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

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ACC-RAC
March 18, 2016



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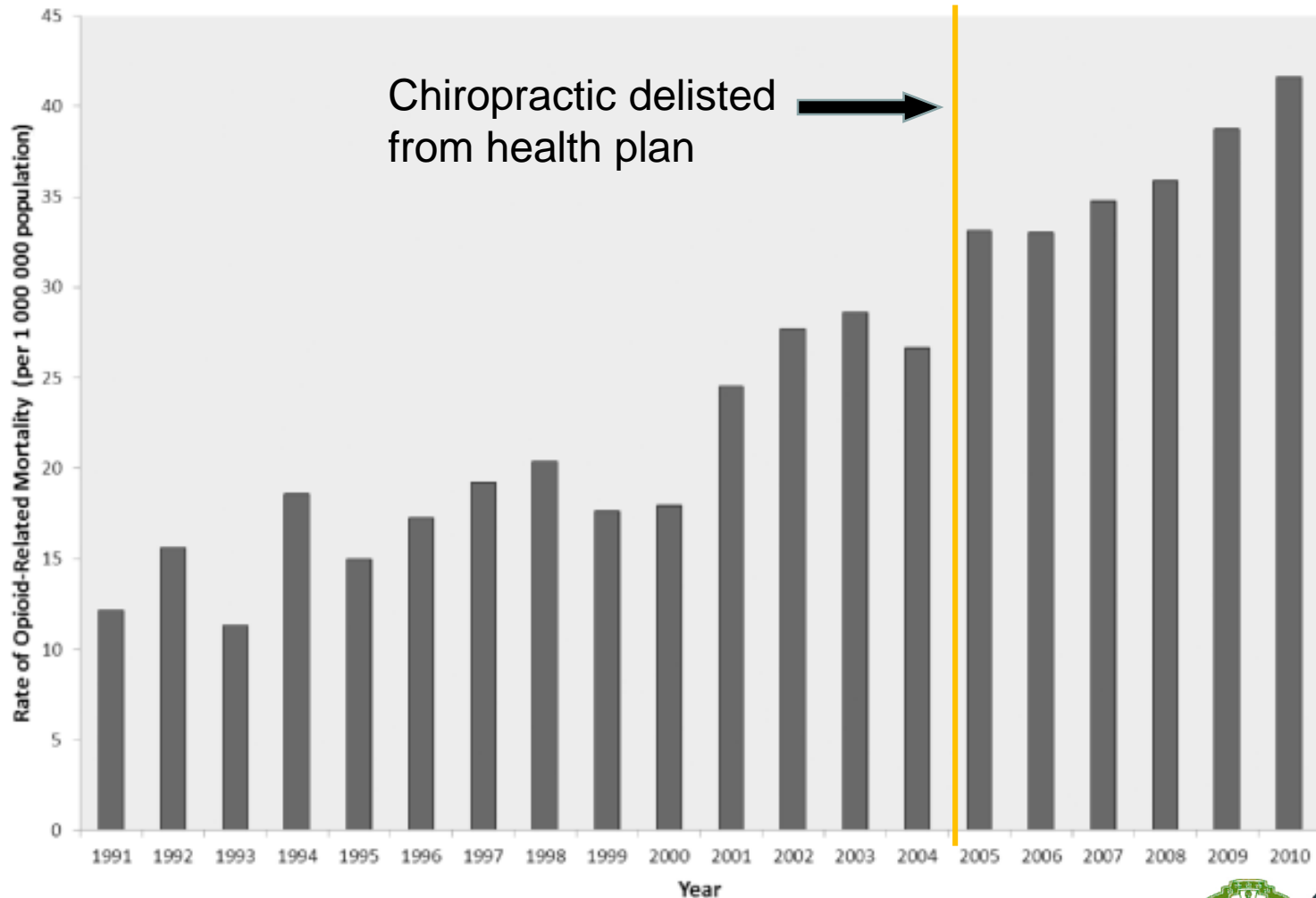


CMCC

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



Addiction

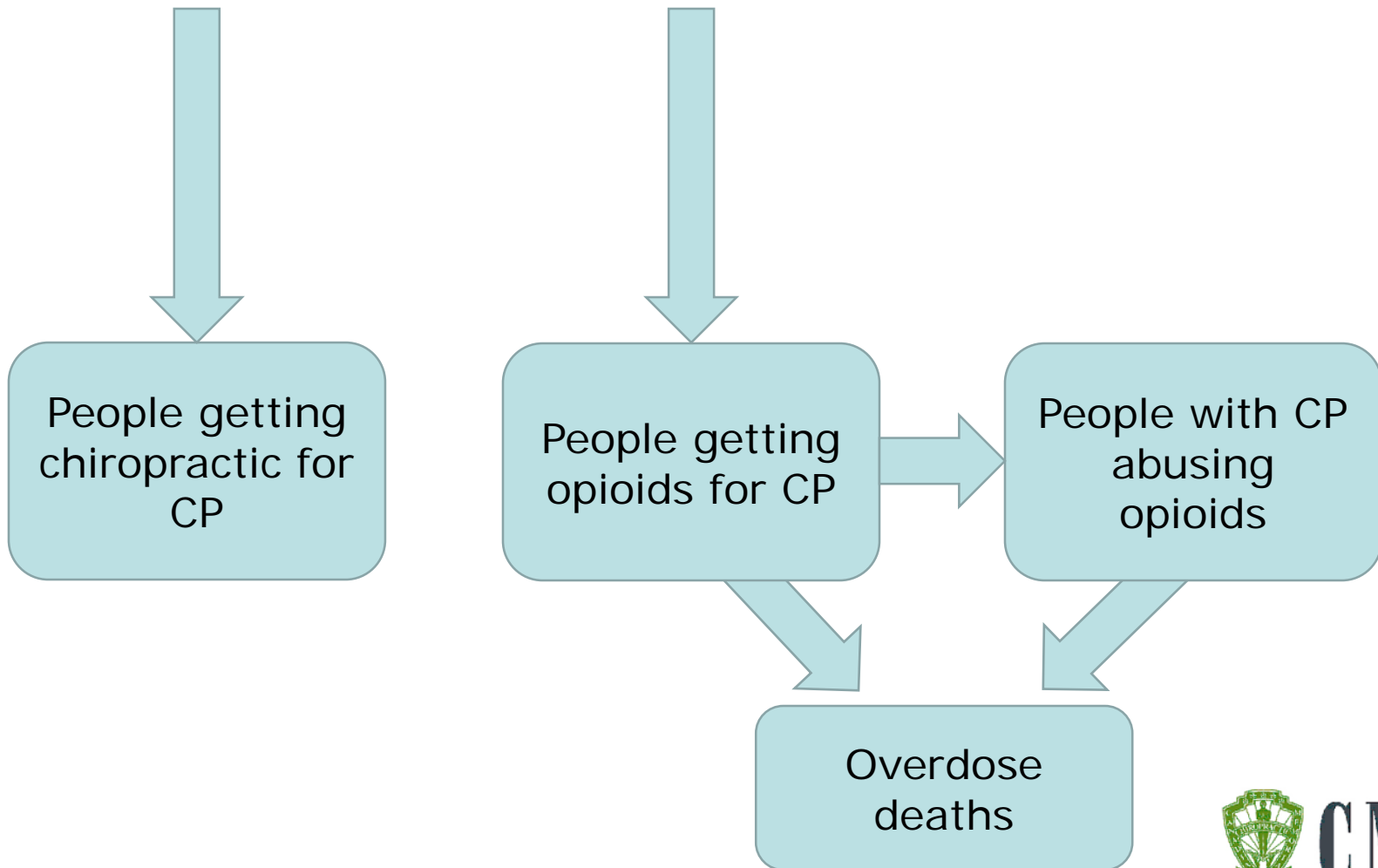
Volume 109, Issue 9, pages 1482-1488, 7 JUL 2014 DOI: 10.1111/add.12598
<http://onlinelibrary.wiley.com/doi/10.1111/add.12598/full#add12598-fig-0001>

Can chiropractic change this trend?

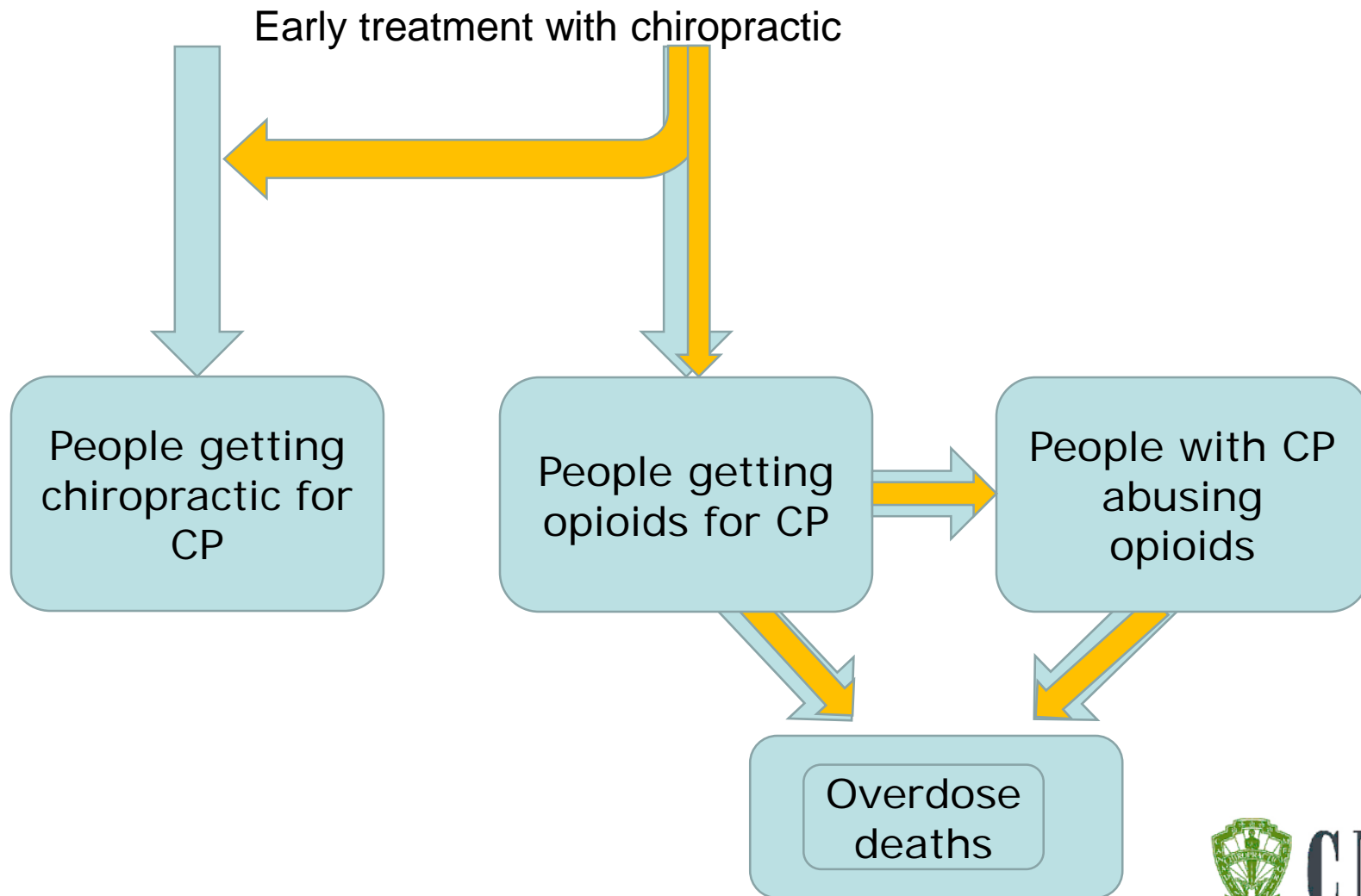
- Seeing a chiropractor initially associated with “dramatically lower odds” of long term opioid use¹
- Need clinical trials
 - Expensive
 - Difficult to conduct
 - Long study duration
- Implementation to change is slow

[1] Franklin GM, Rahman EA, Turner JA, Daniell WE, Fulton-Kehoe D. Opioid use for chronic low back pain: A prospective, population-based study among injured workers in Washington state, 2002-2005. The Clinical Journal Of Pain 2009 Nov 20;25(9):743-51.

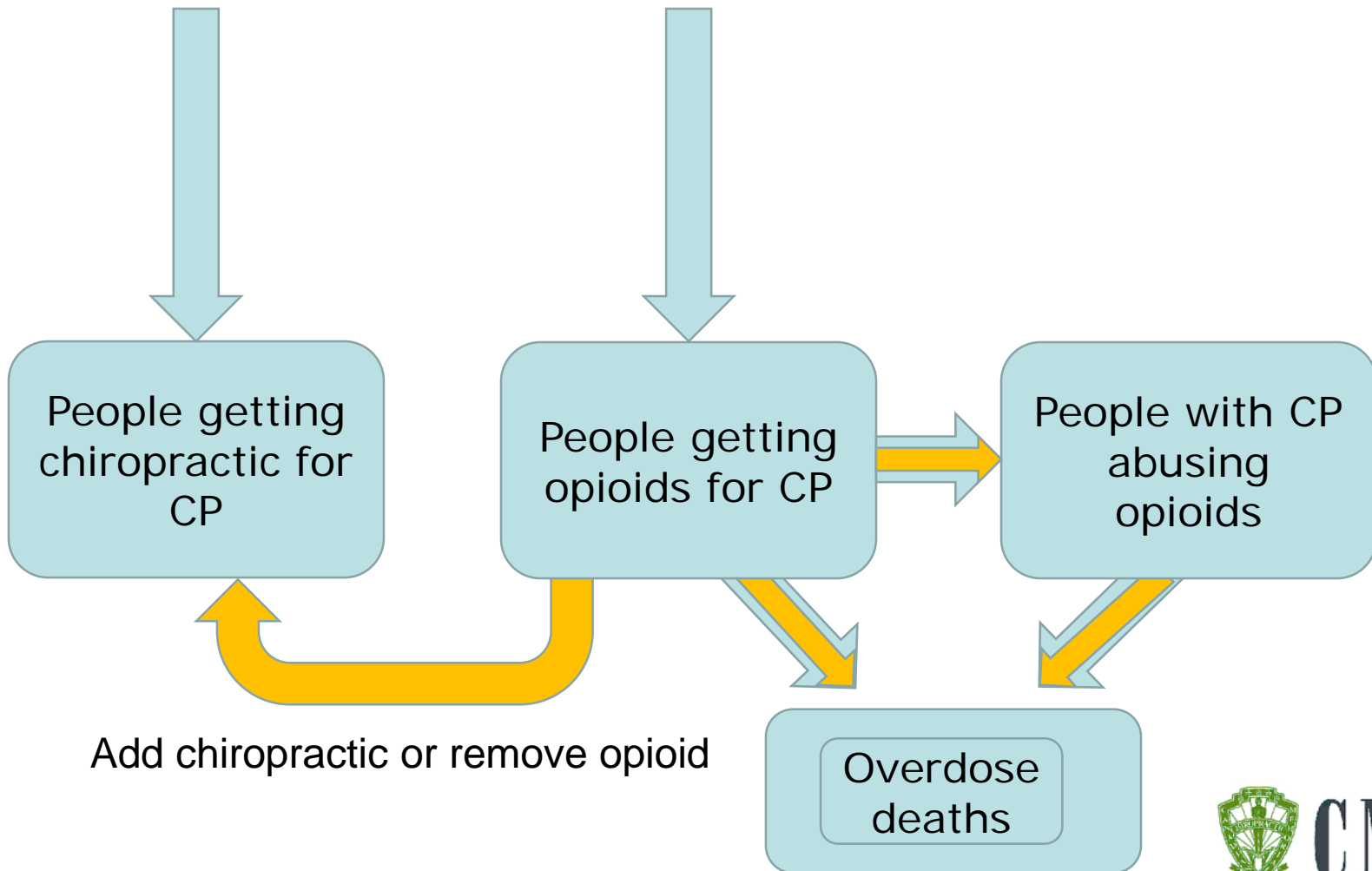
Modeling to inform RCT decision-making



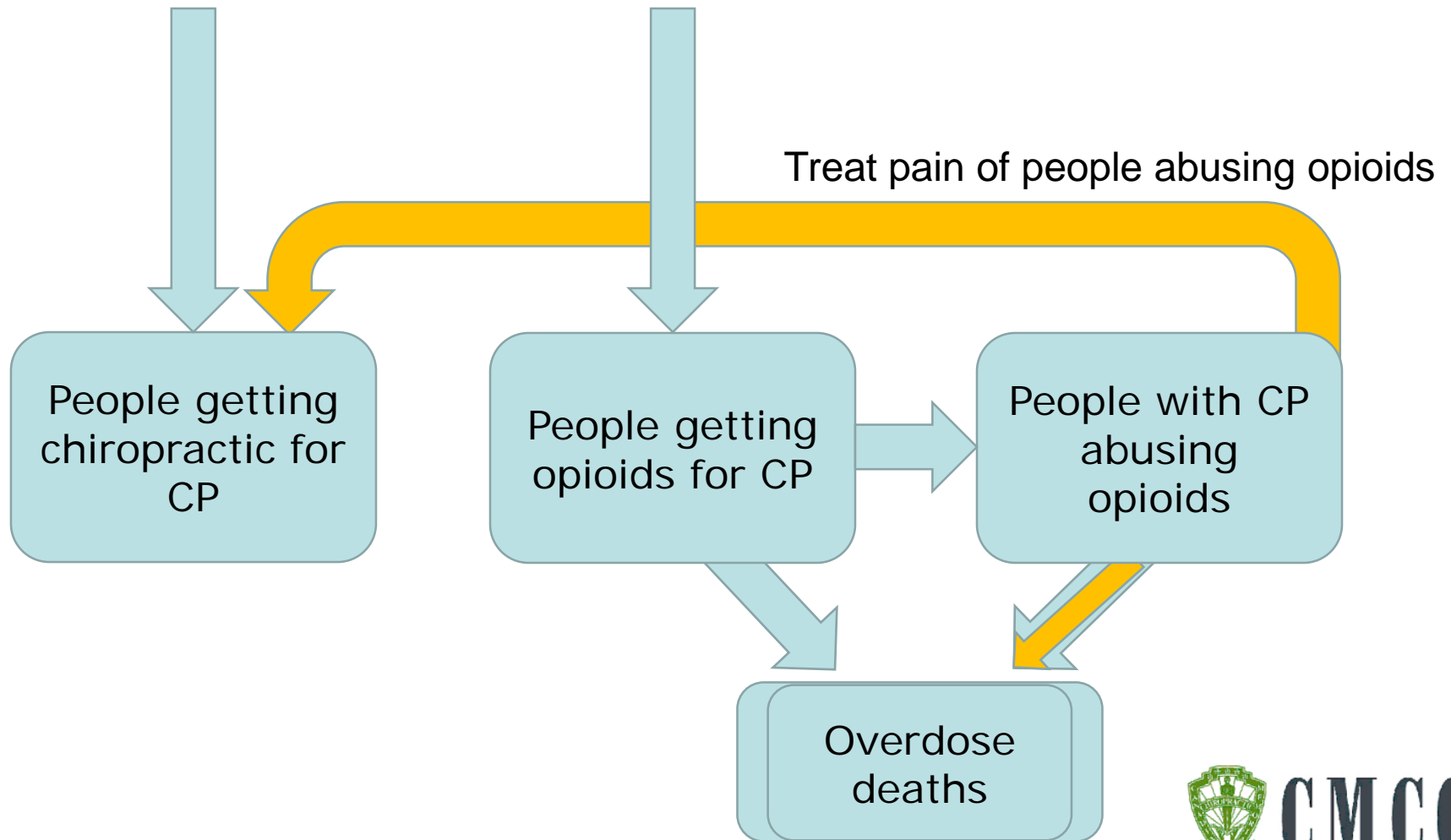
Modeling to inform RCT decision-making



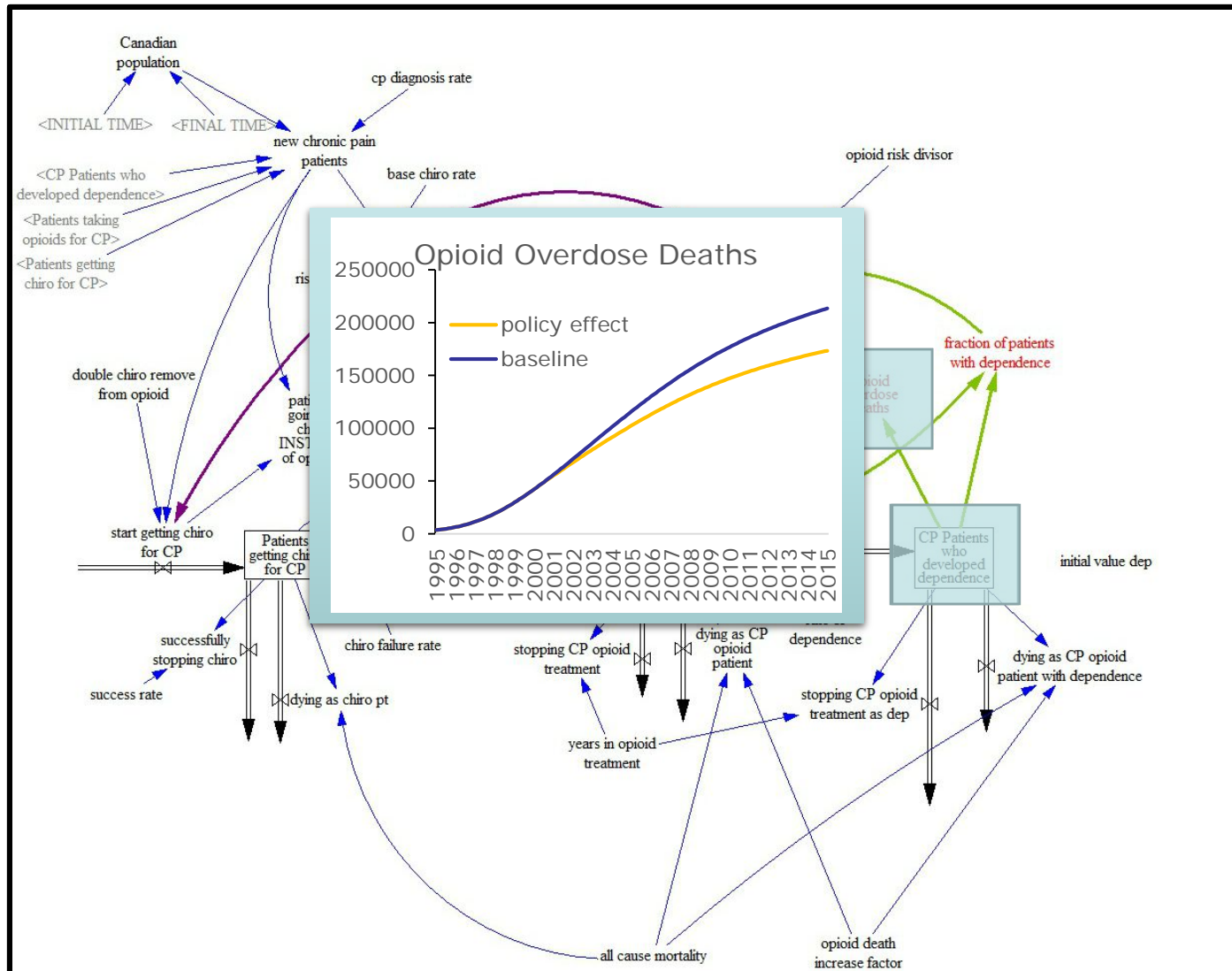
Modeling to inform RCT decision-making



Modeling to inform RCT decision-making



System Dynamics: Looking at one leverage point



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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Administration