

Simulating Meth Production Networks

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Overview

1. SNA Concerns Re Dark Networks

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2. A Meth Bust Network

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3. Simulating Production

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4. Next Steps

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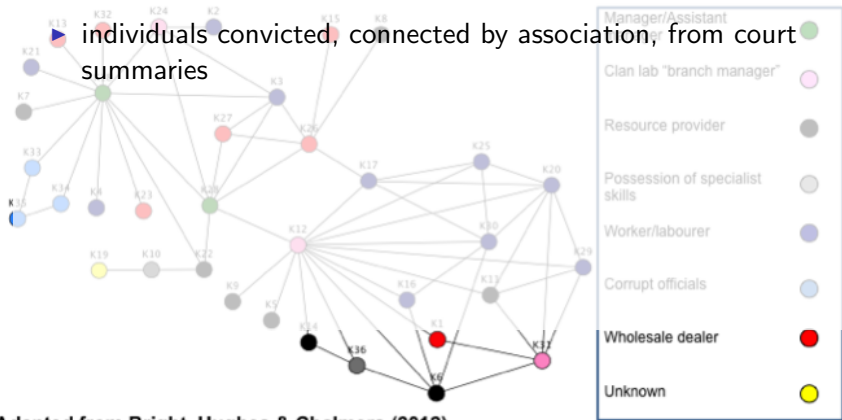
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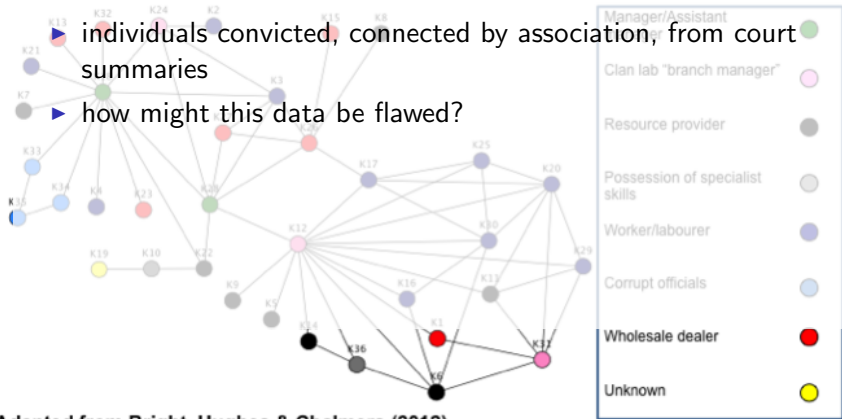
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- ▶ What do we observe? Interaction events, environmental changes.
- ▶ A network is a representation
- ▶ For some cases: that's useful - can reliably observe events, translate to network, calculate property with predictive power relative to some future outcome
- ▶ For “dark” networks - highly questionable

PROSECUTED METH PRODUCTION & DISTRIBUTION GROUP



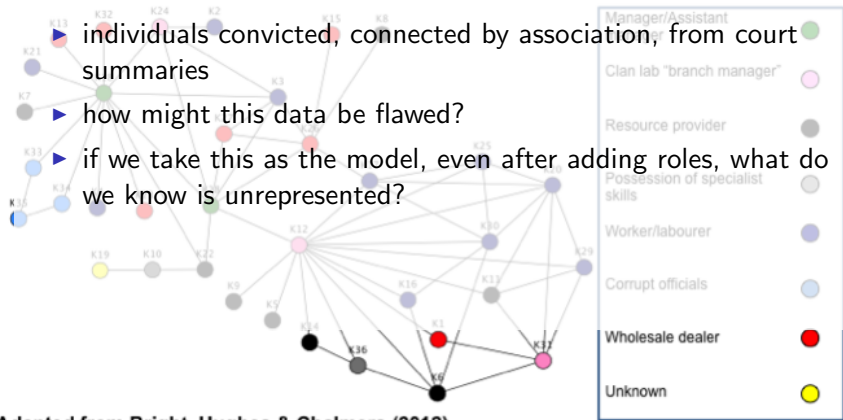
Adapted from Bright, Hughes & Chalmers (2012)

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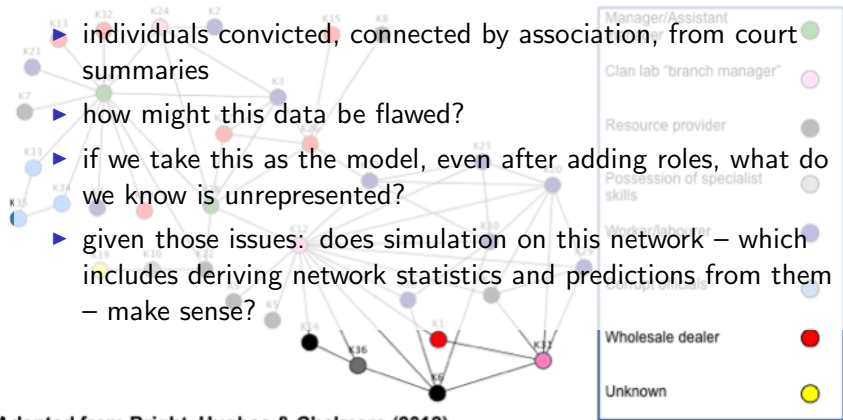
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- ▶ simulate that enterprise
- ▶ compare measures – pseudoephedrine consumption, methamphetamine production, net profit rates – to available estimates

SIMULATING METH PRODUCTION

Relatively few parts, all written in Scala

World target meth consumption rate, pseudo cost

Supplier, Retailer, Wholesaler margins

Middleman margin

Cook margin, pseudo conversion efficiency

SIMPLE ECONOMIC FORCES ONLY

Agents try to net their margin per iteration. Demand for meth inelastic. No economies of scale. No competition in roles.

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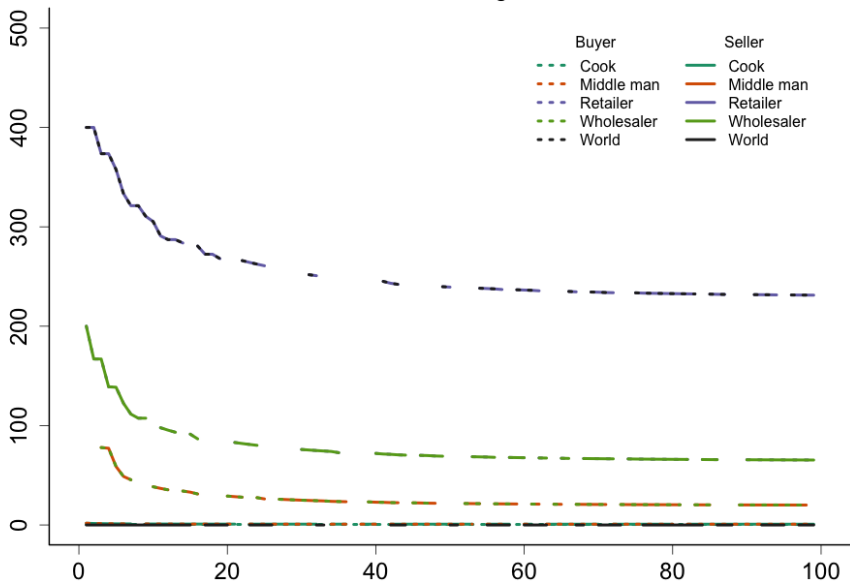
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Product: Drugs

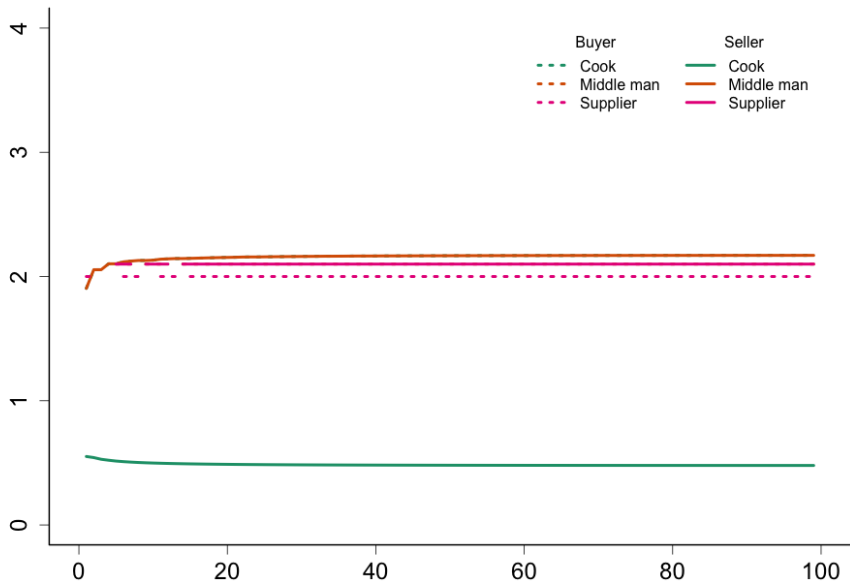
Price (AUS \$ per gram)



Time in months

Product: Precursors

Price (AUS \$ per gram)



Time in months

TODO

Next Steps

Observation Model translate simulate outputs via filter to observations

Group Dynamics intra- and intergroup competition, turnover of employees, customers

Intervention Outcomes single gang interventions, evolution of competing gangs

QUESTIONS?

talk and simulation source available at

<https://github.com/pearsonca/sunbelt-2014>

<https://github.com/pearsonca/scala-commsim>

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