A Systems Thinking Approach to Reducing Alcohol Related Harm in Tasmania

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Gerry Murphy Prize Tasmanian representative
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Overview

• Background
  – Why did we undertake the project- a dynamic model of alcohol-related harm in Tasmania?

• Methods
  – What is a dynamic model?
  – How did we build the model?

• Results
  – Model interface and preliminary insights

• Implications
  – How is the model being used?
Alcohol-related harm in Tasmania

- Tasmania has significant levels of alcohol-related harm
  - Alcohol consumption rates above the national average
  - Some indicators of harm increasing

- Alcohol-related road fatalities and serious injuries
- Alcohol-related family violence rates
- Alcohol-related ED presentations
- Alcohol-related hospitalisations in women
- Alcohol availability
Strategies to reduce harms

- Demand reduction
  - alcohol treatment programs
  - increasing alcohol taxes

- Supply reduction
  - increasing minimum drinking age
  - trading hour restrictions

- Harm reduction
  - drink driving intervention
  - sobering up shelters

But what are the right strategies in Tasmania?
Systems thinking can help

- Makes sense of complex problems
- A ‘big picture’ perspective
- Looking at complex multiple inter-relationships
- Tools to understand and analyse a system

**Project objectives**

1) To develop, test and validate a dynamic simulation model of alcohol-related harm in Tasmania—a ‘what if?’ tool
2) To use the model to explore the likely impacts of different strategy options
What is a dynamic model?
What is a dynamic model?

Adapted from Introduction to System Dynamics Models, CLExchange. Available from https://www.youtube.com/watch?v=Ieny5RdkRu8
Collaboratively building the model

*Workshop 1, May 2017, Hobart*
Selecting the interventions

1. Community-based Good Sports Program
2. Alcohol dependent treatment programs
3. Liquor license density restriction
4. Early closing of licensed venues
5. Brief interventions delivered by GPs
6. Zero blood alcohol content for young drivers
7. Increase minimum price of alcohol

Existing strategies
Summary of preliminary findings

- Density restrictions, with Minimum Unit Pricing (MUP) and/or early closing (3am) have significant impact on **acute and chronic harms**
- The impact on chronic harms won’t be seen until approximately **2028**
- Far greater impact can be achieved with a **cross-sectoral response** rather than health sector response alone.
How are we using the model?

• Limitations
  – It’s a model, not the real world
  – Reliant on a number of assumptions

• Model building process itself has brought together diverse stakeholders

• A window of opportunity- the new *Tasmanian Alcohol Action Framework*

• Potential to further develop the model e.g. new data, cost-benefit
Conclusions

- The causes of alcohol-related harm are complex and varied.
- Systems thinking can offer tools to make sense of complex systems and insight into how best to tackle harms.
- This dynamic model is allowing stakeholders to ‘test’ intervention strategies.
- Controlling the availability and price of alcohol in Tasmania is by far the most effective way of reducing alcohol-related harms.
Thank you to the Tasmanian Alcohol Modelling Consortium