

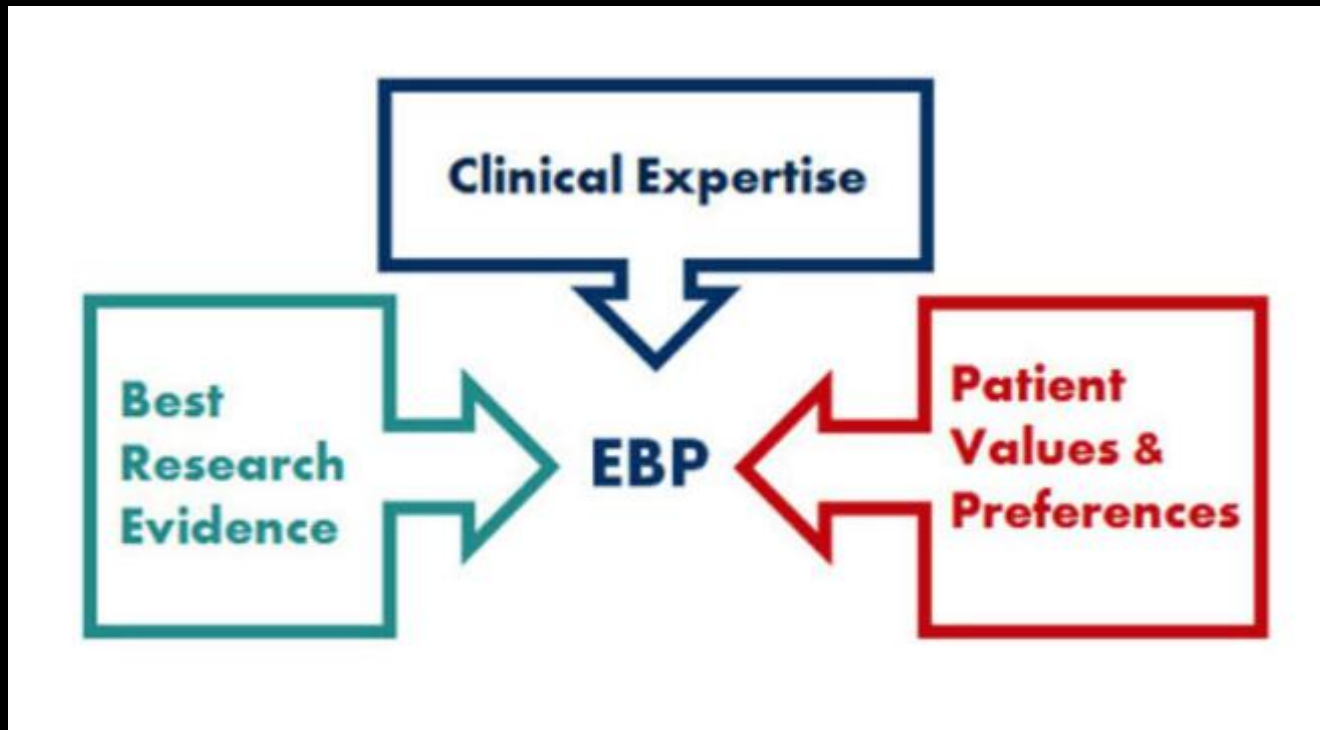
Strategies for Building Evidence-Based Practice

Jennifer J. Carroll, PhD MPH

Brown University Dept. of Medicine
CDC/HIDTA Heroin Response Strategy

Presentation to:
Fulton County Justice and Mental Health Task Force
October 24, 2017

Evidence-Based Practice



“The conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research.”

--David Sackett

Controversial program: Man hands out free meth pipes in Seattle

POSTED 4:35 PM, MAY 27, 2015, BY HANA KIM, UPDATED AT 06:20PM, MAY 27, 2015

FACEBOOK 1K+

TWITTER

REDDIT

G+ GOOGLE

PINTEREST

EMAIL

This is an archived article and the information in the article may be outdated. Please look at the time stamp on the story to see when it was last updated.



SEATTLE -- It's just a few bins, a table and one man.

YOU MAY LIKE

Sponsored Links by Taboola



Seattle, Washington: This Brilliant Company Is Disrupting a \$200...

EverQuote Insurance Quotes



The Crazy Facial That Celebrities Say "Takes 10 Years Off" Your Face

Elle | Hanacure

DOING MOST

Support Salvation Army Wildfire Relief

Dangerous wildfires are burning in multiple counties throughout California. Click here to support wildfire relief efforts by making a secure, online donation.



“Even though the intention is good, there might be some negative ramifications,” said Dr. Kalyan Dandala, addiction psychiatrist and medical director at Schick Shadel Hospital.

He says the new program is sending the wrong message.

“I think it will promote drug use, is my gut feeling,” Dandala said.

Intuitive conclusions that turned out to be wrong:



Syringe access programs will increase substance use and increase hazardous litter in the surrounding area.

Intuitive conclusions that turned out to be wrong:



Compulsory treatment and other forms of “tough love” for individuals with chronic substance use problems can be helpful.

Intuitive conclusions that turned out to be wrong:



Someone who is being treated with opioids for “legitimate” acute pain will not develop opioid use disorder (“addiction”).

Evidence-Based Practice

- 1) How do go about we designing and implementing the best, most well-informed plan--with the highest chance of success--for meeting our goals?
- 2) Once we put that plan into action, how can we know that it's working as we hoped?
- 3) (And if it's not, what can we do to fix it?)

1) How do go about we designing and implementing the best, most well-informed plan--with the highest chance of success--for meeting our goals?

Best Evidence from Research



- Current and up to date
- Recent
- Relevant to your question, your place, or your population
- Draws reasonable conclusions from sound data sources
- PEER REVIEWED

Examples of Peer Reviewed Journals

PAYWALLED

1. American Journal of Public Health
2. Journal of the American Medical Association (JAMA)
3. BMJ
4. Social Science and Medicine
5. Psychiatry Services
6. International Journal of Mental Health Services
7. International Journal of Drug Policy

OPEN SOURCE

1. PLoS
2. Cochrane Library
3. BMC Public Health
4. Journal of Public Health Research

PubMed: (almost) all journals

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed

Create RSS Create alert Advanced

Article types: Clinical Trial, Review, Customize ...
Text availability: Abstract, Free full text, Full text
PubMed Commons: Reader comments, Trending articles
Publication dates: 5 years, 10 years, Custom range...
Species: Humans, Other Animals
[Clear all](#)
[Show additional filters](#)

Format: Summary ▼ Sort by: Most Recent ▼ Per page: 20 ▼ Send to ▼ Filters: [Manage](#)

Search results

Items: 1 to 20 of 211 << First < Prev Page 1 of 11 Next > Last >>

- [Health-Related Resource-Use Measurement Instruments for Intersectoral Costs and Benefits in the Education and Criminal Justice Sectors.](#)
Mayer S, Paulus ATG, Łaszewska A, Simon J, Drost RMWA, Ruwaard D, Evers SMAA.
Pharmacoeconomics. 2017 Jun 8. doi: 10.1007/s40273-017-0522-4. [Epub ahead of print] Review.
PMID: 28597368 **Free PMC Article**
[Similar articles](#)
- [Hospital admissions for HIV-infected prisoners in Italy.](#)
Pontali E, Ranieri R, Rastrelli E, Iannece MD, Ialungo AM, Dell'Isola S, Liberti A, Rosario P, Casati R, Starnini G, Babudieri S.
Int J Prison Health. 2017 Jun 12;13(2):105-112. doi: 10.1108/IJPH-02-2016-0004.
PMID: 28581372
[Similar articles](#)
- [Substance Use Disorders and Related Health Problems in an Aging Offender Population.](#)
Gates ML, Staples-Horne M, Walker V, Turney A.
J Health Care Poor Underserved. 2017;28(2S):132-154. doi: 10.1353/hpu.2017.0057.
PMID: 28458269
[Similar articles](#)

Results by year

Find related data
Database:

Search details
("prisons"[M
[All Fields]
Fields]) AND
AND ("mental
OR ("mental"

PMC: open source articles

The screenshot shows the PubMed Central (PMC) website homepage. At the top, there is a navigation bar with the NCBI logo, "Resources" and "How To" dropdown menus, and a user name "jencarr". Below this is a search bar with "PMC" selected in a dropdown menu and a "Search" button. The main content area features a large blue-tinted image of a human joint on the left and a dark blue box on the right with the text: "PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM)." To the right of this box, there is a "PubRec" section with the text: "A whole new to read scient literature at PubMed Cent". Below the main content area, there are three columns of links. The first column is titled "Get Started" and includes links for "PMC Overview", "Users' Guide", "Journal List", "PMC FAQs", and "PMC Copyright Notice". The second column is titled "Participate" and includes links for "Information for Publishers", "Add a Journal to PMC", "Participation Agreements", "File Submission Specifications", and "File Validation Tools". The third column is titled "Keep Up to Date" and includes links for "New in PMC | RSS" (with an RSS icon), "PMC Announce Mail List", "Utilities Announce Mail List", and "Tagging Guidelines Mail List". Below these columns, there is a "Public Access" section with links for "Funders and PMC", "How Papers Get Into PMC", "NIH Manuscript Submission System", "My Bibliography", and "PMCID/PMID/NIHMSID Converter". In the center of the page, there is a light blue box with the text: "4.5 MILLION Articles are archived in PMC. Content provided in part by:" followed by three columns of data: "2027 Full Participation Journals", "329 NIH Portfolio Journals", and "4368 Selective Deposit Journals".

NCBI Resources How To jencarr

PMC US National Library of Medicine National Institutes of Health

PMC

Journal List Advanced Search

PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM).

PubRec

A whole new to read scient literature at PubMed Cent

Get Started

- [PMC Overview](#)
- [Users' Guide](#)
- [Journal List](#)
- [PMC FAQs](#)
- [PMC Copyright Notice](#)

Participate

- [Information for Publishers](#)
- [Add a Journal to PMC](#)
- [Participation Agreements](#)
- [File Submission Specifications](#)
- [File Validation Tools](#)

Keep Up to Date

- [New in PMC | RSS](#)
- [PMC Announce Mail List](#)
- [Utilities Announce Mail List](#)
- [Tagging Guidelines Mail List](#)

Other Resources

- [PMC International](#)
- [Text Mining Collections](#)
- [Developer Resources](#)
- [NLM LitArch](#)
- [PMC Citation Search](#)
- [PMC Accessibility](#)

Public Access

- [Funders and PMC](#)
- [How Papers Get Into PMC](#)
- [NIH Manuscript Submission System](#)
- [My Bibliography](#)
- [PMCID/PMID/NIHMSID Converter](#)

4.5 MILLION Articles
are archived in PMC.
Content provided in part by:

2027	329	4368
<i>Full Participation Journals</i>	<i>NIH Portfolio Journals</i>	<i>Selective Deposit Journals</i>

Objectives

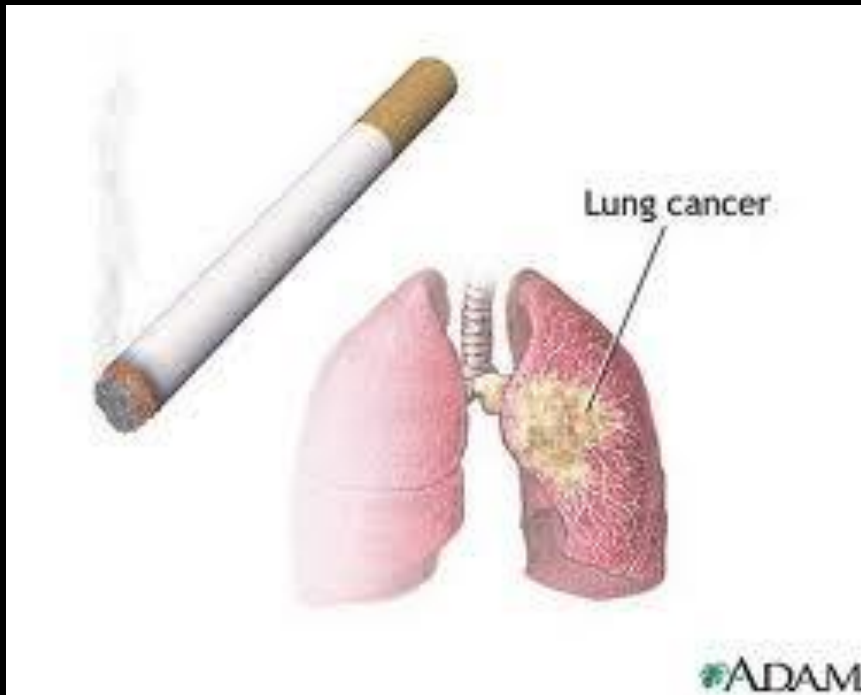
To assess the effectiveness of interventions for drug-using offenders with co-occurring mental illness in reducing criminal activity or drug use, or both.

The review addressed the following questions:

1. Does any treatment for drug-using offenders with co-occurring mental illness reduce drug use?
2. Does any treatment for drug-using offenders with co-occurring mental illness reduce criminal activity?
3. Does the treatment setting (court, community, prison/secure establishment) affect the intervention outcome(s)?
4. Does the type of treatment affect the outcome(s)?

Additionally, this review aimed to report on the cost and cost-effectiveness of interventions.

Public health research asks one kind of question (mostly):

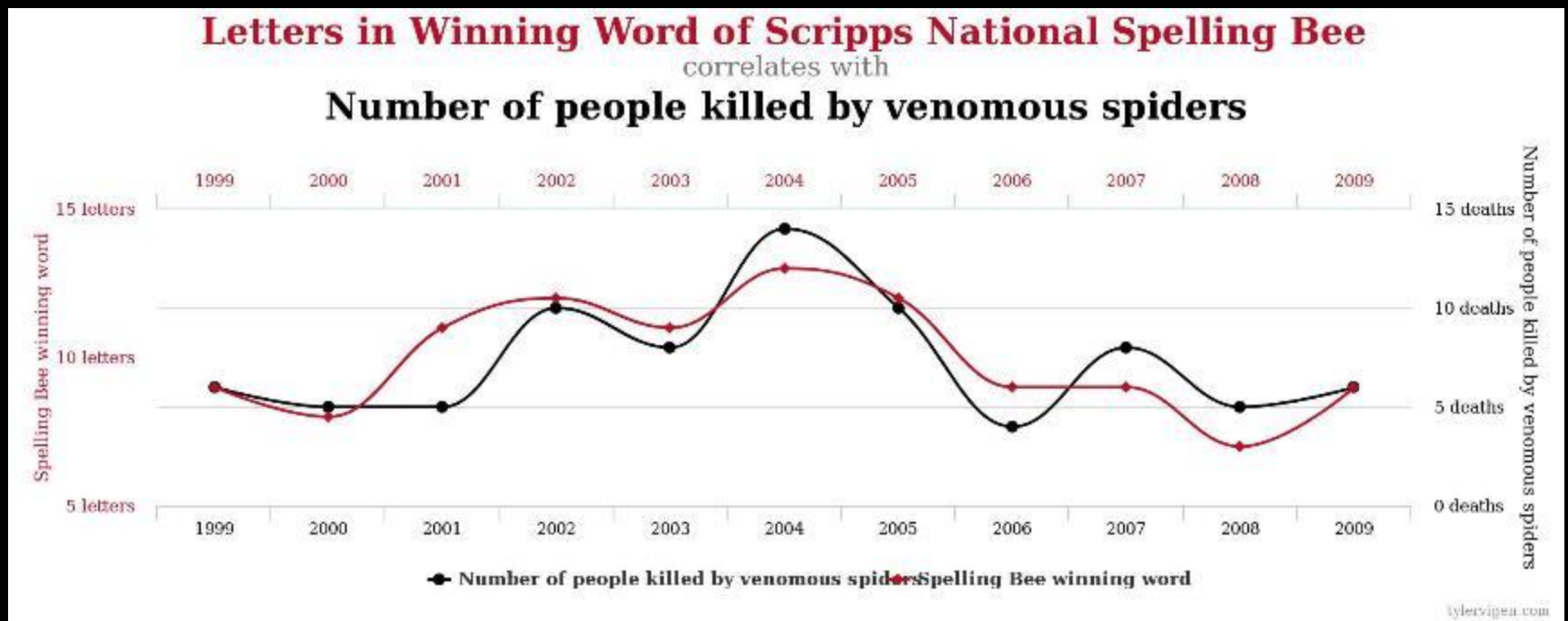


A. Smoking

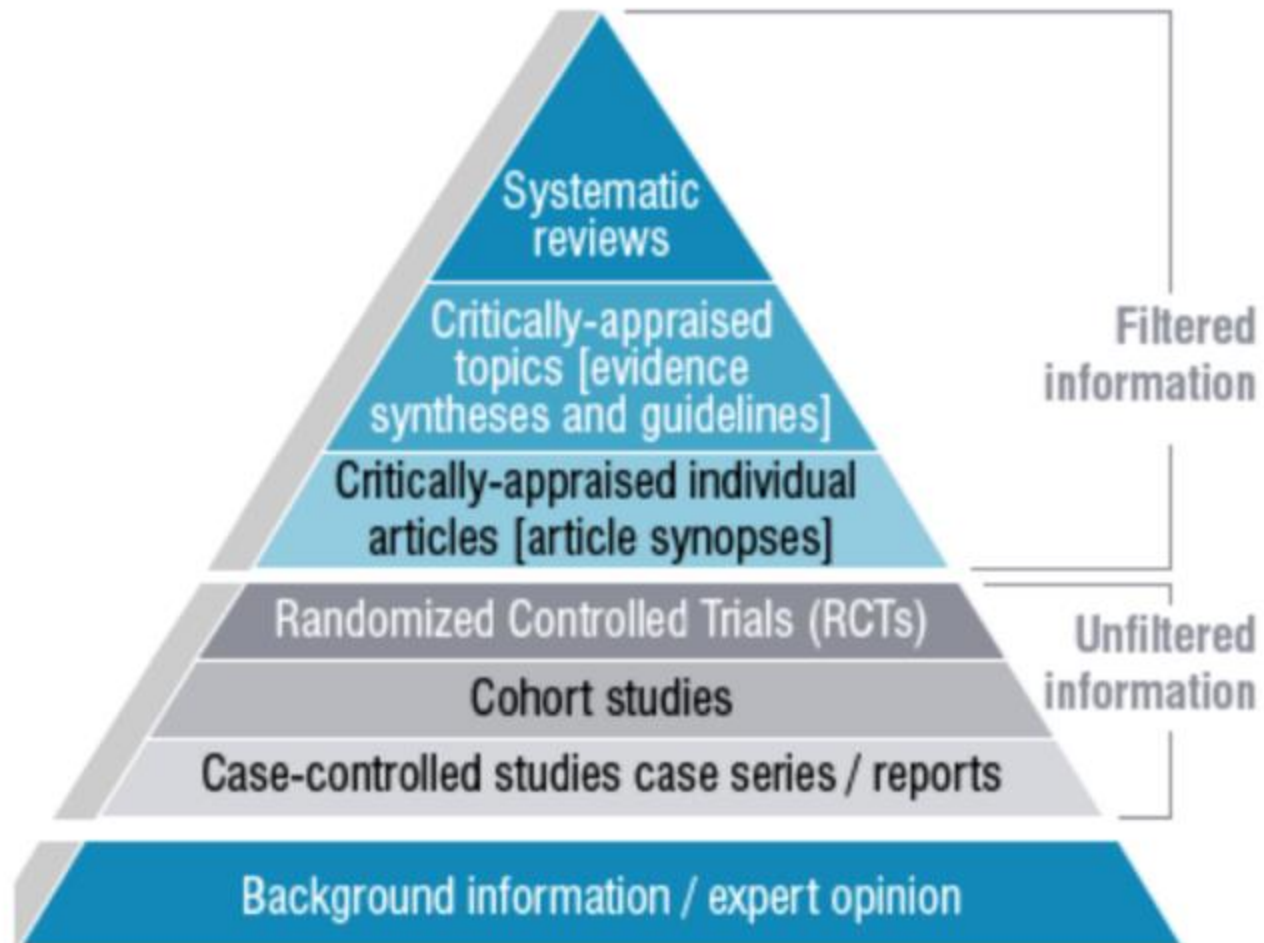
B. Lung cancer

How can we determine whether variable **A** causes outcome **B**?

Correlation is not causation!



Some evidence is better than others.



GRADE Workgroup Recommendations

- 4. *Quality of evidence for each outcome*—Judged on information summarised in the evidence profile and based on the criteria in table 2
- 5. *Relative importance of outcomes*—Only important outcomes should be included in evidence profiles. The included outcomes should be classified as critical or important (but not critical) to a decision
- 6. *Overall quality of evidence*—The overall quality of evidence should be judged across outcomes based on the lowest quality of evidence for any of the critical outcomes.
- 7. *Balance of benefits and harms*—The balance of benefits and harms should be classified as net benefits, trade-offs, uncertain trade-offs, or no net benefits based on the important health benefits and harms
- 8. *Balance of net benefits and costs*—Are incremental health benefits worth the costs? Because resources are always limited, it is important to consider costs (resource utilisation) when making a recommendation
- 9. *Strength of recommendation*—Recommendations should be formulated to reflect their strength—that is, the extent to which one can be confident that adherence will do more good than harm

A simpler set of questions:

- Does this study address the same **Variable A** and **Outcome B** that I want to address?
- Is the population included in the study similar enough to the population I am interested in serving for this evidence to be relevant?
- Are the conclusions drawn by the study's authors reasonable, given their data?
- What questions does this study leave unanswered?

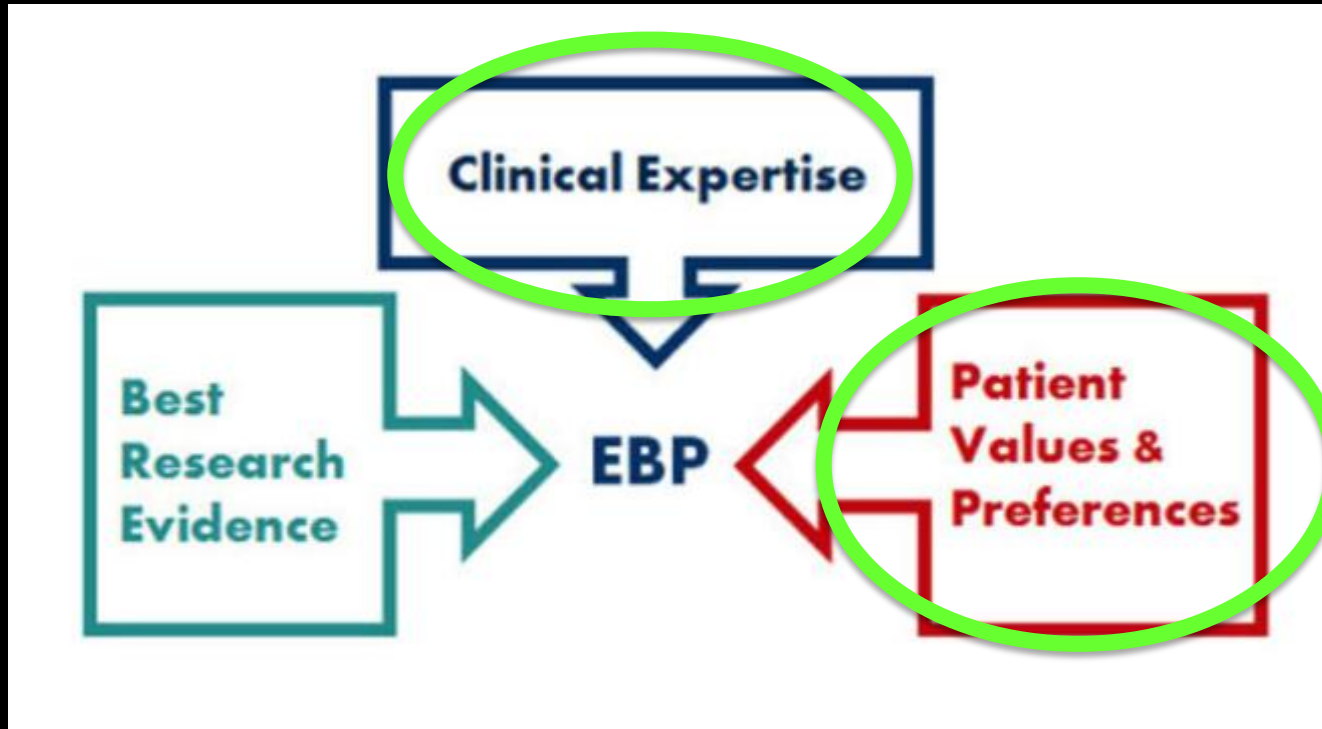
Be Skeptical

We do not base most of our decisions on data.

We base most of our decisions on the stories we tell ourselves about ourselves.



Evidence-Based Practice



“The conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research.”

--David Sackett

Talk to people!

Especially:

- EXPERTS
 - Treatment providers, mental health professionals, researchers, advocates...
- PEOPLE AFFECTED BY THE PROGRAMS YOU ARE DEVELOPING
 - People who have been in prison, people living with chronic mental illness, families, loved ones

- 2) Once we put that plan into action, how can we know that it's working as we hoped?
- 3) (And if it's not, what can we do to fix it?)

Assessment and Evaluation

Our original public health question:

Is Variable A causing Outcome B?

Assessment and Evaluation

Our program assessment and evaluation question:

Is **Program A** leading to **Outcome B** in our targeted **Population C** in a way that is:

- Measurable?
- Consistent?
- Lasting?
- Better than the alternative?

Numerator

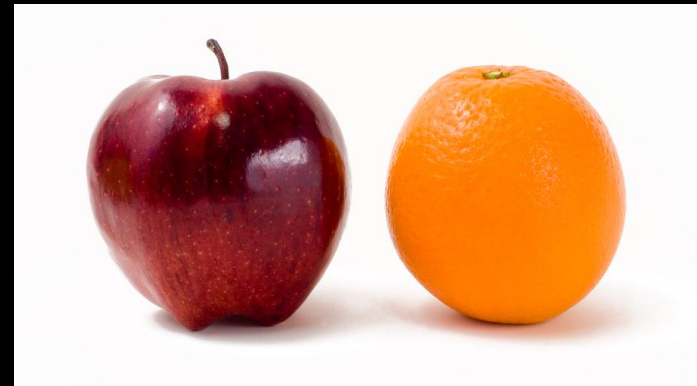
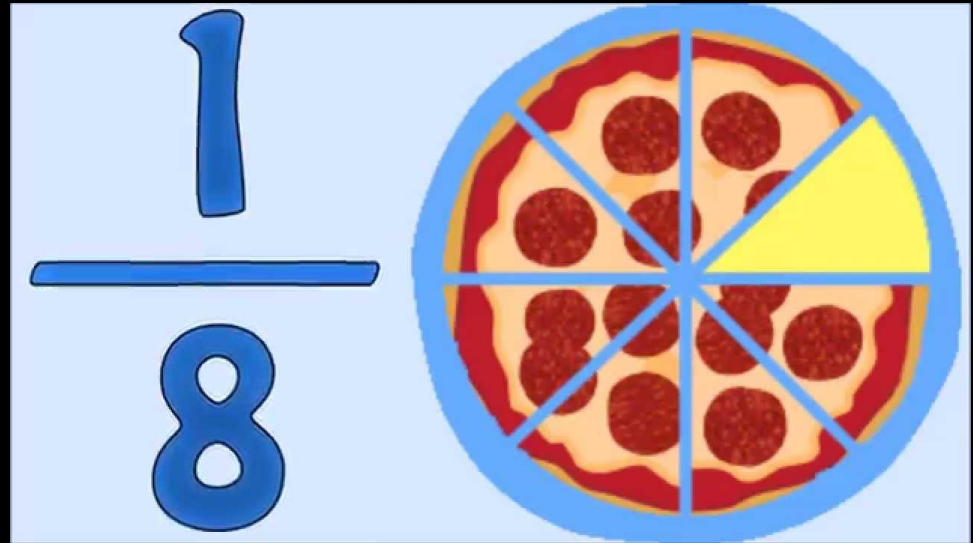
(a raw count)

Denominator

(out of what whole?)

Comparison Group

(as opposed to...?)



Numerators

Total number of confirmed opioid overdose deaths in 2015:

NEW HAMPSHIRE: 433

MASSACHUSETTS: 1,574

Denominators

Total number of confirmed opioid overdose deaths in 2015 PER 100,000 RESIDENTS:

NEW HAMPSHIRE: 34.3

MASSACHUSETTS: 25.8

MORAL OF THIS STORY:

Counting is easy.

Understanding what it is that you just counted, and what that count actually means, is a bit more complicated.

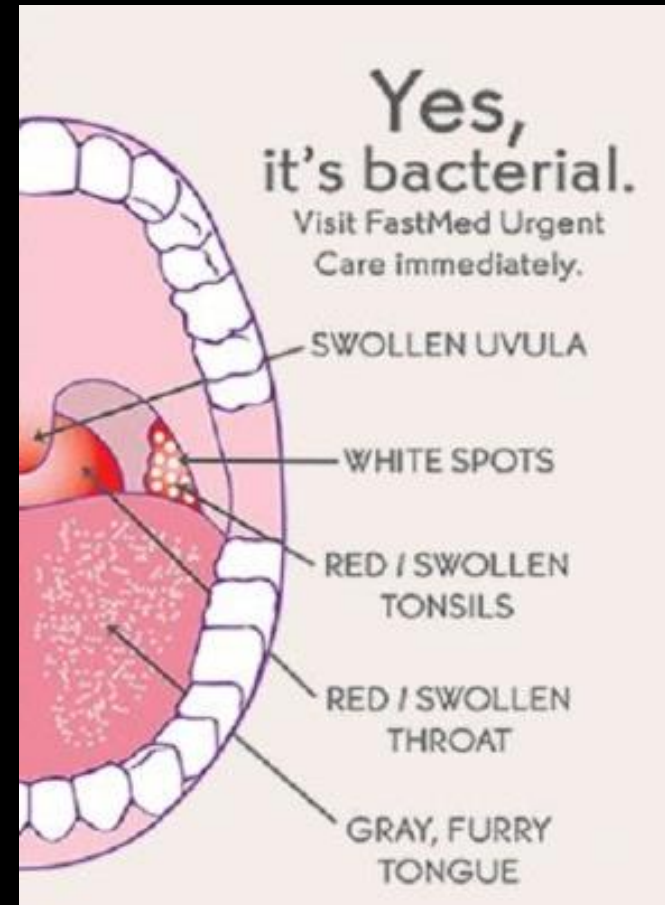
Pause and think about it.

Comparison Group – Strep Throat

IS IT STREP??

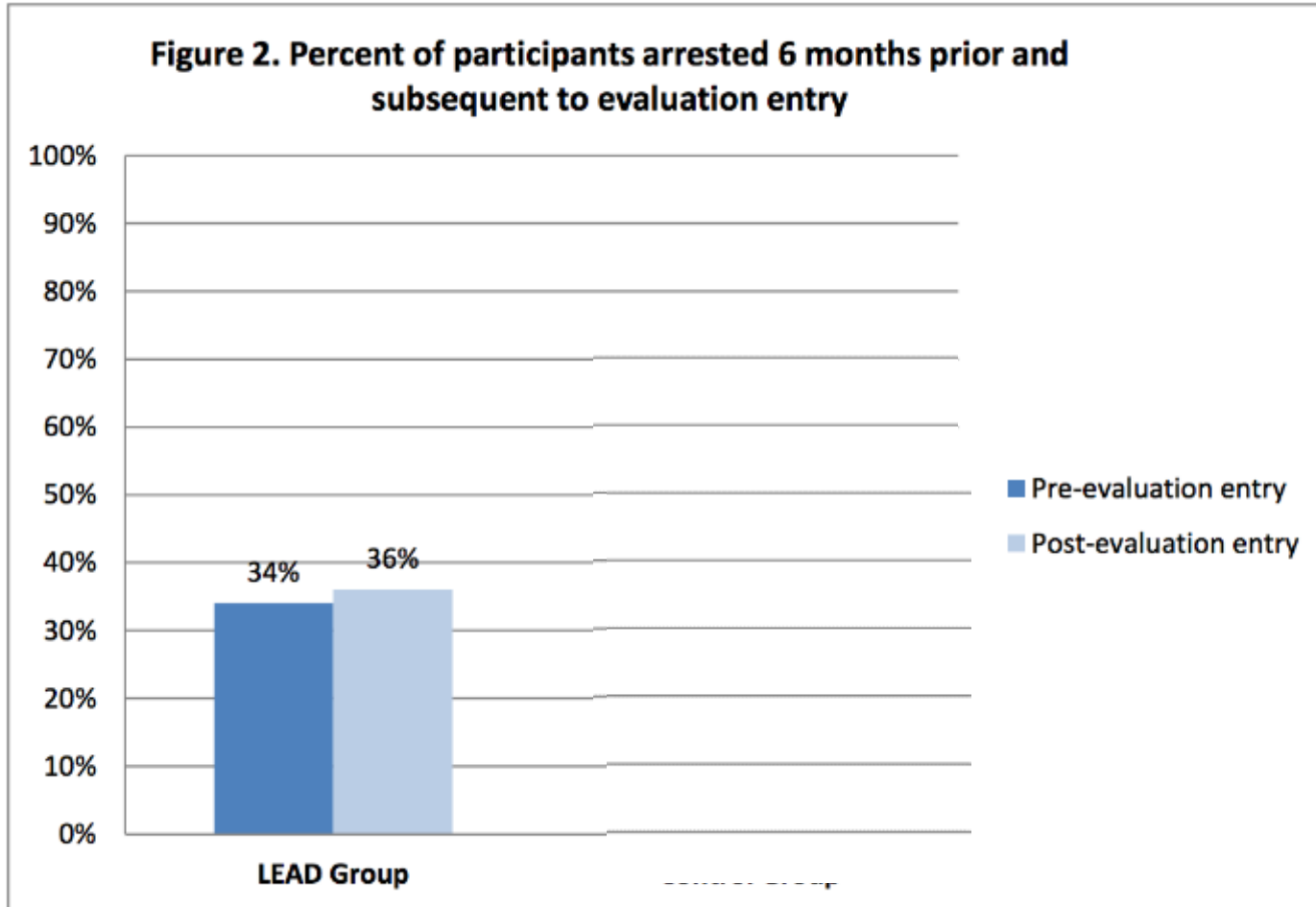
In general, about 35% of children who complain of a sore throat test positive for *Streptococcus pyrogenes*.

BUT 20-25% of children with no symptoms also test positive for the bacteria.



Comparison Group – Seattle LEAD

Figure 2. Percent of participants arrested 6 months prior and subsequent to evaluation entry



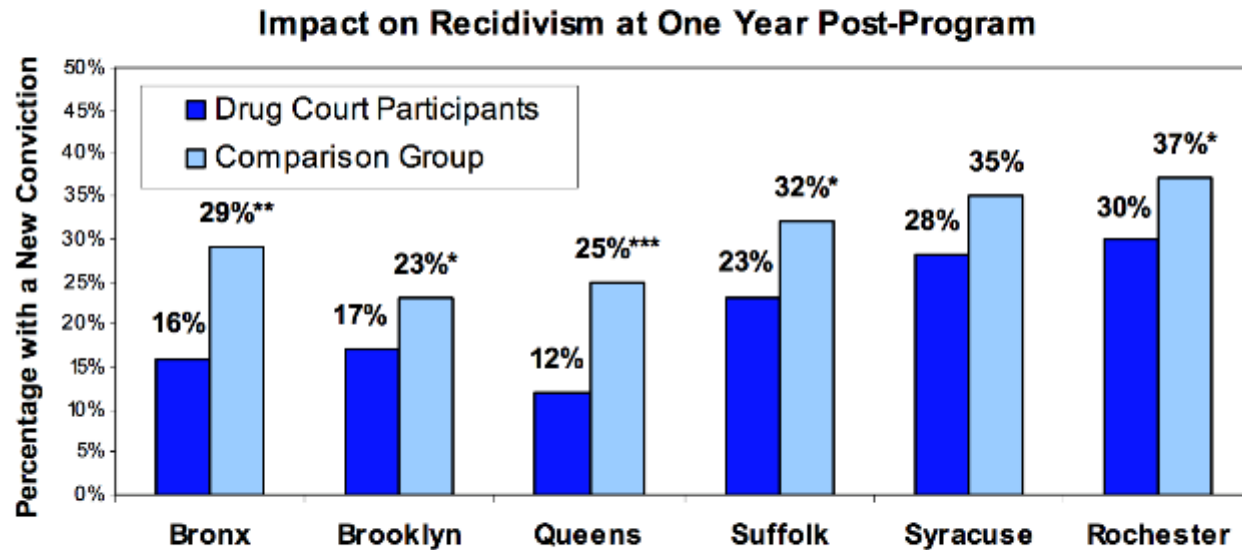
MORAL OF THIS STORY:

Program outcomes that look good or bad might not actually be so when you compare them with the outcomes of alternatives.

(AKA: raw numbers mean nothing)

Comparison Group – Drug Courts

The New York State Evaluation: Impacts on Recidivism



Average Relative Recidivism Reduction = 32%

* $p < .05$ ** $p < .01$ *** $p < .001$

Source: Rempel et al. (2003)

Comparison Group – Drug Courts

New York Consolidated Laws, Criminal Procedure Law - CPL § 216.00. Definitions

other specified offense as defined in [subdivision four of section 410.91](#) of this chapter, provided, however, a defendant is not an “eligible defendant” if he or she:

(a) within the preceding ten years, excluding any time during which the offender was incarcerated for any reason between the time of commission of the previous felony and the time of commission of the present felony, has previously been convicted of: (i) a violent felony offense as defined in [section 70.02 of the penal law](#) or (ii) any other offense for which a merit time allowance is not available pursuant to subparagraph (ii) of [paragraph \(d\) of subdivision one of section eight hundred three of the correction law](#) , or (iii) a class A felony offense defined in article two hundred twenty of the penal law; or

Drug Court Eligibility Criteria

A. The defendant has an active drug addiction and would benefit from substance abuse treatment. The consent of the Prosecutor is required before admission into the program (RCW 2.30.030).

B. Current offenses of any of the following crimes will automatically preclude eligibility:

1. Any sex offense.
2. Any serious violent or violent offense.
3. Manufacture of methamphetamine.
4. Promoting Prostitution.
5. Current allegations of attempted, intentional or threatened discharge of a firearm.
6. Any offense alleging substantial or great bodily harm as defined in RCW 9A.04.110 or death.
7. Residential Burglary involving an occupied dwelling.
8. Current Domestic Violence (DV) offenses including Violations of No Contact Orders.
 - a. Consideration may given to DV property crimes involving parents/siblings where power and control axis not indicated, with victim and law Enforcement input, and based on a review of the full DV history.
9. Delivery of a controlled substance to minor.
10. Currently serving DOSA/FOSA sentence.
11. Prior Adult Drug Court graduate from this or any drug court whose current date of offense is less than 3 years from date of graduation.
 - a. Past Drug Court graduates admitted into the program will not receive a dismissal of charges at the completion of Drug Court. The Prosecutor will recommend an exceptional sentence downward of no incarceration.
12. Evidence of gang affiliation.
13. Violent traffic offenses and Felony DUI.
14. A restitution amount exceeding \$2,000. Restitution must be paid in full before graduation.

MORAL OF THIS STORY:

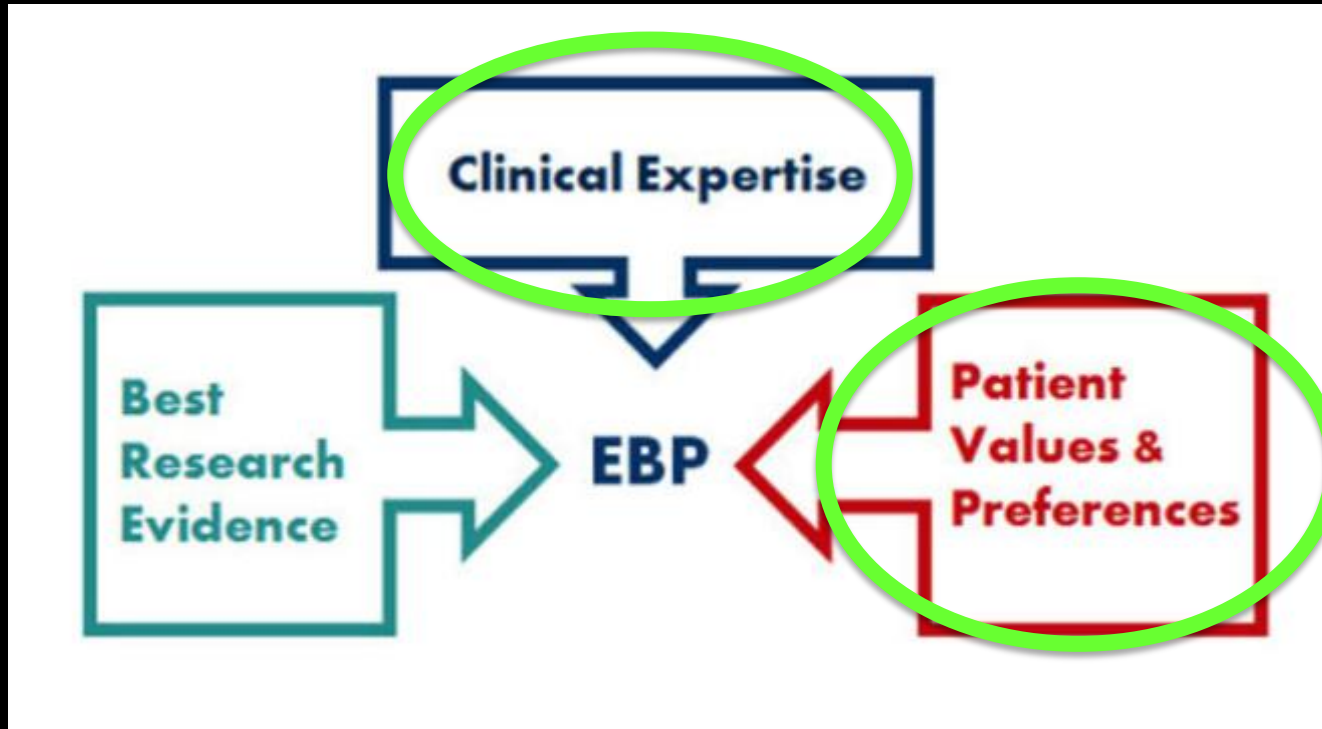
Your program group and your comparison group need to be **COMPARABLE!**

Otherwise you are likely measuring lots of social differences that have nothing to do with your program.



KEEP
CALM
AND
LET'S
RECAP

Evidence-Based Practice



“The conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research.”

--David Sackett

Numerator

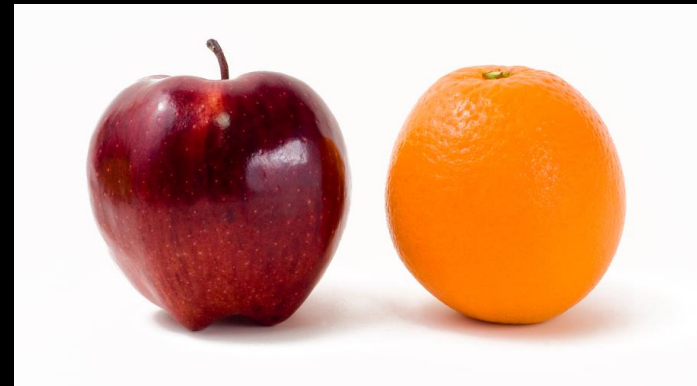
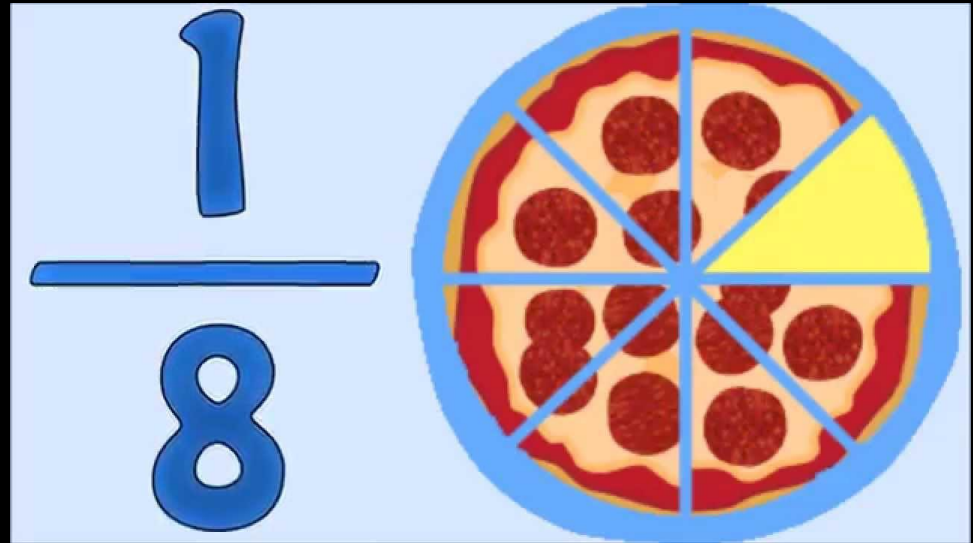
(a raw count)

Denominator

(out of what whole?)

Comparison Group

(as opposed to...?)



Be Skeptical

We do not base most of our decisions on data.

We base most of our decisions on the stories we tell ourselves about ourselves.





“Even though the intention is good, there might be some negative ramifications,” said Dr. Kalyan Dandala, addiction psychiatrist and medical director at Schick Shadel Hospital.

He says the new program is sending the wrong message.

“I think it will promote drug use, is my gut feeling,” Dandala said.

Questions? Comments?

jennifer_carroll@brown.edu
nqs4@cdc.gov