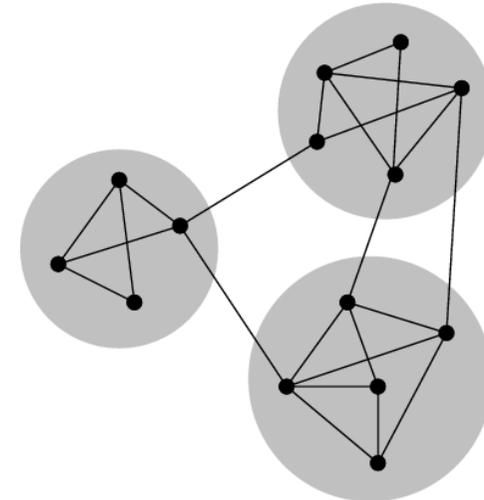


A Systems Thinking Approach to Reducing Alcohol Related Harm in Tasmania

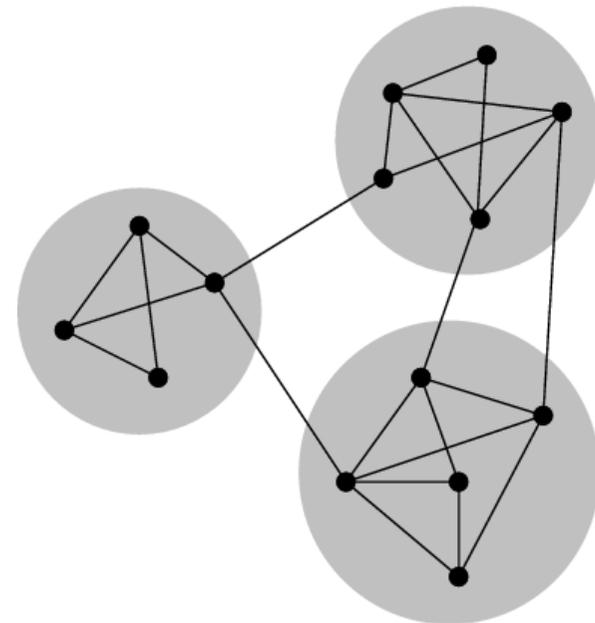
Gabriela Willis, Kate Garvey, Jacqui Davison, & Mark Heffernan,
on behalf of the Tasmanian Alcohol Modelling Consortium

Gerry Murphy Prize Tasmanian representative
RACP Congress, 14th May 2018



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

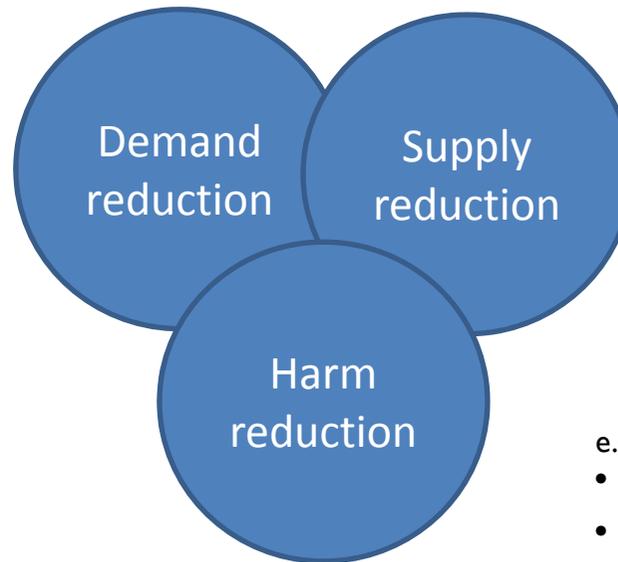
- Tasmania has significant levels of alcohol-related harm
 - Alcohol consumption rates above the national average
 - Some indicators of harm increasing



Strategies to reduce harms

e.g.

- alcohol treatment programs
- increasing alcohol taxes



e.g.

- increasing minimum drinking age
- trading hour restrictions

e.g.

- drink driving intervention
- sobering up shelters

But what are the right strategies in Tasmania?

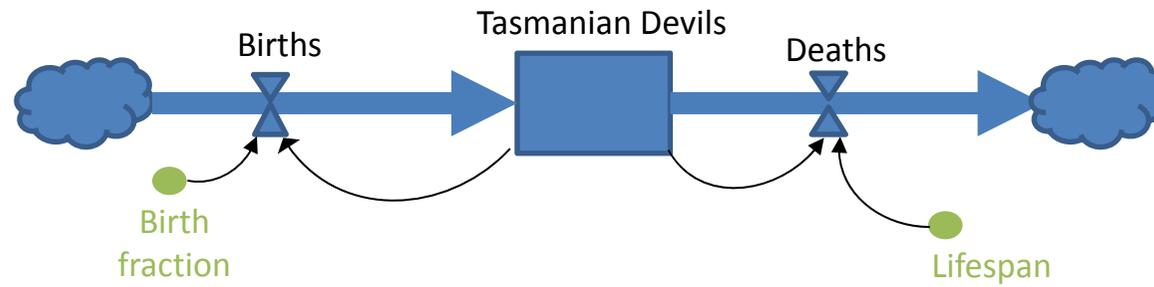
Systems thinking can help

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

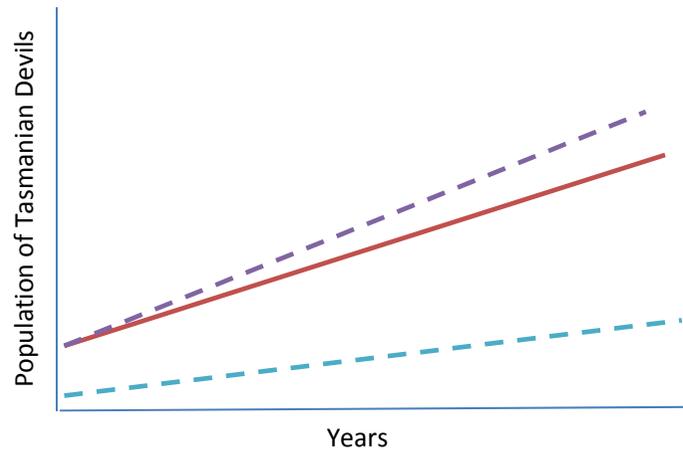
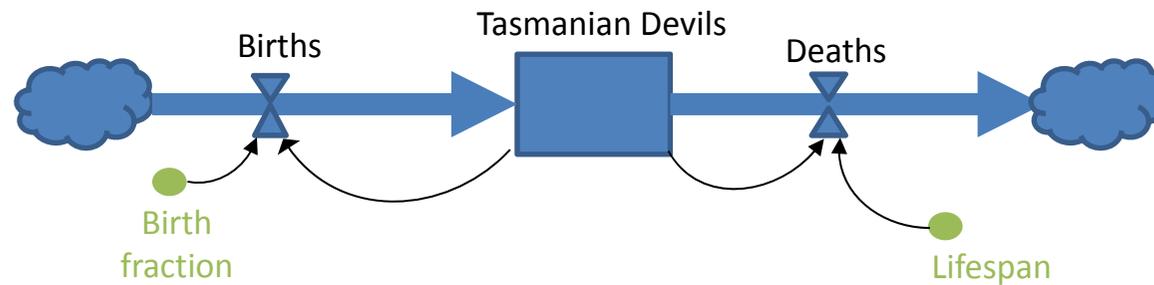
Project objectives

- 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?

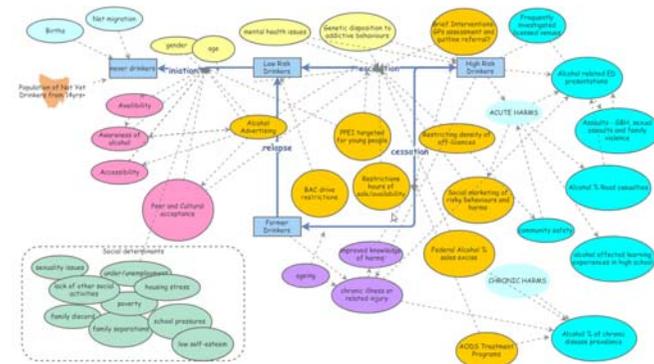
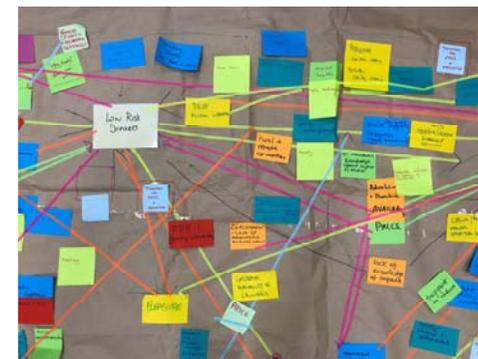


Adapted from *Introduction to System Dynamics Models*, CLEExchange. Available from <https://www.youtube.com/watch?v=IenySRdkRu8>

Collaboratively building the model



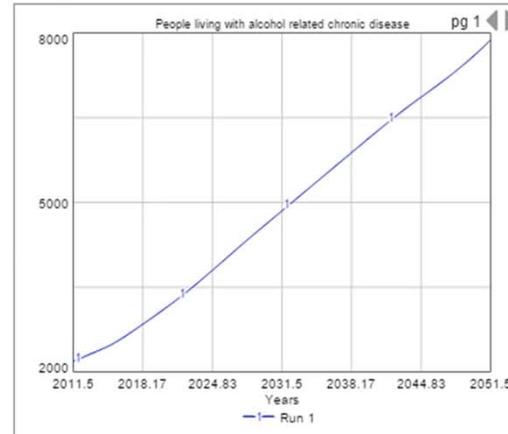
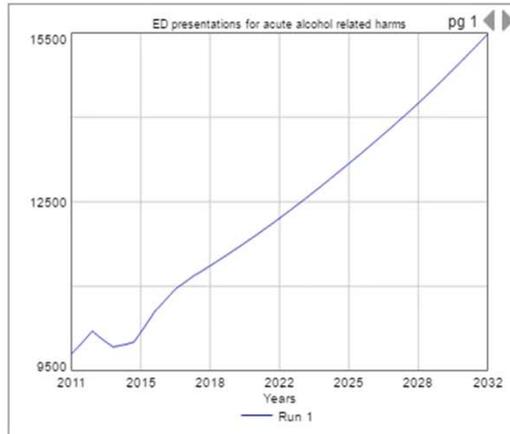
Workshop 1, May 2017, Hobart



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

Background | Key Population and Harms Structures in the Model | Key Assumptions and definition of outputs | Explore Interventions | Unfurl model structure of alcohol consumption



Random Breath Testing

- RBTs reduced 50%
- RBTs current levels
- RBTs increased 20%
- RBTs increased 50%

Real Mates
Off/On

Density Restrictions
Off/On

4.4

Baseline annual Licence Growth Rate

Intervention levers

Uniform Minimum Pricing
Off/On

Good sports Level 3 mandatory
Off/On

Early Closing
Off/On

3

New Closing Time (a.m.)

Scale up treatments for dependent drinkers
Off/On

2.6k

Services target (from current capacity of 1400)

Brief Interventions
Off/On

80

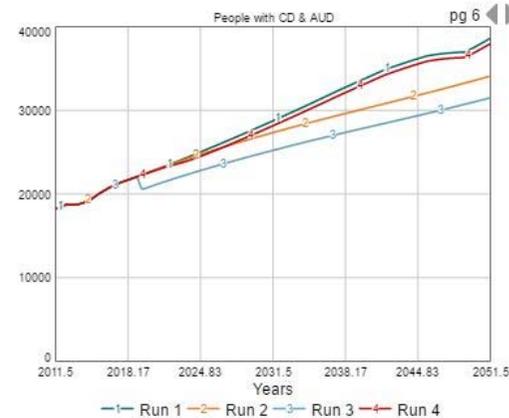
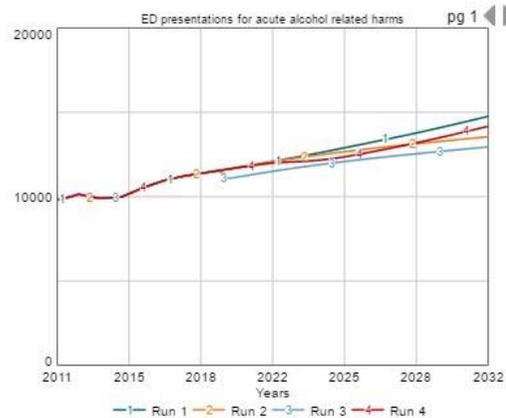
Target % reach of BI

Release Notes

Tas Alc model V770 27 Oct 2017



Background	Key Population and Harms Structures in the Model	Key Assumptions and definition of outputs	Explore Interventions	Unful model structure of alcohol consumption	Export Data
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Random Breath Testing

- RBTs reduced 50%
- RBTs current levels
- RBTs increased 20%
- RBTs increased 50%

Real Mates
Off/On

Zero BAC to 25yrs

Density Restrictions
Off/On

Include Restaurants
Off/On

Intervention levers

Minimum Pricing Off/On

Good sports Level 3 mandatory Off/On

Early Closing Off/On

New Closing Time (a.m.)

3

Scale up treatments for dependent drinkers

2.6k

Services target (from current capacity of 1400)

Brief Interventions Off/On

80

Target % reach of BI

Tas Alc model V779 15th Dec 2017

Release Notes



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

 <p>Department of Health and Human Services</p> <p>Kate Garvey Fay Johnston Sylvia Engels Michelle Morgan</p> <p>Michel Long Rosie Hippel Peter Wan</p>	 <p>The Australian Prevention Partnership Centre Systems and solutions for better health</p> <p>Jacqui Davison Jo-An Atkinson Sonia Wutzke</p> <p>Geoff McDonnell Mark Heffernan</p>	 <p>UNIVERSITY of TASMANIA</p> <p>Raimondo Bruno</p>  <p>Tasmanian Health Service</p> <p>Adrian Reynolds</p>		
 <p>Tasmanian Health Service Department of Education Department of Premier and Cabinet</p> <p>Department of State Growth Department of Treasury and Finance</p>				
 <p>Local Government Association Tasmania</p>	 <p>Tasmania Police</p>	 <p>the link youth health service</p>	 <p>LA TROBE UNIVERSITY</p>	 <p>YFCC YOUTH, FAMILY & COMMUNITY CONNECTIONS</p>
 <p>den</p>	 <p>atdc Alcohol, Tobacco and other Drugs Council Tasmania Inc.</p>	 <p>primary health TASMANIA</p>	 <p>ADF Alcohol and Drug Foundation</p>	