

Holding Healthcare Accountable:

how to be an 'Evidence-Based'
patient

Or,



How **4 Non Blondes**, a **Leatherman**, **Phil Keaggy**, &
Coupons for Overdiagnosed Surrogate Ashtrays will
help you be healthier and fight inappropriate healthcare



Intro

- Training & practice experience
- Mentoring under Dr. Gordon Guyatt
- Member, Washington State Health Technology Clinical Committee
- Started EBM TIM in 2022. Mission statement:
 - *"To equip patients and healthcare professionals to critically appraise and navigate the complex landscape of modern healthcare."*



Intro, cont.

➤ Disclosures

- No financial disclosures
- Founder & president of EBM TIM
- Fond of Monty Pythonesque humor



Intro, cont.



Resources

- Printout of PowerPoint slides
- “Patient’s Guide to Evidence-Based Health Choices” handout
- “Resources for further study” handout
- Articles on Electronic Medical Records & Provider Burnout
- Books in the back
- Video of lecture



Intro, cont.

- EBM TIM email sign up sheet

- Format

- 1 hour lecture
- Short break
- 30 minute Q & A



The following slide has no relevance

8/16/84

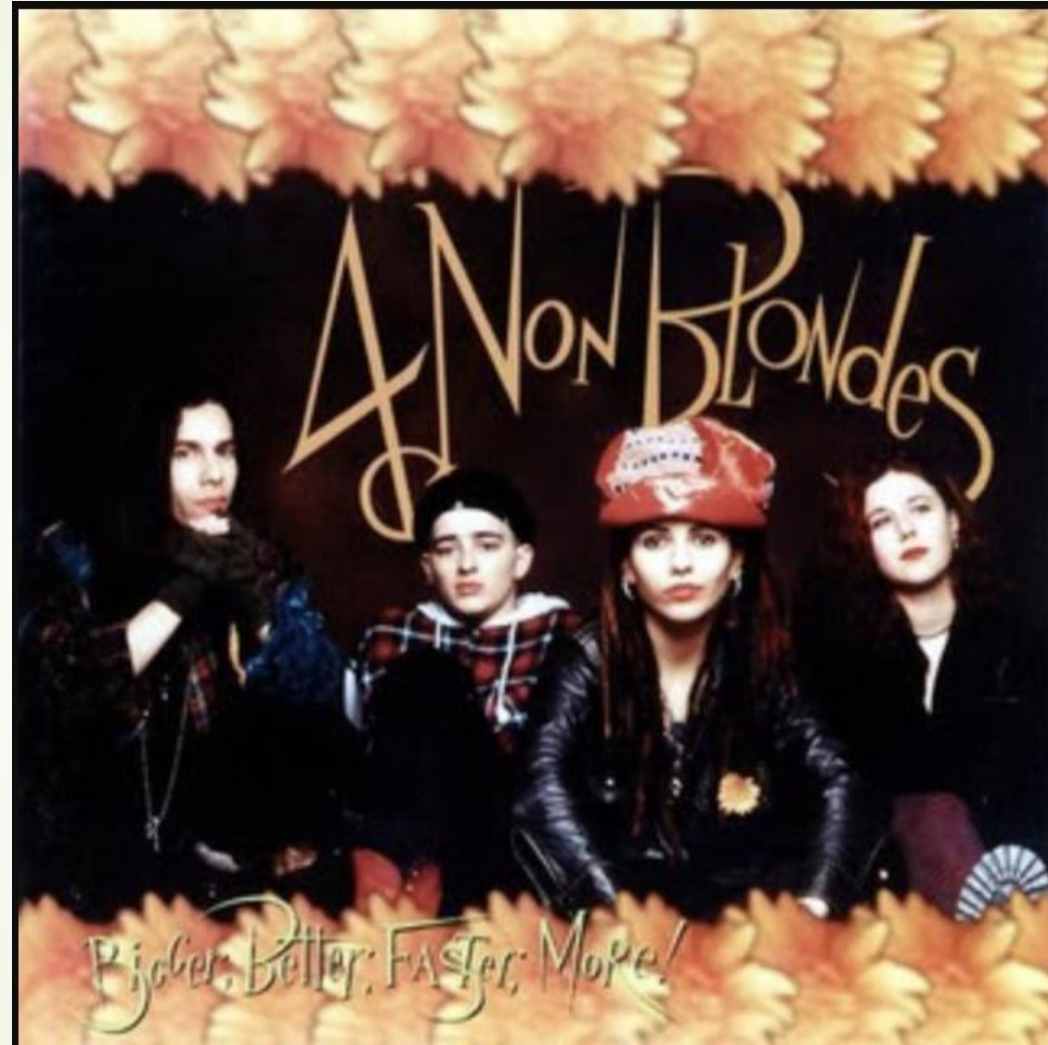


Harvesting the work of ketchup bees



The next 5 slides do

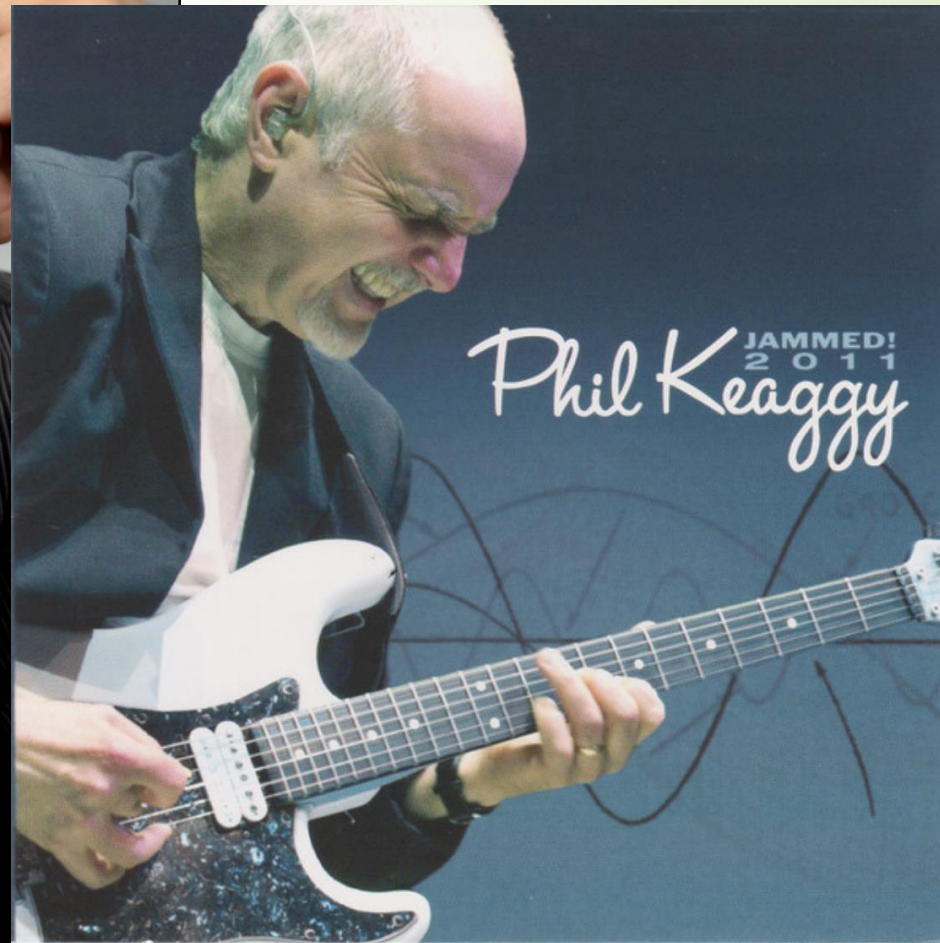




Leatherman Surge Multi-tool

[View all Leatherman Multi-Tools](#)











Goals

- Ignite interest in vital need for learning to become an Evidence-Based Patient (EBP)
- 



Goals

- Provide fundamental concepts and tools, with further resources
- 



Goals

- Offer insight on how becoming an EBP will
 - promote your health
 - lead to greater understanding, balance and compassion
 - lead to greater confidence, safety and peace
 - bring accountability to healthcare

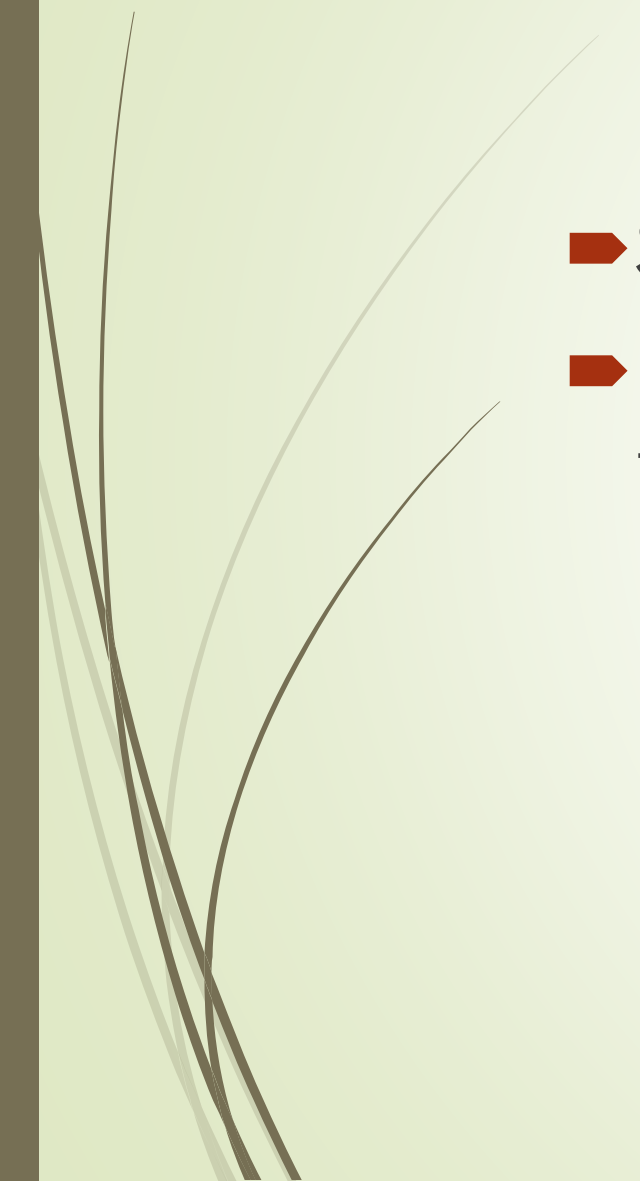


What the HAE?

- Entire lecture in 3 words:
 - Healthcare
 - Accountable
 - Evidence-based



What the HAE?

- Songs running through our heads...
 - 1993 alternative rock song to help make these concepts stick in our heads:
- 



Exactly what we're going to learn to
do...

Ask:

*What's Going On With Health
and Healthcare?*



Language is everything

- How would you define:
 - Health?
 - ***optimal feeling and function, for as long as possible***
 - Healthcare?
 - ***the systems professedly designed to promote and preserve health*** (note: not just speaking of what is referred to as 'mainstream' or 'conventional' medicine)



Language is everything

- ▶ How would you define:
 - ▶ Accountable?
 - ▶ **responsible for doing something required or promised**



Language is everything

- How would you define:
 - Evidence-based?
 - **an approach that emphasizes the need for and use of high-quality clinical research to guide care of the patient, seeking outcomes that are actually meaningful to the patient.**



Health



Outcomes

➤ What/who defines them?

➤ *'significant'* vs. *'clinically relevant'* vs. ***'important to me'***



Health

Critical distinction:

➡ *Feel & Function as well as possible, as long as possible*

vs.

➡ *A number, or an abnormality not destined to harm, becomes a disease?*



Health

- **Number/aberrancy as disease: normal vs. abnormal**

- What/who defines the 'normal' reference point?

- ***What difference does being “abnormal” mean to how I feel or function, or how long I can do so?***



Healthcare

Depth & extent of the problems within healthcare

➤ **Industrialized healthcare**

- **Model that largely clashes at conceptual level with nature of actual healthcare delivery**
- Insurance companies' dominance, increasingly obstructionistic & nefarious practices
- Variety of agendas by multiple complicit entities
- Punitive nature of system with regard to providers
 - Constraints on providers, impossible expectations



Healthcare

Depth & extent of the problems within healthcare

➤ **Industrialized healthcare**

- **All these (and more) vastly impact:**
 - **Definition (paradigm) of Health**
 - **Normal/abnormal**
 - **Goals for Health**
 - **OUTCOMES for Healthcare**
 - **Healthcare spending & regulation**



Healthcare

Depth & extent of the problems within healthcare

➤ Industrialized healthcare

➤ All these (and more) vastly impact:

- Clinical research: what is or isn't studied (profit motive vs. pursuit of knowledge)
- Understanding of human physiology & pathophysiology.
 - what are we missing because studying it won't make someone money or give them power?



Healthcare

Depth & extent of the problems within healthcare

- **Constraints on providers, impossible expectations**

- Electronic medical records (EMR's) and burnout

- EMR's are not primarily about patients or providers

- **11 to 16 years of school and training to become a high-level data entry clerk using outdated equipment, to satisfy marginally meaningful to even malevolent metrics from CMMS and others.**

- Time investments are outrageous. Studies show:

- For 8 hours scheduled clinic time > 5 hours EMR & paperwork

- ER: 4,000 clicks in 10-hour shift

- IM: 1 hour direct clinical patient face time → 2 hours EMR & paperwork



Healthcare

Depth & extent of the problems within healthcare

- **Constraints on providers, impossible expectations**

- CAUTION: Beware claims of 'improvement'

- See graph re: workload & career plans for clinicians

- **'Improvements' serving what model of healthcare: industrialized or actual?**

- 2 (or 3) simultaneous patient panels: schedule & inboxes (electronic and paper; note, each "item" often contains dozens of pages)

Inbox

Proxies

Pools

Display: Last 30 Days



☐ Inbox Items (172)

Results FYI

☐ Documents (170/178)

Sign (0/1)

Review (140/147)

Forwarded Documents to Sign (6/6)

Forwarded Documents to Review (24/24)

☐ Results (1/11)

Other (0/2)

Normal (1/2)

Abnormal (0/7)

Orders

☐ Messages (1/10)

eRx Renewals (1/1)

General Messages (0/9)



Healthcare

Depth & extent of the problems within healthcare

No time to think, let alone to explore





Healthcare



This series of Clinical Epidemiology Rounds has been prepared for those clinicians who are behind in their clinical reading. As nearly as we can tell from several informal polls, this includes all of us. And well it should. To keep up with the 10 leading journals in internal medicine a clinician must read 200 articles and 70 editorials per month.¹ There are now over 20 000 different biomedical journals published (up from 14 000 10 years ago); to “read up” on viral hepatitis requires selection from among 16 000 citations published on this topic in English alone in the last 10 years.



Healthcare

The biomedical literature is expanding at a compound rate of 6% to 7% per year;² thus, it doubles every 10 to 15 years and increases 10-fold every 35 to 50 years. By contrast, our time available for reading the clinical literature is constantly being whittled away by other demands. Accordingly, our recom-



Healthcare

Depth & extent of the problems within healthcare

When was the preceding analysis of the literature volume written?

- David Sackett, *CMA Journal*, March 1, 1981



Healthcare

Depth & extent of the problems within healthcare

- Constraints on providers, impossible expectations

Providers are disincentivized (& even penalized) for:

- spending time thinking
 - spending time with patients relationally
 - practicing real medicine, rather than 'industrialized healthcare'



Healthcare

Depth & extent of the problems within healthcare

➤ Summing it up:

What does the one who coined the term, 'Evidence-Based Medicine' think?

Seems relevant to a system supposedly dedicated to EBM and Health...



Healthcare



“Just published [in] BMJ. Uniquely eloquent depiction of industrialized healthcare: increasingly dehumanised, transactional, generic, burdensome, and cruel delivered by morally injured, burned out, and spent clinicians, humanly unsustainable. Solutions offered.

<https://www.bmj.com/content/379/bmj-2022-073444>”

- Gordon Guyatt, tweet re: Dec., 2022, article by Victor Montori

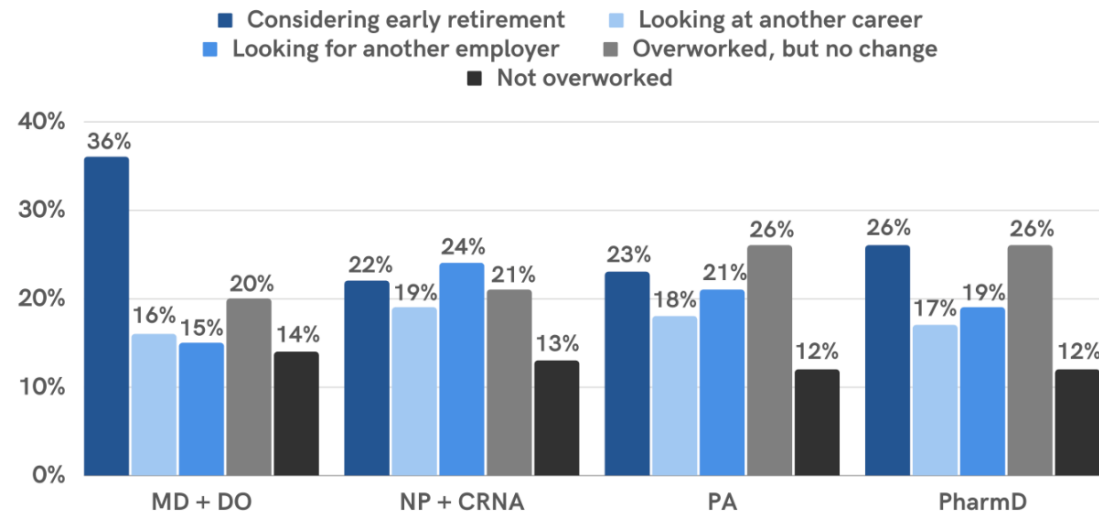
Overwork remains a persistent problem for the health care workforce, affecting 86% of clinicians, according to a recent [Doximity poll](#). That figure is a 12 percentage point leap from the 74% of clinicians who [reported](#) feeling overworked in May 2021, a year into the COVID-19 pandemic.

The latest Doximity poll, conducted between October 2022 and January 2023, includes the responses of 2,851 physicians, pharmacists, and APPs.

The vast majority of clinicians in each profession agree they are overworked: 86% of physicians, 87% of NPs and CRNAs, 88% of PAs, and 88% of pharmacists. As a result, 66% of clinicians who responded to the poll are considering changing their career plans, compared with roughly 50% of clinicians in 2021.

How Has Your Clinical Workload Altered Your Career Plans?

Poll of 2,851 clinicians





Healthcare

CONSEQUENCES?

- 2022-2023 poll of nearly 3,000 clinicians (physicians, nurse practitioners, certified nurse anesthetists, physician assistants, clinical pharmacists)
 - 16% - 19% are looking at another career
 - 22% - 36% are considering early retirement
 - 20% - 26% are overworked but have no plan (or option?) for change
 - How long will that continue?
 - Only 12% - 14% don't feel overworked
 - How long will that continue?



Accountable

How can we hold the systems professedly designed to promote and preserve health to their obligation and promise:

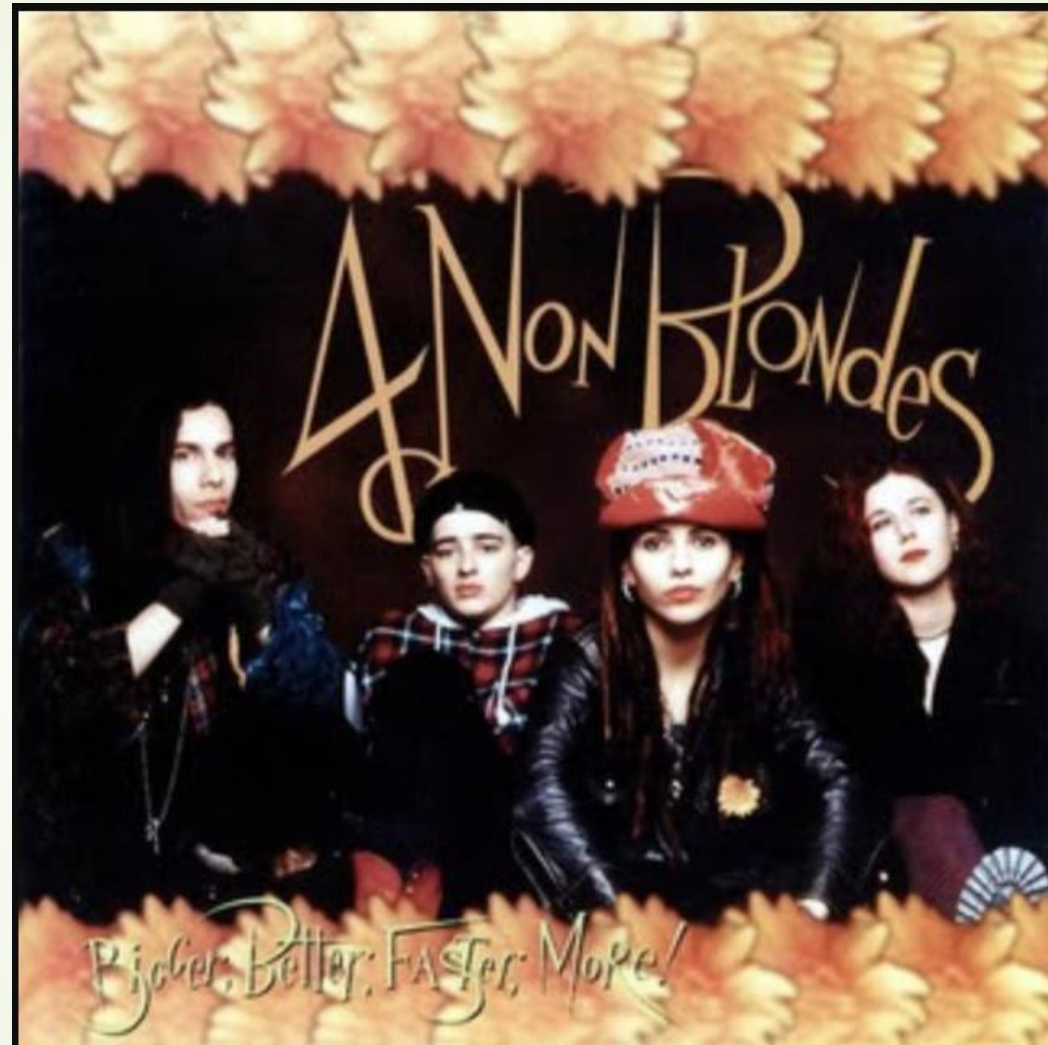
*assisting us in **feeling** and **functioning** optimally for as long as possible?*



Accountable

Learn how to be an Evidence-based Patient (EBP)

- **Don't rely on healthcare to accomplish this: take control of and responsibility for our own health**





Accountable

Learn how to be an Evidence-based Patient (EBP)

- **Get informed: “Scream at the top of our lungs, ‘What’s going on?!’”**
- “Resources for Further Study” handout (note the qualifications of the authors)
 - dig deep and see what’s really going on
 - Be willing to believe it’s as bad as it really is
 - Make others aware

Leatherman Surge Multi-tool

[View all Leatherman Multi-Tools](#)





Accountable

Learn how to be an Evidence-based Patient (EBP)

- **Learn and practice a few basic EBM tools**

- These EBM tools are like the various tools in a Leatherman multi-tool.
- They don't do everything, but a few tools accomplish an amazing amount of tasks.
- They're simple to use, and apply to the essential issues in Health and Healthcare.

...we actually use them in our daily lives...



Accountable

Learn how to be an Evidence-based Patient (EBP)

- Some Benefits:

- *Ability to collaborate* with our healthcare providers: synergy
 - “Patient’s Guide to Evidence-Based Health Choices” handout
- Begin to critique our own thinking → humbling, and become more balanced.
- Understand better just how broken & corrupt the system is → become more compassionate
- And... we can’t be bullied or manipulated as easily by that system.

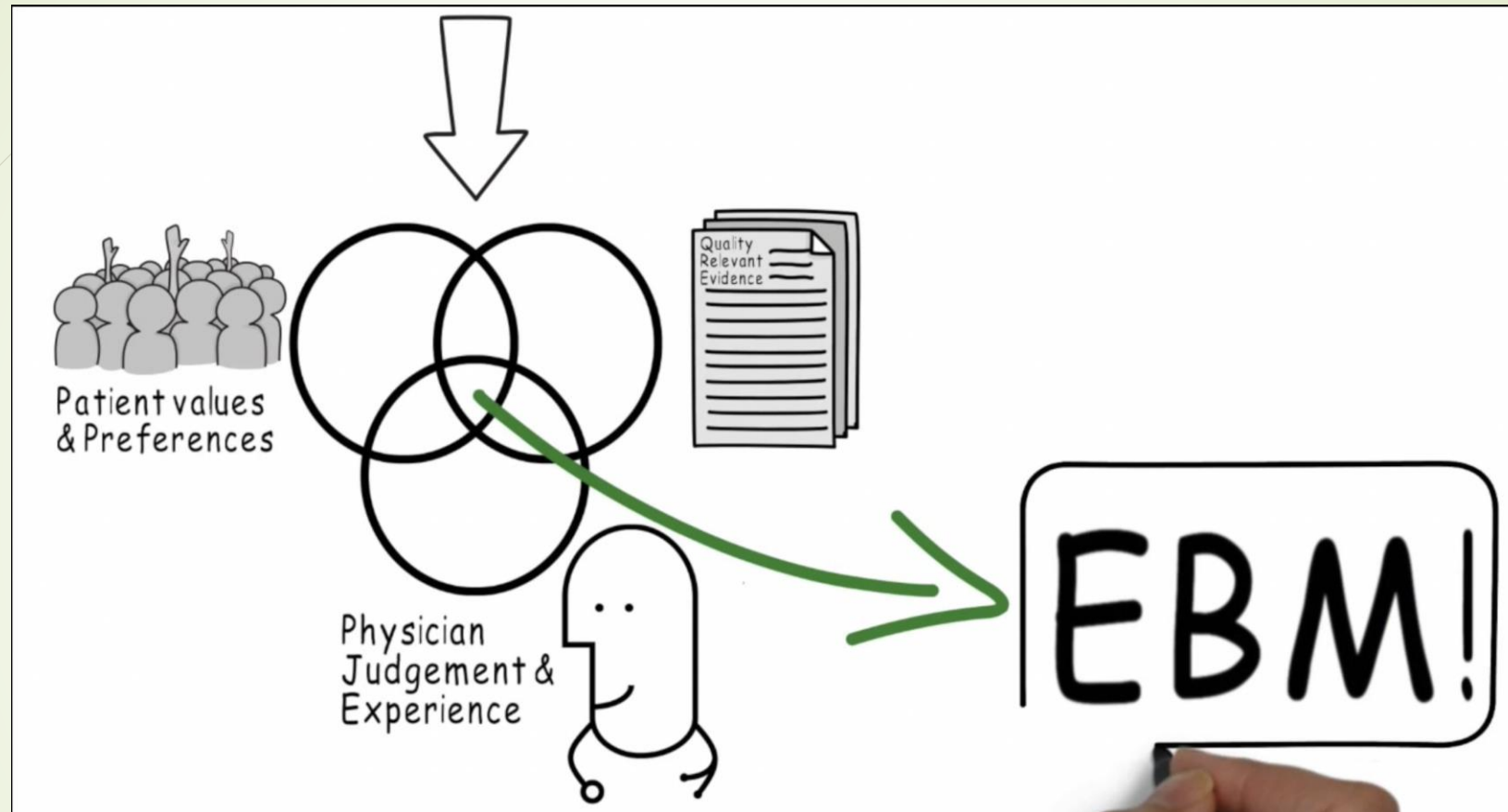


Evidence-based

What is EBM?

“The application of the best available [patient-oriented] research to clinical care, which requires the **integration of evidence** with **clinical expertise** and **patient values**.”

– *BMJ Best Practice*



- "EBM Explained" (https://www.youtube.com/watch?v=Z_yiUf3f92s)



Evidence-based

- Haven't they always used 'evidence' to practice medicine?
 - Yes and no: what evidence? How was evidence critically appraised?
 - < 1990 was much different role/emphasis on clinical trials.
 - Much depended on expert opinion, established practices, etc.



Evidence-based

“EBM at its heart is about challenging authority.”

– Gordon Guyatt

In 1990, Dr. Gordon Guyatt coined the term, ‘Evidence-Based Medicine’, to describe the different approach to the teaching & practice of medicine that had been developed at McMaster University.

It embodies 3 principles:

The three principles of EBM

- Some evidence is more trustworthy than other evidence
 - Clear guidance to most trustworthy available
- Best clinical care requires systematic summaries of the best available evidence
- Evidence never, by itself is sufficient.
 - Decisions require consideration of patient values and preferences

➤ “Past & Future of Evidence-Based Medicine” (<https://www.youtube.com/watch?v=dvikKhhZqbl&t=1067s>)



Evidence-based

- ▶ EBM: Tools & Telos
 - ▶ Tools: used to analyze and apply evidence
 - ▶ Telos: goal we're (supposed to be) aiming at in using the Tools. "The end of a thing is its perfection."

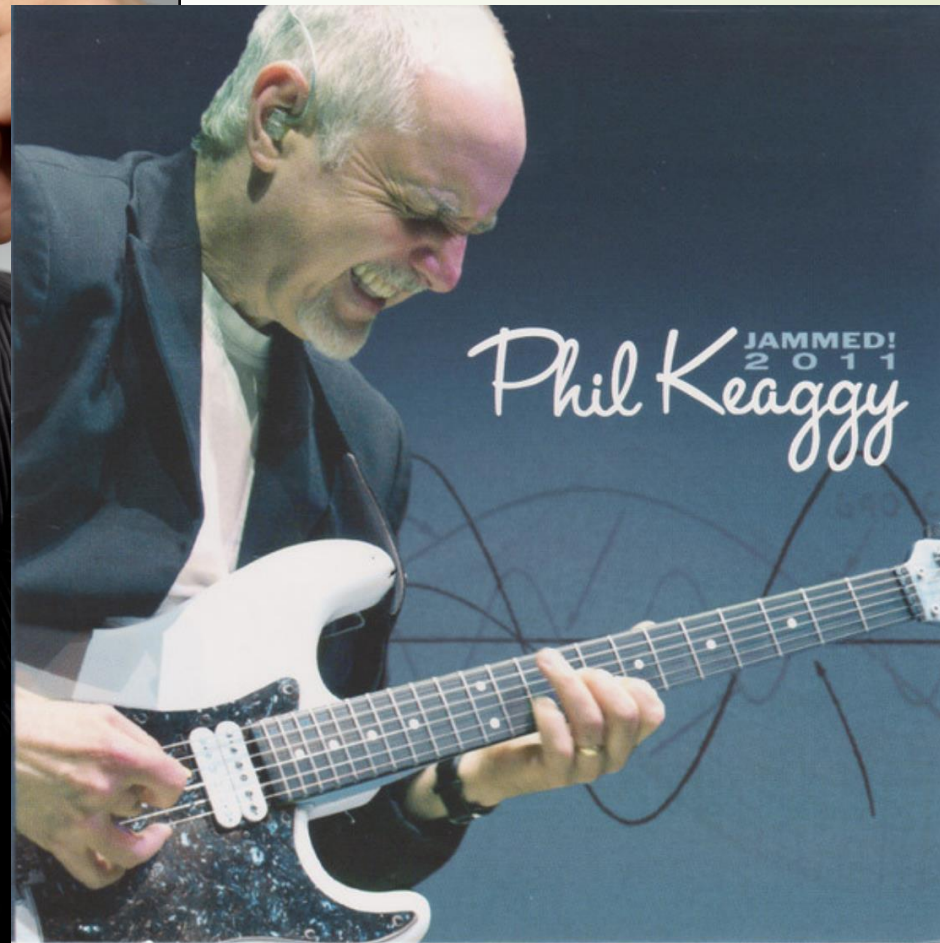


Evidence-based

➤ EBM: Tools & Telos

Differing Strengths of Evidence:

A Tale of Two Guitars





Evidence-based

- ▶ EBM: Tools & Telos
 - ▶ Differing strengths of Evidence: A Tale of Two Guitars
 - ▶ Two aspects of how a guitar sounds:
 - ▶ Intrinsic quality
 - ▶ Skill of musician



Evidence-based

- EBM: Tools & Telos
 - Intrinsic quality
 - \$90 beginner guitar – can produce music, but doesn't sound so great
 - \$10,000 master guitar – can produce amazing sounding music



Evidence-based

- EBM: Tools & Telos
 - Musician skill
 - Phil Keaggy on \$90 beginner guitar – sounds good
 - Beginner on \$10,000 master guitar – sounds lousy
 - Phil Keaggy on \$90 beginner guitar – sounds good
 - Phil Keaggy on \$10,000 master guitar – sounds AMAZING



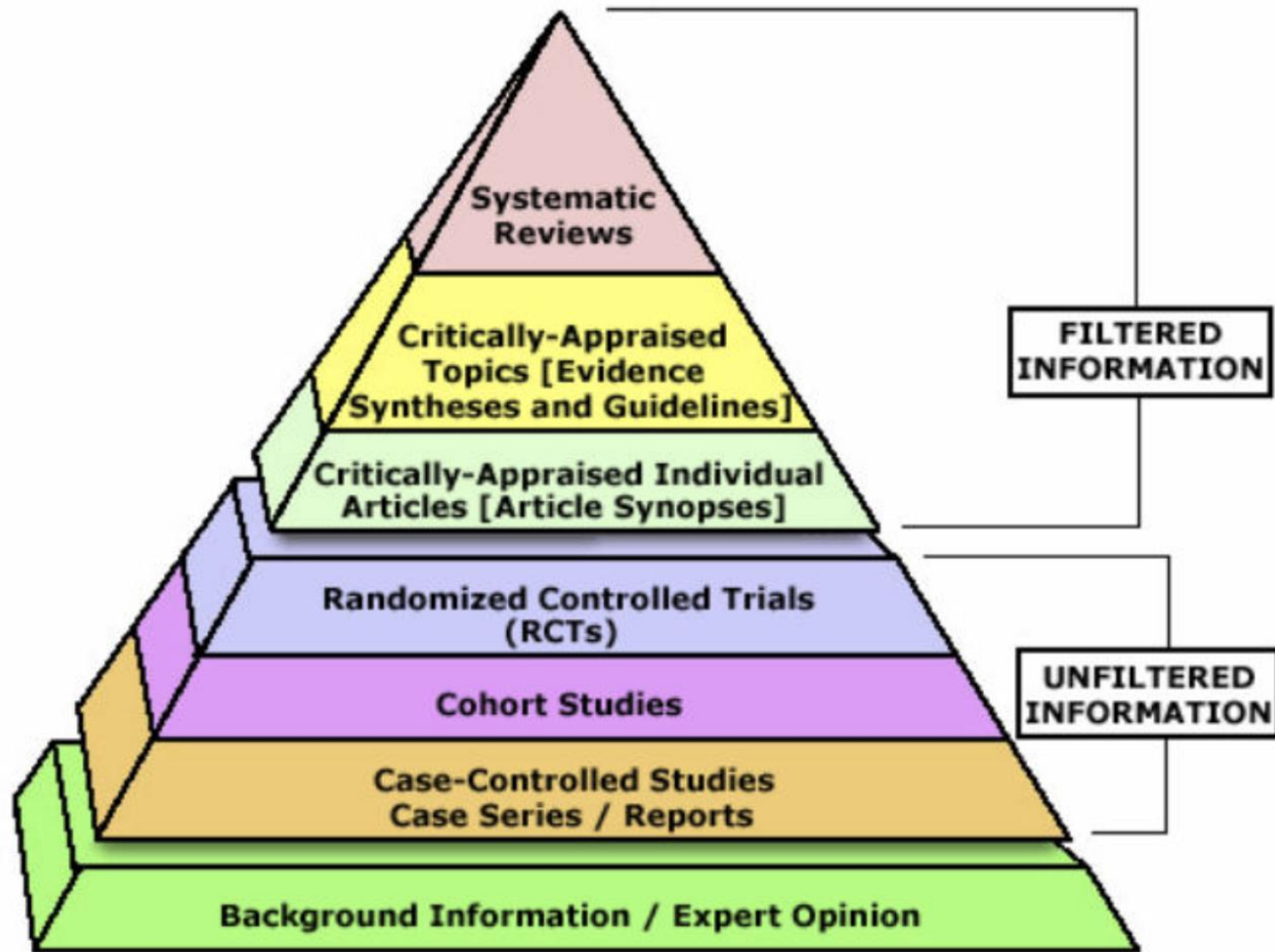
Evidence-based

- EBM: Tools & Telos
 - Differing strengths of Evidence
 - Two aspects determining trustworthiness of evidence:
 - Intrinsic quality of evidence itself
 - How well evidence was gathered



Evidence-based

- EBM: Tools & Telos
 - Differing strengths of Evidence
 - **Intrinsic quality of evidence itself:** some studies are inherently better than others in proving outcome, because they can identify the cause-effect relationship more accurately.





Evidence-based

- EBM: Tools & Telos
 - Differing strengths of Evidence
 - **How well evidence was gathered:** a well-done study of inherently inferior quality can provide stronger evidence than a poorly done study of inherently superior quality.





Evidence-based

➤ EBM: Tools & Telos

***Overdiagnosis &
Surrogate Ashtray Eradication To Prevent Lung
Cancer***



Evidence-based

➤ **SURROGATE MARKER**

- Substitute measure associated with an important outcome.
- Goal is that by addressing the substitute measure, a bad outcome can be avoided or a good one achieved.
- Vital concept we use all the time.



Evidence-based

➡ **SURROGATE MARKER**

- ➡ Challenge: surrogate marker is only reliable if
 - ➡ strong association with the actual outcome
 - ➡ intervening on the surrogate makes a meaningful change in the outcome.



Evidence-based

➤ **SURROGATE MARKER**

➤ Good surrogate

- tire tread thickness & wear patterns linked reliably with blowouts & accidents.
- Intervening on tire tread/abnormal wear patterns prevents blowouts & accidents to a meaningful degree.



Evidence-based

➡ **SURROGATE MARKER**

➡ Bad surrogate

- ➡ presence of ashtrays linked reliably with emphysema & lung cancer
- ➡ Eradicating ashtrays does not prevent emphysema & lung cancer to a meaningful degree



Evidence-based

➤ **SURROGATE MARKER**

➤ Examples in Healthcare:

- Blood pressure
- Blood glucose/Hemoglobin A1C
- Bone density
- BMI
- Cholesterol
- PSA



Evidence-based



OVERDIAGNOSIS

- At what point does intervening on a reliable surrogate marker make a meaningful difference in desired outcome?
- *'significant'* vs. *'clinically relevant'* vs. ***'important to me'***



Evidence-based

- 1960's VA trial: severely elevated but asymptomatic diastolic B/P (115 – 129!!)
- Intervening on the surrogate made a huge reduction in MI, stroke, heart failure, etc.



Evidence-based

➡ OVERDIAGNOSIS

- ➡ ... but what if your diastolic B/P isn't so severely elevated?
- ➡ Will treatment of the surrogate marker then bring the same magnitude of effect?

NO!!!!

WHY?



Evidence-based

➤ OVERDIAGNOSIS

- “Milder abnormalities are less likely to cause problems than severe abnormalities are.”
- “People with milder abnormalities stand to benefit less from treatment than those with severe abnormalities.”

- Welch: *Overdiagnosed: Making People Sick In the Pursuit of Health*



Evidence-based

➤ OVERDIAGNOSIS

- If people with milder abnormalities are less likely to have problems arising from their abnormalities, more of them must be treated to prevent one meaningful outcome (e.g., stroke, MI).
- **People with milder abnormalities and who are treated are therefore more likely to receive no benefit from that treatment.**

OVERDIAGNOSIS: when people are diagnosed with conditions that will never actually cause any meaningful bad outcome.



Evidence-based

➡ OVERDIAGNOSIS

➡ DANGERS OF OVERDIAGNOSIS

- ➡ Simple math: if more people are unnecessarily treated, there will be more instances of meaningful bad outcomes **RESULTING FROM TREATMENT.**



Evidence-based

➤ OVERDIAGNOSIS

➤ EXAMPLES OF BAD OUTCOMES DUE TO UNNECESSARY TREATMENT

- Physical side effects
- Emotional negative effects
- Viewing oneself as “diseased” rather than “well”
- Cost individually and to the nation
- **Reinforces wrong & dangerous ideas of health, disease, and treatment.**



Evidence-based

➤ OVERDIAGNOSIS & ACCOUNTABILITY

- What/who defines the 'normal' reference point?
- What happens when the cutoff for 'normal' is changed?
 - Millions suddenly become 'patients' with a 'condition'
 - Many of these will be treated without benefit because the abnormality is mild



Evidence-based

➡ OVERDIAGNOSIS & ACCOUNTABILITY

What happens to the health of a nation when health is equated with attaining surrogate marker goals?



Evidence-based

➤ OVERDIAGNOSIS & ACCOUNTABILITY

- Which approach to controlling A1C, lipids, and B/P produces meaningful health results after 6-12 months?
 - Diet changes, simple daily schedule, light exercise, senior yoga
 - No significant lifestyle changes, but now taking metformin, Januvia, glipizide; lisinopril-hydrochlorothiazide, amlodipine; atorvastatin.



Evidence-based

➤ OVERDIAGNOSIS & ACCOUNTABILITY

- Which approach to controlling A1C, lipids, and B/P produces meaningful health results after 6-12 months?
 - 25 lb weight loss, knees don't hurt like they did, more mobile and flexible, balance improved and coordination better, better sleep, stress reduced, mood improved. A1C 6.7; LDL 95; SBP 128
 - 5 lb. weight gain, knees still stiff & painful, activity tolerance mildly worsened, balance still off at times, needs to take "sleeping pill", increased relational stress, frustrated with how they feel and function leading to increase in depression symptoms and mood lability which is now impacting relationships. A1C 6.2, LDL 74, SBP 118



Evidence-based

➤ OVERDIAGNOSIS & ACCOUNTABILITY

- Who actually benefits from overdiagnosis...?
 - Patients?
 - At least some of those who profit from industrialized healthcare?
- What are natural societal consequences of this approach?
 - Financial
 - Regulatory
 - quality & availability of true healthcare
 - Relationally
 - Etc.



Evidence-based

➤ OVERDIAGNOSIS & ACCOUNTABILITY

- What would happen if a local tire company waged a huge campaign pushing 'statistically significant' interventions on tire tread depth that actually only offered meaningful benefit to a few customers?
- Why do we apply a different approach to Healthcare?



Evidence-based

➤ EBM: Tools & Telos

Applying evidence wisely: not being sucked in
by Big Pharma and other agendas

or,

***Shopping with coupons for savings that are
actually meaningful***





Evidence-based

➤ EBM: Tools

Which is better?

10% off

Saving \$100



Evidence-based

➤ EBM: Tools

➤ Regular price x coupon value = financial savings

➤ Baseline risk x relative risk reduction of therapy = health savings



Evidence-based

➤ EBM: Tools

➤ Baseline risk x relative risk reduction of therapy = health savings

➤ Health savings = 'Absolute Risk Reduction' or 'Risk Difference'

Evidence-based

➤ EBM: Tools

- Which is easier to sell? To promote by appealing to fear?
 - Vague language: "WunderPill reduces risk of X"
 - **Relative Risk Reduction** (coupon % value): "WunderPill reduces risk of X by 40%" (sounds more juicy, scientific & impressive; **marketing approach**)
 - **Absolute Risk Reduction** (regular price x coupon value): "If your baseline risk is 10% over 10 years, Wunderpill reduces risk of X by 40% of 10% = 4%. This means that of 100 people who take WunderPill 3,650 times over the next 10 years, 4 will benefit, and 96 will not." (**Evidence-Based approach**)



Evidence-based

➤ EBM: Tools

Illustrating the concepts: Mayo Clinic Statin Choice Decision Aid

<https://statindecisionaid.mayoclinic.org/statin/index>



CONCLUSION



- Learn to be an Evidence-Based Patient
- **Correct language, definitions, and concepts are essential**
 - **“HAE, what’s going on?”**
 - Health & Healthcare
 - Accountability
 - Evidence-Based
 - **Outcomes:** *‘significant’ vs. ‘clinically relevant’ vs. ‘important to me’*
 - **“Normal” & “Abnormal”:** who defines?



CONCLUSION



- Learn to be an Evidence-Based Patient
- **Ask “What’s Going On?!” with Health and Healthcare**
 - Know the true state of Healthcare, and how this impacts concepts, definitions & perceptions of health, disease, and treatment; jeopardizes health by burning out those who deliver it; and more.
 - “Resources for Further Study” handout (note qualifications of authors to describe these grim realities)
 - EMR & burnout articles



CONCLUSION

- Learn to be an Evidence-Based Patient
 - **Build your skill in using your Healthcare Leatherman**
 - Some evidence is more reliable than others (2 guitars)
 - **Surrogate endpoints** can be very important, & very misleading (tire tread vs. ashtrays)
 - **Overdiagnosis** happens when people are diagnosed with conditions that will never actually cause any meaningful bad outcome, leading to much unnecessary treatment and increased exposure to various harms.
 - To determine if a treatment is likely to benefit us, we must know the **Absolute Risk Reduction** (regular price x coupon value), not simply the **relative risk reduction** (coupon value only)
 - “Patient’s Guide to Evidence-Based Health Choices” handout



CONCLUSION



- Learn to be an Evidence-Based Patient
 - **Begin to experience the benefits of being an EBP**
 - better health
 - greater understanding, balance and compassion
 - increased confidence, safety and peace
 - bring accountability to healthcare