Strategies for Building Evidence-Based Practice

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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

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SEATTLE -- It's just a few bins, a table and one man.
“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 we go about 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

**OPEN SOURCE**
1. PLoS
2. Cochrane Library
3. BMC Public Health
4. Journal of Public Health Research
PubMed: (almost) all journals
PMC: open source articles
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.
“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 pyogenes*.

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

- Pre-evaluation entry: 34%
- Post-evaluation entry: 36%
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

Impact on Recidivism at One Year Post-Program

- **Bronx**: Drug Court Participants 29%**, Comparison Group 16%
- **Brooklyn**: Drug Court Participants 17%, Comparison Group 17%
- **Queens**: Drug Court Participants 12%, Comparison Group 25%***
- **Suffolk**: Drug Court Participants 23%, Comparison Group 23%
- **Syracuse**: Drug Court Participants 35%, Comparison Group 28%
- **Rochester**: Drug Court Participants 37%*

Average Relative Recidivism Reduction = 32%

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

Source: Rempel et al. (2003)
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.
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 be 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 recommends 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
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DON’T BE THIS KID!
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Questions? Comments?

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