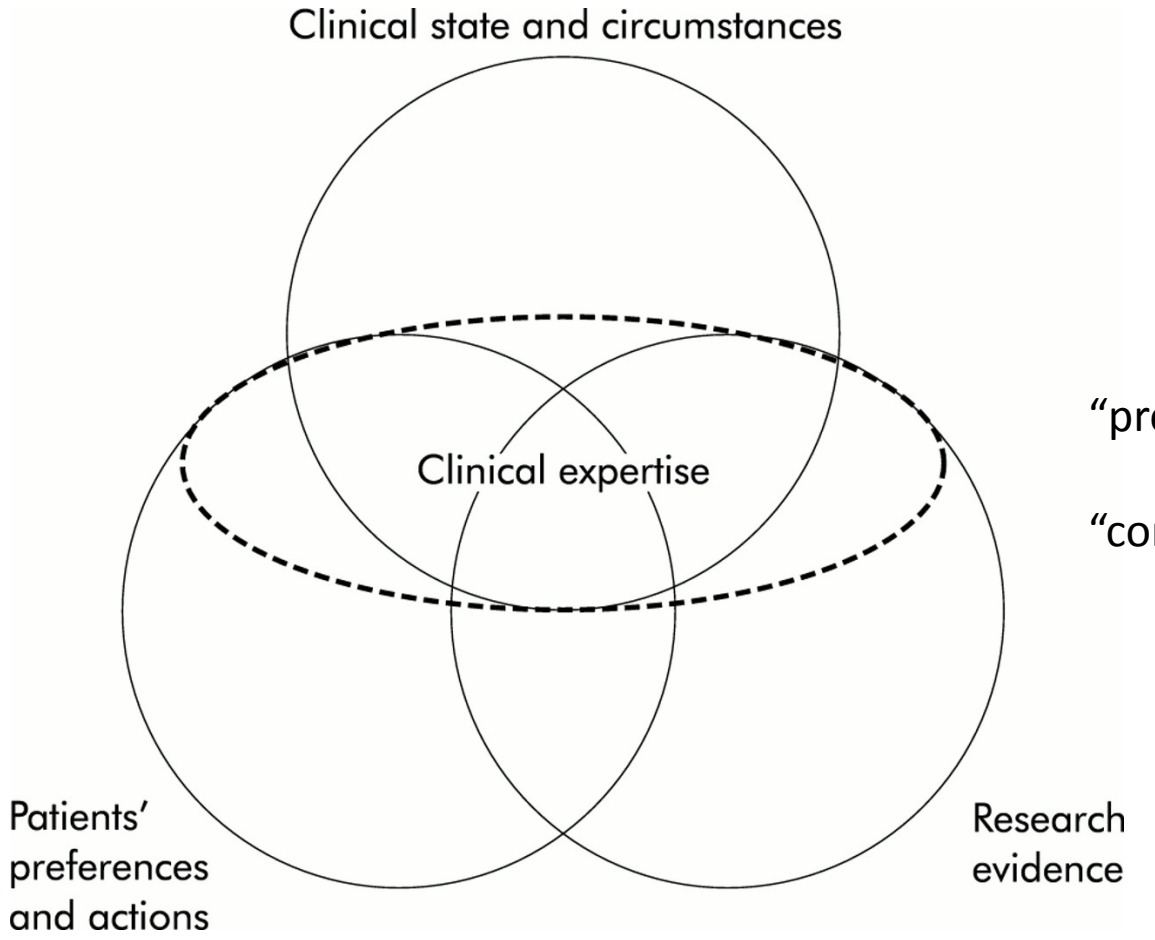
How can you “know” the evidence?

- “Information Mastery” – Slawson and Shaughnessy, POEMS, etc.
  - Less emphasis on individual critical appraisal
  - Focus on being a wise consumer of information
- Investigate the sources
  - Methodology
  - Relevance
- Dive deeper as needed

Clinical expertise

- Not “experience”
- Merriam-Webster (m-w.com/dictionary/expertise)
  - special skill or knowledge
  - the skill or knowledge an expert has
- Sackett (BMJ 1998)
  - By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice…
- Negotiating with our patients, physically diagnosing, performing procedures, understanding their struggles, helping them prioritize, listening to them, caring about and for them.
- Still didn’t quite capture it…

Evidence-based clinical decisions
An “updated model”



“prescriptive, not descriptive”

“conceptual rather than practical”

R Brian Haynes et al. Evid Based Med 2002;7:36-38

EBM

Clinical Expertise

- Used for the central activity of INTEGRATING evidence, patient values and clinical circumstances.

- In Evidence-based Clinical Prevention:
  - Choosing/appraising the evidence-based guidelines
  - Presenting risk
  - Sharing decision making.
  - Re-evaluating when necessary

Colorectal Cancer Screening

Recommendation Summary

Summary of Recommendations

Population	Recommendation	Grade (What's This?)
Adults, beginning at age 50 years and continuing until age 75 years	The USPSTF recommends screening for colorectal cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy in adults, beginning at age 50 years and continuing until age 75 years. The risks and benefits of these screening methods vary.	A
Adults age 76 to 85 years	The USPSTF recommends against routine screening for colorectal cancer in adults 76 to 85 years of age. There may be considerations that support colorectal cancer screening in an individual patient.	C
Adults older than age 85 years	The USPSTF recommends against screening for colorectal cancer in adults older than age 85 years.	D
Computed Tomographic Colonography and Fecal DNA testing as screening modalities	The USPSTF concludes that the evidence is insufficient to assess the benefits and harms of computed tomographic colonography and fecal DNA testing as screening modalities for colorectal cancer.	I

Draft: Recommendation Summary

Population	Recommendation	Grade (What's This?)
Adults ages 50 to 75 years	The USPSTF recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years. The risks and benefits of different screening methods vary.	A
Adults ages 76 to 85 years	The decision to screen for colorectal cancer in adults ages 76 to 85 years should be an individual one, taking into account the patient's overall health and prior screening history. • Adults in this age group who have never been screened for colorectal cancer are more likely to benefit. • Screening would be most appropriate among adults who: 1) are healthy enough to undergo treatment if colorectal cancer is detected, and 2) do not have comorbid conditions that would significantly limit life expectancy.	C

Milestones

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How physicians think…

- System 1 – intuitive, off the cuff, fast
  - survival
- System 2 – analytical, methodical, slow

- EBM is system 2 thinking
- Overcomes common cognitive biases allowed by system 1

Biases affecting delivery of clinical preventive services

- Ecological fallacy/Aggregate bias
  - mistakenly attributing the average risk of the population to an individual patient
  - Believing your patient to be either average or exceptional in a way that's not appropriate.
- Availability Bias/Recency effect
  - thinking of the most recent outcome, not thinking of something you haven't seen in a while
- Commission vs. Omission bias
  - bias toward action/inaction

A bias toward action

- Growing up in rural Virginia…
- Praising: "*It's so good, you wanna run upstairs and throw your trunk out the window!*"
- Cursing: "*God Bless America!*"

- Motivating: "*Do something, even if it's wrong!*"
- (our unofficial family motto)
- ***Commission bias***
  - "I will prevent disease whenever I can, for prevention is preferable to cure."

Other “biases”

- Hassle bias
  - Do that which will result in the least amount of hassle for the clinician.
  - When a patient gives us a decision to make – how much are we susceptible to this?
- Regret bias
  - “IGBO” – I got burned once.
  - Missing a previous diagnosis.

Breast cancer screening

- How susceptible are we to these biases?
  - Ecological fallacy
  - Regret bias
  - Commission bias
- Political issue, high profile and common
- Mindfulness – engage analytic processes/system 2
  - Knowledge of the guidelines
  - Breast Cancer Risk Tool

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Shared Decision Making

- Hoffman, JAMA October 1, 2014 Volume 312, Number 13

- Shared decision making is the process of clinician and patient jointly participating in a health decision after discussing the options, the benefits and harms, and considering the patient's values, preferences, and circumstances.
- It is the intersection of patient-centered communication skills and EBM, in the pinnacle of good patient care.

Shared Decision Making and EBM

- Barratt, Patient Education and Counseling 73 (2008) 407–412
- Shared Decision Making
  - there is a two way exchange of information between patient and doctor including medical and personal information,
  - the possible options and outcomes are discussed and deliberated,
  - together the patient and doctor arrive at a consensus about what to do.
- SDM is *impossible* without EBM

SDM and decision aids

- Stacey D, et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews 2014, Issue 1. Art. No.: CD001431. DOI: 0.1002/14651858.CD001431.pub4.

- Reduced decisional conflict, passivity, undecidedness.
- Improved measures of physician-patient communication
- Reduced number of patients having procedures, having tests, choosing treatments.

Systematic Review of SDM for Screening

- Edwards 2013 – personalized risk communication

- 41 studies, most breast CA and CRC screening
- More “informed” choices, but ? Impact on screening uptake

Breast Cancer Screening

- Age 50-74 → Biennial Screening (B)

- Insufficient Evidence (I)
  - Age > 74
  - Digital Breast Tomosynthesis (DBT)
  - Adjunctive screening for women with dense breasts.

Population	Recommendation	Grade (What's This?)
Women aged 50 to 74 years	The USPSTF recommends biennial screening mammography for women aged 50 to 74 years.	B
Women aged 40 to 49 years	The decision to start screening mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years. • For women who are at average risk for breast cancer, most of the benefit of mammography results from biennial screening during ages 50 to 74 years. Of all of the age groups, women aged 60 to 69 years are most likely to avoid breast cancer death through mammography screening. While screening mammography in women aged 40 to 49 years may reduce the risk for breast cancer death, the number of deaths averted is smaller than that in older women and the number of false-positive results and unnecessary biopsies is larger. The balance of benefits and harms is likely to improve as women move from their early to late 40s. • In addition to false-positive results and unnecessary biopsies, all women undergoing regular screening mammography are at risk for the diagnosis and treatment of noninvasive and invasive breast cancer that would otherwise not have become a threat to their health, or even apparent, during their lifetime (known as "overdiagnosis"). Beginning mammography screening at a younger age and screening more frequently may increase the risk for overdiagnosis and subsequent overtreatment. • Women with a parent, sibling, or child with breast cancer are at higher risk for breast cancer and thus may benefit more than average-risk women from beginning screening in their 40s. Go to the Clinical Considerations section for information on implementation of the C recommendation.	C
Women aged 75 years or older	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years or older.	I
All women	The USPSTF concludes that the current evidence is insufficient to assess the benefits and harms of digital breast tomosynthesis (DBT) as a primary screening method for breast cancer.	I
Women with dense breasts	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of adjunctive screening for breast cancer using breast ultrasonography, magnetic resonance imaging, DBT, or other methods in women identified to have dense breasts on an otherwise negative screening mammogram.	I

U.S. Preventive Services TASK FORCE

Breast Cancer: Screening

Recommendation Summary

Population	Recommendation	Grade (What's This?)
Women aged 50 to 74 years	The USPSTF recommends biennial screening mammography for women aged 50 to 74 years.	B

Breast Cancer: Screening (Cont.)

Recommendation Summary

Women aged 75 years or older	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years or older.	I
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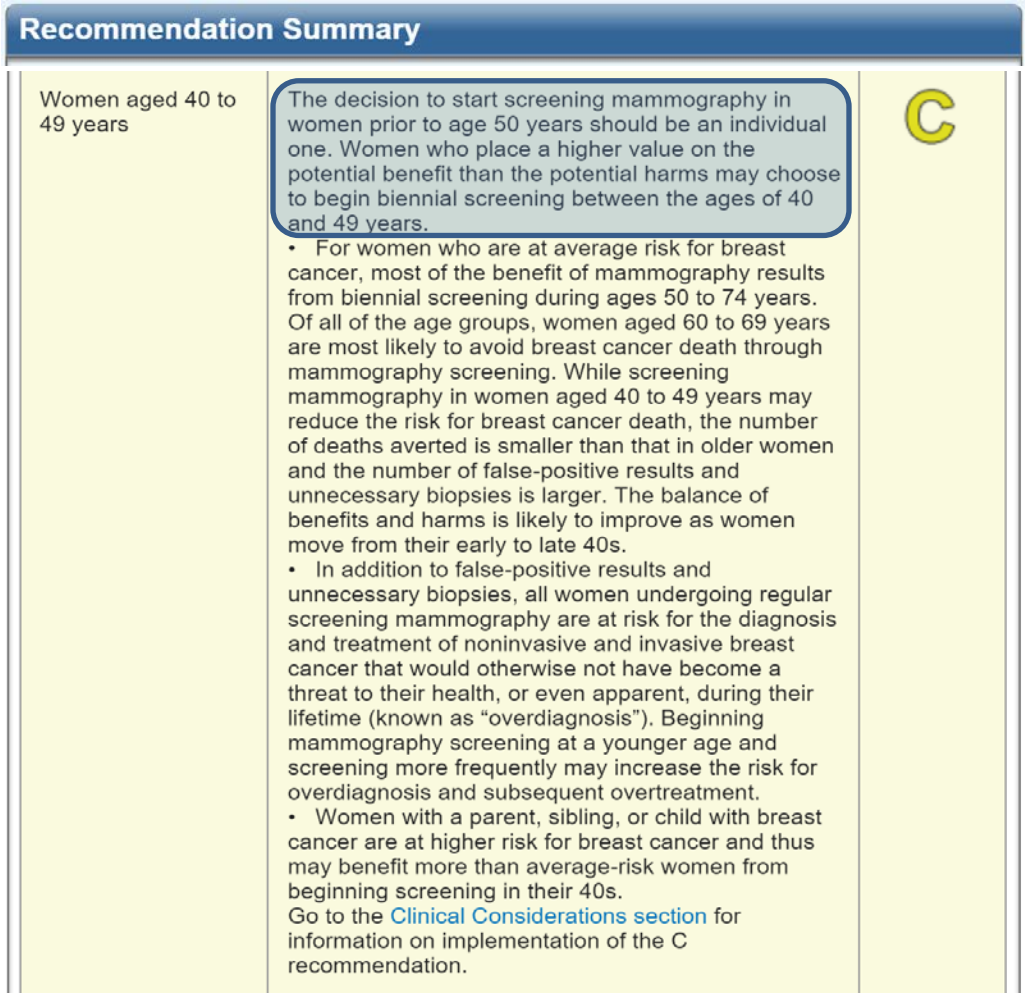
Women with dense breasts	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of adjunctive screening for breast cancer using breast ultrasonography, magnetic resonance imaging, DBT, or other methods in women identified to have dense breasts on an otherwise negative screening mammogram.	I

Breast Cancer: Screening (Cont.)

The decision to start screening mammography in women prior to age 50 years should be an individual one.

Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years.



Recommendation Summary

Women aged 40 to 49 years	The decision to start screening mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years. • For women who are at average risk for breast cancer, most of the benefit of mammography results from biennial screening during ages 50 to 74 years. Of all of the age groups, women aged 60 to 69 years are most likely to avoid breast cancer death through mammography screening. While screening mammography in women aged 40 to 49 years may reduce the risk for breast cancer death, the number of deaths averted is smaller than that in older women and the number of false-positive results and unnecessary biopsies is larger. The balance of benefits and harms is likely to improve as women move from their early to late 40s. • In addition to false-positive results and unnecessary biopsies, all women undergoing regular screening mammography are at risk for the diagnosis and treatment of noninvasive and invasive breast cancer that would otherwise not have become a threat to their health, or even apparent, during their lifetime (known as "overdiagnosis"). Beginning mammography screening at a younger age and screening more frequently may increase the risk for overdiagnosis and subsequent overtreatment. • Women with a parent, sibling, or child with breast cancer are at higher risk for breast cancer and thus may benefit more than average-risk women from beginning screening in their 40s. Go to the Clinical Considerations section for information on implementation of the C recommendation.	C

Shared Decision Making

- Most important for C and I recommendations.
- ? For ‘popular’ D recommendations

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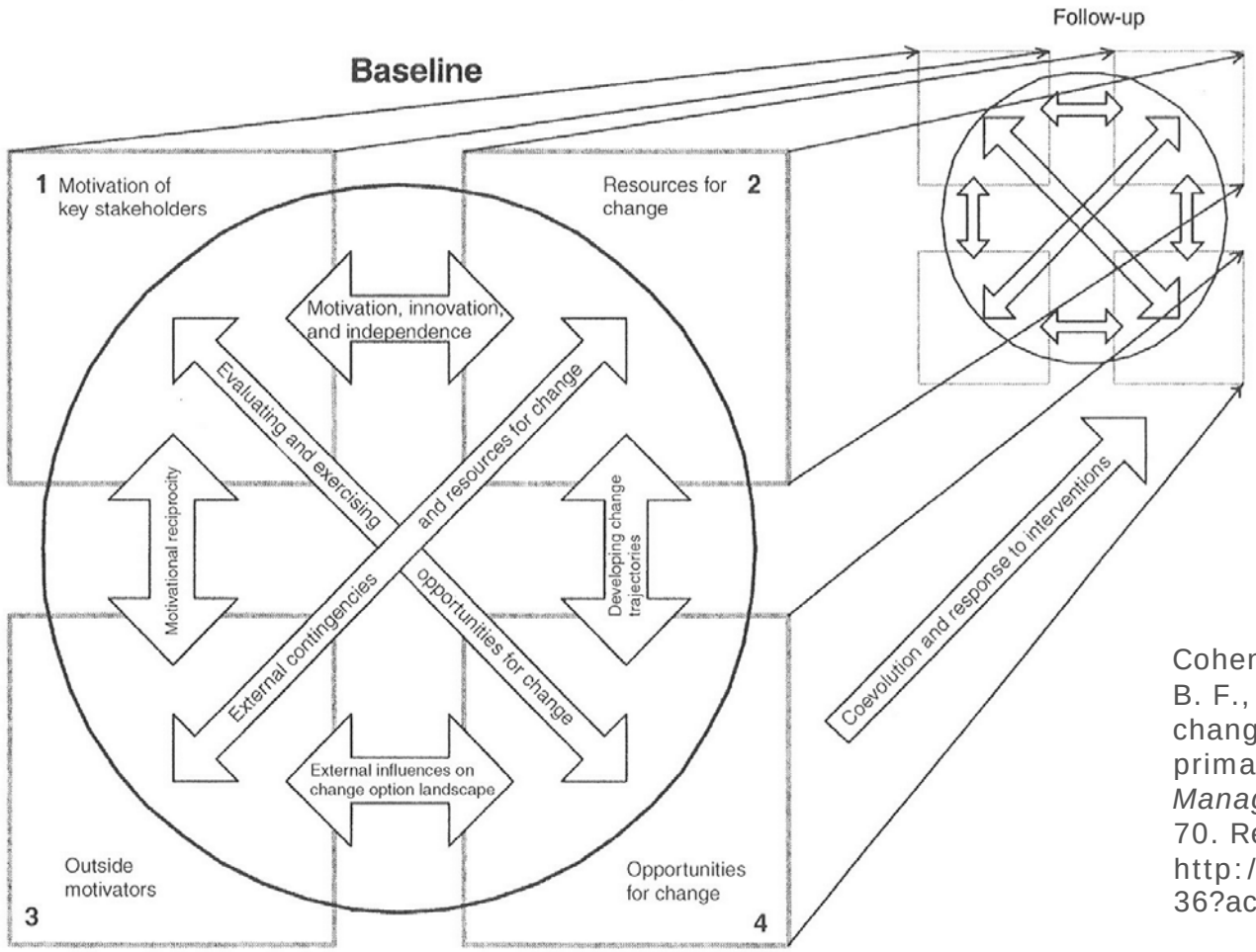
Primary Care Practice Transformation Is Hard Work

- Crabtree, B, et al. Med Care. 2011 December ; 49(Suppl): S28–S35.
- 15 years work in Practice Transformation
  - Chronic illness and Prevention
  - DOPC – complexity of primary care, opportunistic prevention
  - P&CD – solidified theory of primary care as complex adaptive system
  - STEP-UP – reflection, tailored approach to prevention works best
  - ULTRA - facilitation in communication and relationships in practice
  - Complexity science approach
    - Members of the system (agents) learn
    - Quality of interactions are important
    - Functional, organized teams performed better

IMPACT MODEL

FIGURE 1
A Model for Practice Change



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PCMH and Preventive Services Delivery

- Ferrante - Ann Fam Med 2010;8:108-116. doi10.1370/afm.1080

- Higher PCMH scores → Higher delivery of preventive services
- Relationship-centered aspects (continuity, whole-person orientation, access) → delivery of clinical preventive services.
- (also decision support and good referral systems)

PCMH and clinical preventive services

- Sarfaty (and Wender), CA Cancer J Clin 2011;61:397-408

- Few supports/incentives for cancer screening in PCMH payment programs
- CRC, breast, cervical cancer screening haven’t saved money and may not.
- Increased screening: regular place, regular physician, more visits (more preventive visits), recommendation from clinician.
- Registries, tracking/coordination/measurement, navigators

Cervical Cancer Screening

Recommendation Summary

Summary of Recommendations and Evidence

Population	Recommendation	Grade (What's This?)
Women 21 to 65 (Pap Smear) or 30-65 (in combo with HPV testing)	The USPSTF recommends screening for cervical cancer in women age 21 to 65 years with cytology (Pap smear) every 3 years or, for women age 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years. See the Clinical Considerations for discussion of cytology method, HPV testing, and screening interval.	A

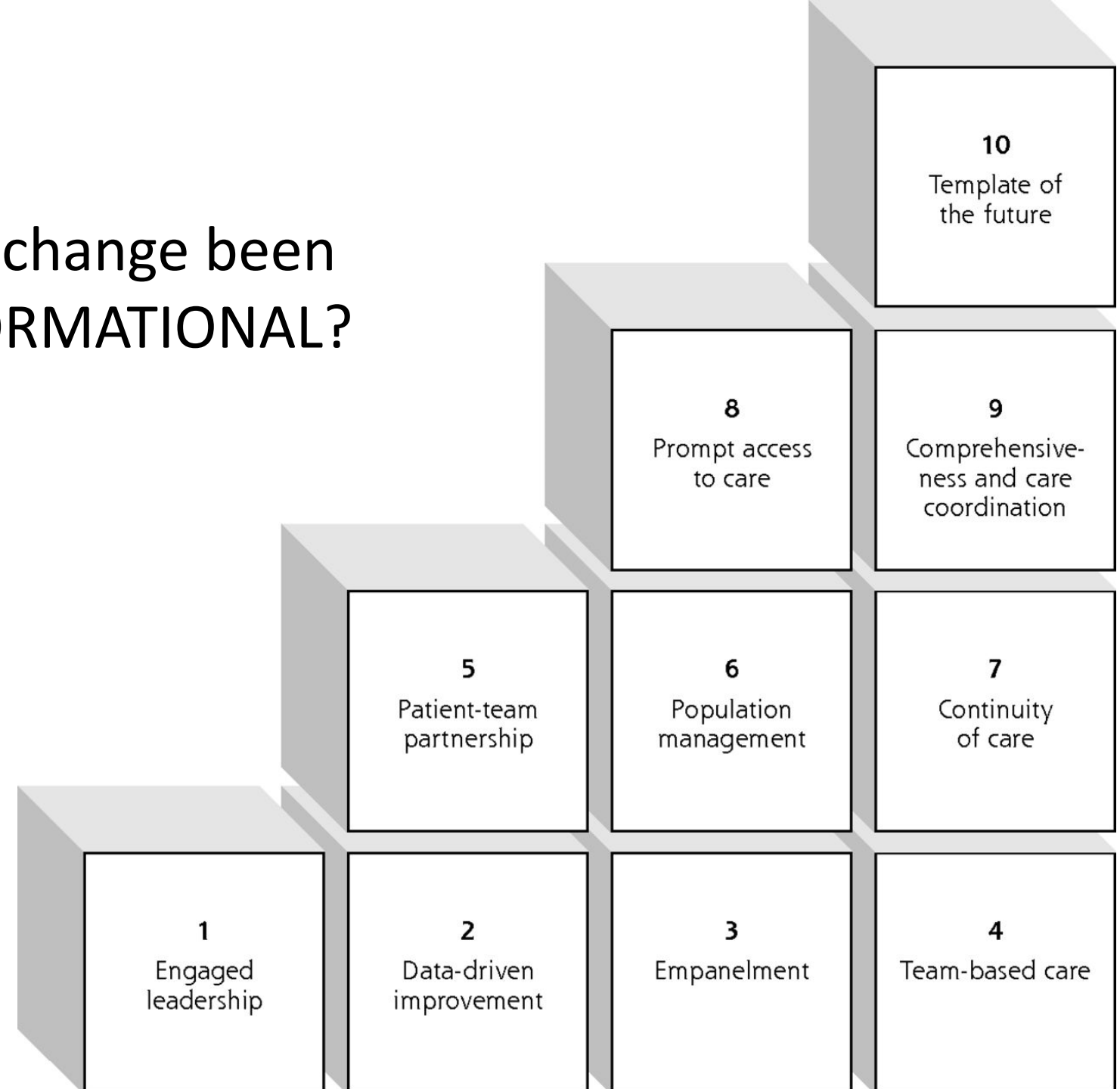
Cervical Cancer Screening

Recommendation Summary		
Women younger than 30 years, HPV testing	The USPSTF recommends against screening for cervical cancer with HPV testing, alone or in combination with cytology, in women younger than age 30 years.	D
Women younger than 21	The USPSTF recommends against screening for cervical cancer in women younger than age 21 years.	D
Women Older than 65, who have had adequate prior screening	The USPSTF recommends against screening for cervical cancer in women older than age 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer. See the Clinical Considerations for discussion of adequacy of prior screening and risk factors.	D
Women who have had a hysterectomy	The USPSTF recommends against screening for cervical cancer in women who have had a hysterectomy with removal of the cervix and who do not have a history of a high-grade precancerous lesion (cervical intraepithelial neoplasia [CIN] grade 2 or 3) or cervical cancer.	D

Cervical Cancer Screening and PCMH

- Relationship – counseling to decrease paps requires trust, explanation.
- Access/visits – comfortable place, opportunistic reminders
- Tracking and coordination to keep on track.

PCMH…
Has your change been TRANSFORMATIONAL?



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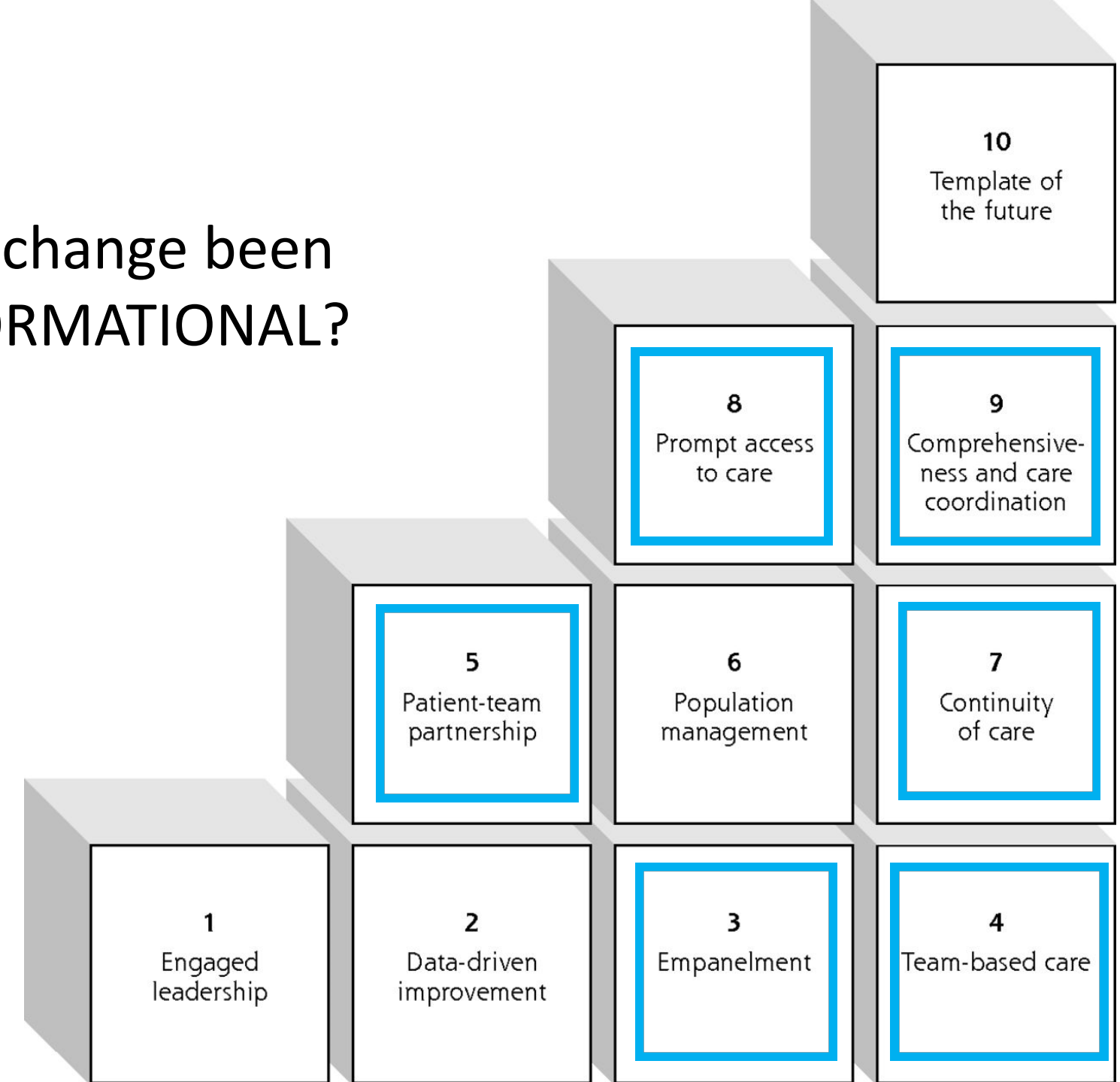

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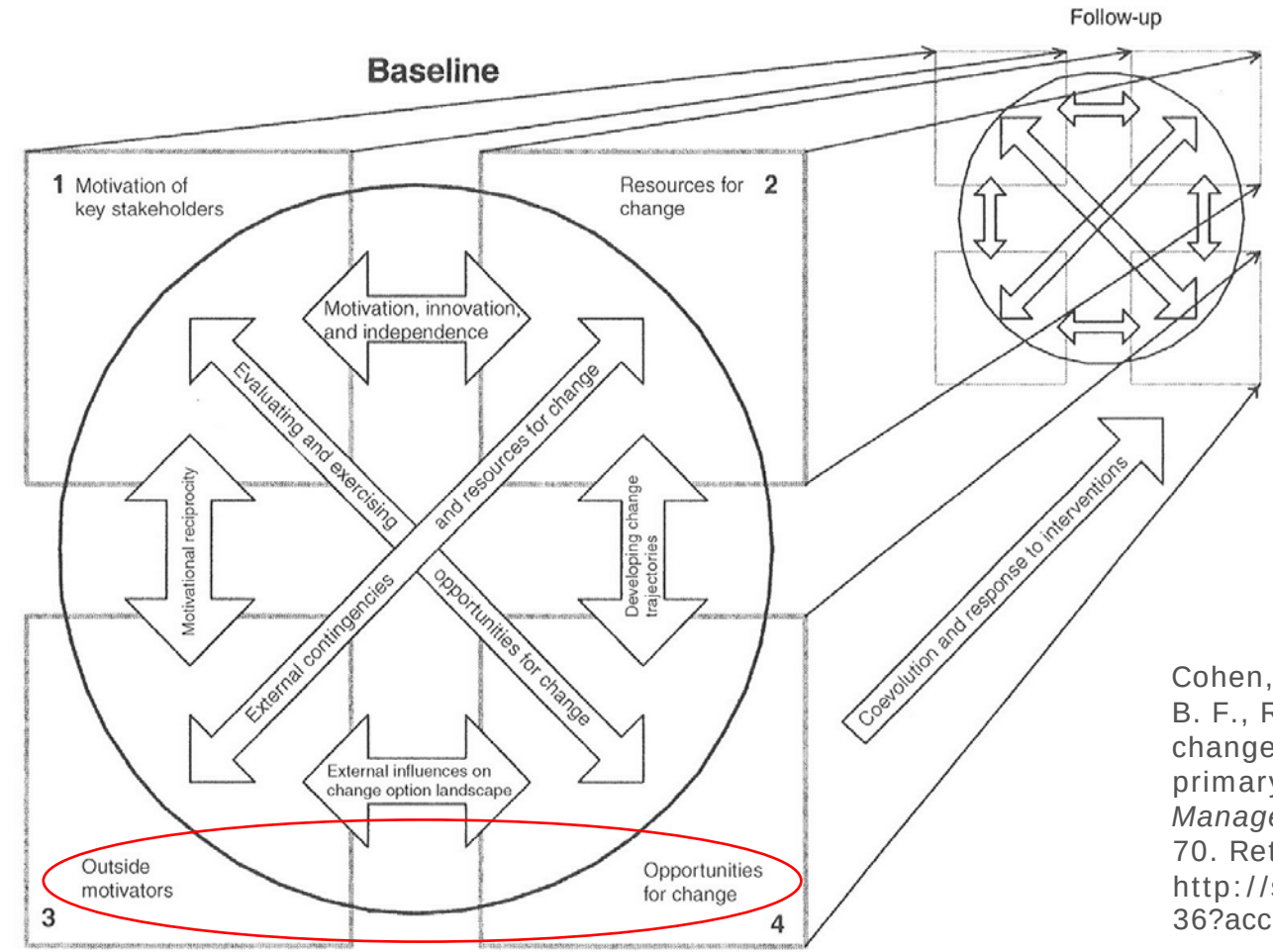

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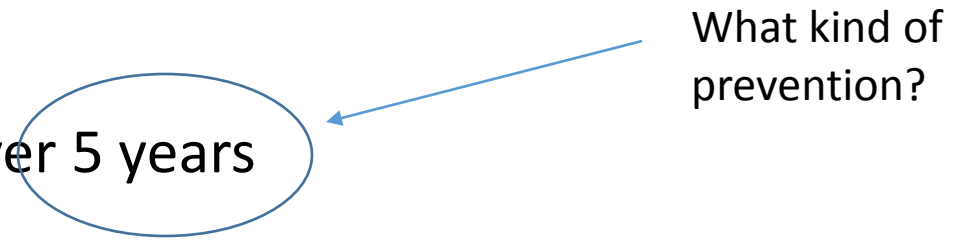
NYS DSRIP

- New York State - Medicaid Redesign Teams
- 17.1 billion negotiated from CMS
  - $500 Million for the Interim Access Assurance Fund - primarily hospitals, other safety net
  - **$6.42 Billion for Delivery System Reform Incentive Payments (DSRIP)**
  - $1.08 Billion for other Medicaid Redesign purposes - (health homes, workforce, etc.)

NYS DSRIP

- DSRIP
  - Reduce avoidable hospital use by 25% over 5 years
    - Preventable ED visits
    - Preventable readmissions
    - Peds and Adult Quality Indicators (State Health Improvement Plan)
  - “system transformation, clinical management and population health”
  - Payments are largely “Spoonful of sugar to help make the medicine of value based payments go down” (goal of 80-90% payments = value-based by end of year 5)



NYS DSRIP

- 24 “Performing Provider Systems” in state - centered around safety net hospitals.
- Central New York Care Collaborative
  - 4 hospitals in region - forced merger - significant delay
  - valuation = $323M
  - 11 projects - health home/PCMH; behavioral health integration, ED care triage, CVD risk reduction, etc.
  - Themes: team-based care, integration of delivery system, shared decision making and patient activation.

NYS DSRIP

- Kaiser Family Foundation Issue (http://bit.ly/dsripnational)

- DSRIP - collaboration, supporting innovation, and bringing renewed attention to social services.
- It is critical but challenging to design appropriate DSRIP measures.
  - flexibility in improvement measures vs. standardization
- DSRIP's role in broader delivery system reform and relationship to Medicaid managed care remains unclear.
- The financing structure behind DSRIP waivers can dramatically affect how they are implemented.
  - Safety net hospitals, role of private practices
- The complexity and rapid pace of DSRIP implementation poses challenges to providers, advocates, and state officials.
  - New partnerships
  - complexity of financial reimbursement opportunities
  - competition from other programs (MU, PQRS, MACRA, ACO)

DSRIP

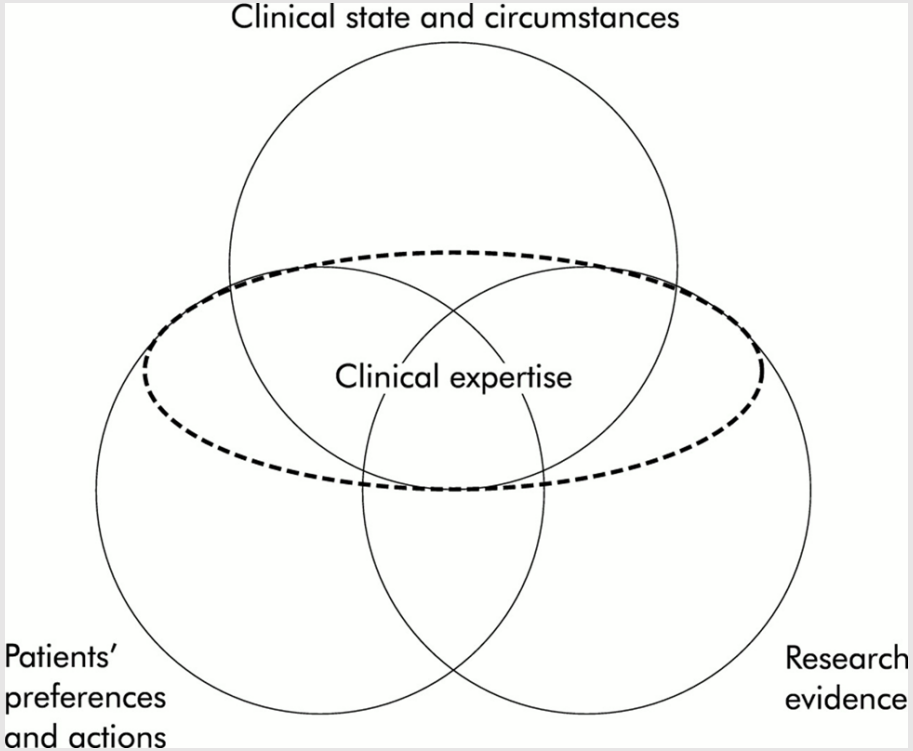
- Just one of a number of “experiments” in health reform.
- “Be careful what you wish for, you might just get it”
- We are living through the transition.

DSRIP and prevention

- Little primary or secondary prevention
  - Tobacco cessation
  - Prevention care management
  - Depends on projects chosen.
- Focus on
  - Infrastructure: PCMH, team care, integration – relationships!
  - Activities: Shared decision making, goal setting and patient activation – expertise!

Conclusions

- Choose Real EBM over Rubbish EBM
  - Know the evidence
  - Integrate patient preferences and actions
  - Appreciate the clinical state and circumstances
  - Use your clinical expertise
- Engage in shared decision making
- Transform your practice to engage the whole team



Two questions in evidence-based prevention

- *What to do (advise)*
  - Choosing your source
  - Making ends meet
- *How to get it done?*
  - Use the 1) patient centered 2) medical home
    - 1) Involve the patient
    - 2) Involve the team
  - Look for incentives

Prevention orientation

- PCMH – choose a prevention QI
- Look for incentives:

Screening	NCQA	USPSTF?
Colorectal CA	Age 50-75 Colonoscopy (10 y) FOBT (1 y) Flex sig (5 y)	✔
Cervical CA	Fem Age 21-64 Cyt (3 y) Cyt/HPV (5 y)	✔
Breast CA	Age 50-74 Mammo (1 y)	+/-

Prevention and PCMH

- Sarfaty (and Wender), CA Cancer J Clin 2011;61:397-408
- …evidence-based cancer screening and other preventive services are lifesaving obligations of every practice and every member of the primary care team for every eligible patient.
- Practice transformation is not sustainable and ultimately will not succeed without payment reform that recognizes the vital contribution of preventive services in general, and cancer screening specifically, to improve the health of the nation.

Objectives

- I hope, as a result of thinking about this talk, that you will:
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  - Use your clinical expertise to effectively deliver evidence-based clinical preventive services.
  - Assist your patients in creating an evidence-based health maintenance plan for themselves.
  - Recognize and engage in the practice transformation represented and required by the new regulations for healthcare.