

EVIDENCE-BASED PRACTICE: THE EASY WAY

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Objectives

- Define evidence-based practice.
- Explain why evidence-based practice is important for effective injury prevention.
- Identify at least two free, internet-accessible resources for evidence-based injury prevention practices.
- Discuss ways to determine whether a practice is evidence-based, and what to do when internet resources do not suffice.

Evidence-based practice/s

- *Evidence-based practice* is a process in which practitioners use the most rigorous scientific evidence available as part of the basis for practice decisions.
- *Evidence-based practices* are strategies or programs that have received consistent support from well-conducted research studies

Rubin, A. *Statistics for Evidence-Based Practice and Evaluation*. 2nd ed. Brooks/Cole, Cengage Learning: Belmont, CA. 2010.

Integrative Model of EBP

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Applies at all levels: individual, group, community, policy

Why engage in EBP?

In this environment of limited resources, we need to make sure that prevention dollars are spent wisely. We need to systematically apply evidence and theory to ensure the highest likelihood for success and then test and refine... We will then have the greatest chance that interventions will be shown to effect positive change when implemented.

~Flaura Winston, MD

Operating without evidence...

- Can lead to:
 - ▣ Bad outcomes
 - ▣ Lack of good outcomes
 - ▣ Waste of resources
 - ▣ Waste of time
 - ▣ Reduction in future credibility



Slide adapted from C. Runyan

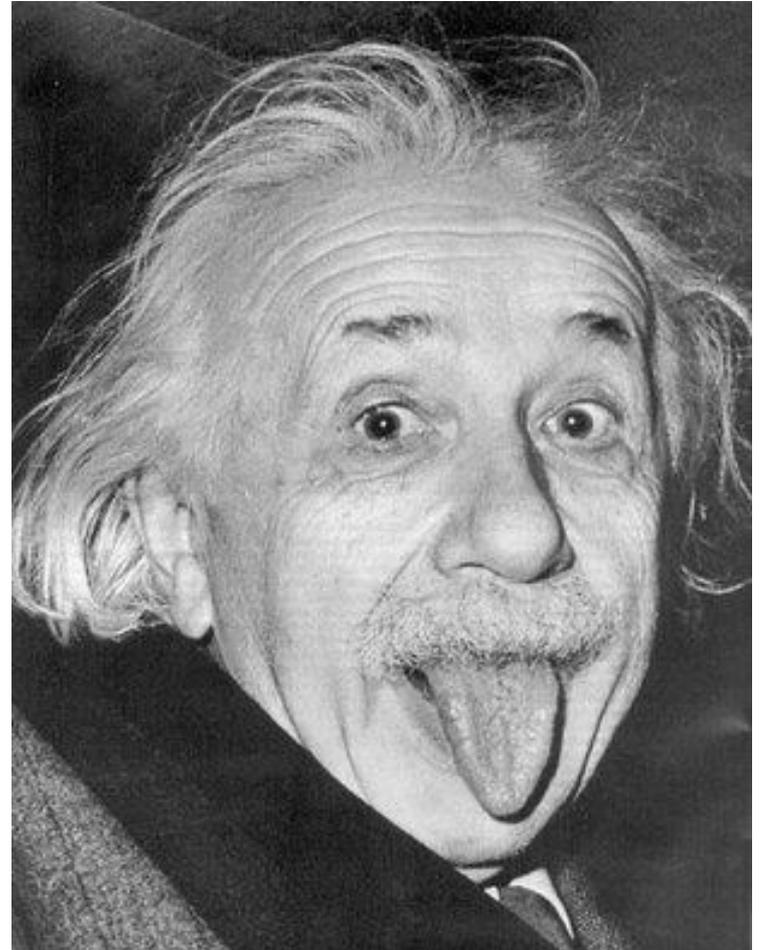
Evidence-based practice

- Fostered when there is a partnership between “practice-oriented researchers” and “methodologically informed practitioners”



Being evidence-based...

- Does not mean you have to be a scientist
- Does not require magical powers
- Does make you seem magically smart!



Evidence-based practice: the 5 steps

- Ask a question
- Search for evidence
- Critically appraise the evidence
- Select and implement the strategy or program
- Evaluate the outcome

Ask a question

- Questions may concern:
 - ▣ Interventions
 - ▣ Implementation
 - ▣ Assessment tools
- **Example question:**

What strategies are the most effective for preventing underage drinking in Austin, TX?



Search for evidence

Bottom Up

- YOU gather all the studies, read and appraise them

Top Down

- You rely on the work of OTHERS who have conducted systematic reviews of the literature

Search for evidence

- Google / Google Scholar
- Cochrane / Campbell Collaboration Reviews
- CDC: National Center for Injury Prevention & Control
- CDC: Guide to Community Preventive Services, Guide to Clinical Preventive Services
- Harborview Injury Prevention Center Best Practices Guide
- Substance Abuse and Mental Health Association
- NHTSA Countermeasures that Work

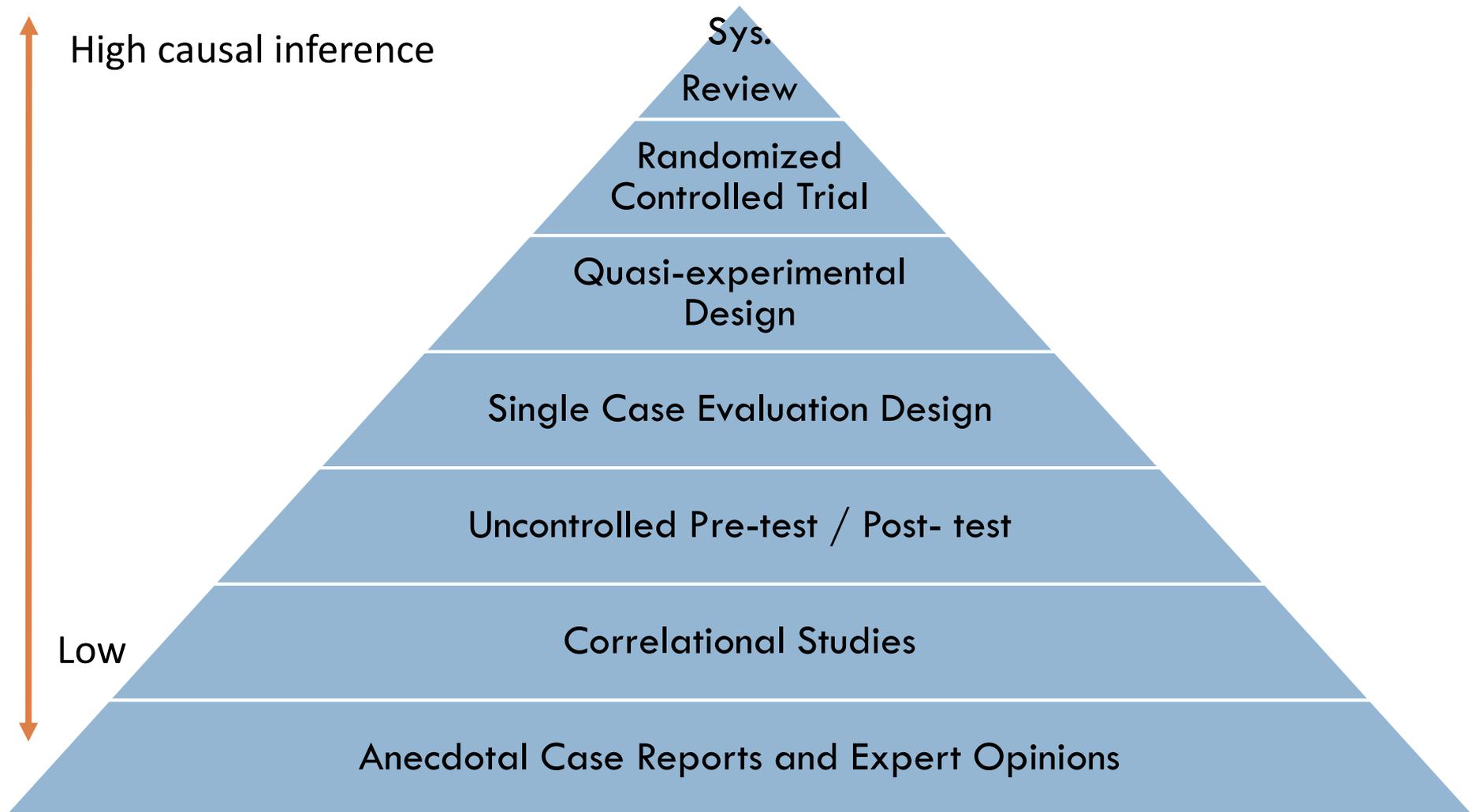
Search for evidence

- Google search: “strategies for prevention of underage drinking”
- Many responses => 2004 NIH – NIAAA chapter “Alcohol Use and Misuse: Prevention Strategies with Minors”
- www.ncbi.nlm.nih.gov/books/NBK37581/

Critically appraise the evidence

- Look for the best available evidence
- Learn the basics of a good research study / review:
 - Was the outcome measured in a reliable, valid and unbiased manner?
 - Was the research design strong enough to indicate conclusively whether the intervention (or something else) most plausibly explains the variations in outcomes?
 - Reviews: What were the inclusion criteria? How were studies evaluated?
- Get help: local universities, peers, experts

Hierarchy of research designs



Critically appraise the evidence

- Review chapter by a trusted federal agency
- Identifies these strategies, citing multiple studies:
 - Limit youth access to alcohol, via: laws, ordinances, enforcement and social norms that support these policies
 - Integrated approaches: schools + families + communities
 - Establish non-use norms, as adolescents overestimate drinking
 - Interventions need to be ‘institutionalized’

Critically appraise the evidence

- Strategies continued:
 - ▣ Interventions need to be delivered throughout adolescence
 - ▣ Parental monitoring & parent / child communication
 - ▣ Education strategies that are highly interactive, involve higher numbers of interactive hours and encourage participants to form social norms are more effective
 - ▣ Interventions need to be delivered with fidelity and by trained providers who are fluent in the program

Critically appraise the evidence

- Strategies that do not work:
 - ▣ Scare tactics
 - ▣ Congregating high-risk students
 - ▣ Exclusive focus on information
 - ▣ Failure to focus on alcohol and tie information, norms and skills development to alcohol use

Select and implement the strategy

- Combine:
 - ▣ What you learned by critically appraising the evidence
 - ▣ What you know about your target population (your own knowledge + add'l research)



Select and implement

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- Consider:
 - Quality of the evidence
 - Population characteristics and context (Is intvn. equally effective across groups?)
 - Values and expectations of population (Could the intvn. conflict with population's values?)
- Even evidence based interventions are not effective with every population, client or situation.

Select and implement the strategy

- In my community, I think limiting youth access to alcohol may work
- Plan interventions with:
 - ▣ Law enforcement
 - ▣ Alcohol retailers
 - ▣ Community leaders
 - ▣ Parents
- Work to change norms in my community
 - ▣ Media, student leaders, etc.



Evaluate the outcome

- Evaluation is an essential piece of the process
- Ideally includes injury outcomes
 - ▣ not always possible / reasonable

Evaluate the outcome

- Potential outcomes for evaluation:
 - ▣ Participation by target audiences
 - ▣ Youth able to purchase alcohol at retail locations
 - ▣ Enforcement of existing laws
 - ▣ Passage of new laws / ordinances
 - ▣ Measures of parental monitoring (use existing tools!)
 - ▣ Media tracking
 - ▣ Youth perceptions of social norms related to drinking
 - ▣ Alcohol-related adolescent emergency room visits

When there's not much evidence...

- Example: child ATV injuries
 - ▣ No reviews or RCTs
 - ▣ Limited other studies
 - Survey & focus group studies identifying potential prevention ideas
 - Legislative strategies: rider age, helmet use, training courses, vehicle size



http://www.childrensafetynetwork.org/news/newsletter_archive/040710_atv.asp

When there's not much evidence...

- Build on what is known
 - ▣ Use existing studies
 - Epidemiology
 - Surveys
 - Focus groups
 - Single group studies
 - ▣ Talk with leaders in the field – they will be happy to hear from you!
 - ▣ Evaluate the results of your interventions

- Sadly, lack of evidence does not mean you can go on vacation!



In conclusion...

- In Injury Prevention we are part of a larger community
 - Obligation to the people we serve – and each other - to use the best science available, and when able, to contribute new knowledge to the field
 - *"If I have seen further, it is by standing on the shoulders of giants"* ~Isaac Newton

Questions and Discussion

Contact me:

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