Evidence for Causal Claims: Getting to Cause and Effect.
Case studies from two state agencies
• What is a causal claim and why does it matter?

• How do you make a causal claim?
  • Using previous research
    • MMB’s Results First Initiative
  • Leveraging original research
    • DEED’s Net Impact Evaluation

• Where to go if you need help?
What is a causal claim & why do we care?

- Causal claims: A relationship between two events where one event is affected by another.

- Humans evolutionarily trained to see patterns.
  - Especially patterns that match our pre-existing views

- The null hypothesis:
  - No relationship between two items
Why do we care?

Number of people who drowned by falling into a pool correlates with Films Nicolas Cage appeared in

Correlation: 65.6% (r=0.666004)

Data sources: Centers for Disease Control & Prevention and Internet Movie Database

10/24/2017
Why do we care?

Reading scores in hypothetical education intervention

\[ R^2 = 0.6865 \]

Differential:
- A to B: 25%
- A to C: 0%
- B to C: 25%

10/24/2017

Results First | mn.gov/mmb/results-first
One Solution: Randomization

Another Solution: Instrumental Variables and Natural Experiments

Source: Dowd, Bryan retrieved from: http://slideplayer.com/slide/4595629
Literature Review: where can I find “what works”?

• Resources:

- Cochrane

- NREPP
  SAMHSA's National Registry of Evidence-based Programs and Practices

- Campbell Collaboration
  Better evidence for a better world

- IES WWC
  What Works Clearinghouse

- Crime SOLUTIONS.gov

- THE PEW CHARITABLE TRUSTS
Our Goal

- Goal: Produce evidence-based information that is understood, trusted, and used by policy-makers at the state and local level.

Results First Projects

**Complete:**
- Adult Mental Health
- Adult Criminal Justice
- Substance Use

**Underway:**
- Child Welfare
- Juvenile Justice
- Higher Education

Stakeholders

**Advisory Committee**
- Executive branch
- Legislative branch
- Judicial branch
- Tribal nation representation
- County representation

**Key Partners**
- Community groups
Steps

1. Scoping and identifying stakeholders
2. Inventory Programs
3. Gather costs
4. Run Model
5. Present Findings
## Program Inventory

Programs and services available to Minnesotans that impact the rates of child abuse and neglect and out-of-home placements.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven effective</td>
<td>A proven effective service or practice has a high level of research on effectiveness, determined from of multiple rigorous evaluations (such as randomized controlled trials) or rigorous local evaluations.</td>
</tr>
<tr>
<td>Promising</td>
<td>A promising service or practice has some research demonstrating effectiveness, such as a single randomized controlled trial or evaluation with a comparison group design not contradicted by other such studies, but does not meet the full criteria for the proven effective designation.</td>
</tr>
<tr>
<td>Theory-based</td>
<td>A theory-based service or practice has no research on effectiveness or less rigorous research designs that do not meet the above standards. These services and practices typically have a well-constructed logic model or theory of change. This ranking is neutral. Services may move to promising or proven effective after research reveals their impact on measured outcomes.</td>
</tr>
<tr>
<td>No effect</td>
<td>A service or practice with no effects has no statistically significant impact on the measured outcomes. It does not include the service’s potential effect on other outcomes. Research methods include rigorous evaluations, such as randomized controlled trials or rigorous local evaluations.</td>
</tr>
<tr>
<td>Service/Practice</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Mobile Crisis Services</td>
<td>Mobile crisis services provide face-to-face, short-term, intensive mental health services during a mental health crisis or emergency. They help the recipient cope, identify resources, avoid hospitalization, develop an action plan and begin a baseline level of functioning.</td>
</tr>
<tr>
<td>Certified Peer Specialist (CPS)</td>
<td>Qualified individuals with a lived experience of mental illness are trained to educate, engage, encourage, advocate and support individuals with a mental illness. Assertive Community Treatment (ACT), Adult Rehabilitative Mental Health Services (ARMHS) and Intensive Residential Treatment services include CPS.</td>
</tr>
<tr>
<td>Urgent Care for Adult Mental Health</td>
<td>Provides immediate care for an individual experiencing a crisis. An on-site team of psychiatrists, nurses, social workers, and trained peer support staff provide care. This is often combined with detoxification, crisis services, and referrals to other mental health services.</td>
</tr>
</tbody>
</table>
Literature Review: It worked there, will it work here?

• Finding programs that may work for you is the first (and often easier step). Then need to:
  • What about this program made it work there?
  • Do I have those factors here?

• “You are told: use policies that work. And you are told: RCTs – randomized controlled trials – will show you what these are. That’s not so. RCTs are great, but they do not do that for you. They cannot alone support the expectation that a policy will work for you. What they tell you is true – that this policy produced that result there. But they do not tell you why that is relevant to what you need to bet on getting the result you want here.”
DEED’s Net Impact Evaluation
Measuring Net Impact at DEED

• Legislative mandate since 2009
• Methodology developed by an advisory group

• Goals:
  • Understand how effective DEED programs are
  • Standardize the evaluation process
  • Reproduce model outside DEED
Current legislative mandate

• Contract with external evaluator
• New analysis every four years
• Must include the following programs:
  • Dislocated Worker and WIOA Adult
  • Career pathways programs
• Must include a cost-benefit analysis
Working with an external evaluator

• Roles of DEED staff versus evaluator
• Data security considerations
• Evaluator likely requires funding
• Academic partner brings opportunity for peer review
Data sharing

• Develop secure data storage plan
• Obtain IRB approval
• Sign data sharing agreement
• Work with data analyst counterparts to get the data
• What is a net impact?
• Difference-in-difference
  • Compares outcomes after participation to a baseline prior to participation
  • Compares participants to observationally similar job seekers

• Propensity score matching
Total net earnings impact over the first three years of program participation:

- Dislocated Worker (2007): $29,518
- Dislocated Worker (2009): $47,393
- Dislocated Worker (2012): ($45,660)
- WIA Adult (2007): $12,259
- WIA Adult (2009): $21,425
- WIA Adult (2012): ($3,799)
- FastTRAC (2012): $19,998
The cost-benefit methodology

• Takes into account
  • Cost of the programs
  • Changes in earnings
  • Changes in public benefits
  • Changes fringe benefits
  • Changes in tax revenue

• Observed results, NOT projected over a lifetime
Net monetary costs (-) and benefits (+) to Minnesota taxpayers through time, per participant.
Extensions to the results

• Survey to investigate business cycle effect
  • Did find evidence of signaling
• Currently seeking peer review
Thank you!

Weston Merrick
weston.merrick@state.mn.us

For more on Results First, visit:
mn.gov/mmb/results-first

Ellen Bendewald
ellen.bendewald@state.mn.us

For more on the Net Impact evaluation, visit:
mn.gov/deed/performance
Resources for finding an external evaluator or funding?

- Partnering with universities
  - Don’t be afraid to reach out to notable academics
  - Make it a partnership (not a data and dash)

- Foundations
  - Finding local foundations to fund
  - John Arnold Foundation

- Federal grants

- Other resources
  - Does not need to be how cost, especially if administrative data exists!