Chiropractic Care in a System Dynamics Model for Minimizing Opioid Abuse for Chronic Non-Malignant Pain Patients

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Agenda

• Background—Opioid Use Disorder in Canada
• Purpose
  • Chiropractic care as an alternative/adjunct to opioids
  • Modeling to inform clinical trials
• System Dynamics Model
• Future directions
Opioid-related mortality in Ontario, Canada

Chiropractic delisted from health plan
Can chiropractic change this trend?

- Seeing a chiropractor initially associated with “dramatically lower odds” of long term opioid use¹

- Need clinical trials
  - Expensive
  - Difficult to conduct
  - Long study duration

- Implementation to change is slow

Modeling to inform RCT decision-making

- People getting chiropractic for CP
- People getting opioids for CP
- People with CP abusing opioids
- Overdose deaths
Modeling to inform RCT decision-making

Early treatment with chiropractic

- People getting chiropractic for CP
- People getting opioids for CP
- People with CP abusing opioids

Overdose deaths
Modeling to inform RCT decision-making

- People getting chiropractic for CP
- People getting opioids for CP
- People with CP abusing opioids

Add chiropractic or remove opioid

Overdose deaths
Modeling to inform RCT decision-making

- People getting chiropractic for CP
- People getting opioids for CP
- People with CP abusing opioids

Treat pain of people abusing opioids

Overdose deaths

Treat pain of people abusing opioids
System Dynamics: Looking at one leverage point

![Diagram showing the impact of chiropractic care on chronic pain and opioid overdose deaths. The diagram includes variables such as new chronic pain patients, base chiro rate, and opioid risk divisor.](image-url)
Model expansions

- Generating more hypotheses
- More interventions
- Comparing effectiveness
- Cost analysis
- Find where we have greatest leverage
- Proposing RCTs
- Evidence + Modeling
- Applying the greatest leverage
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