# Identifying those at high risk of Domestic Violence revictimisation
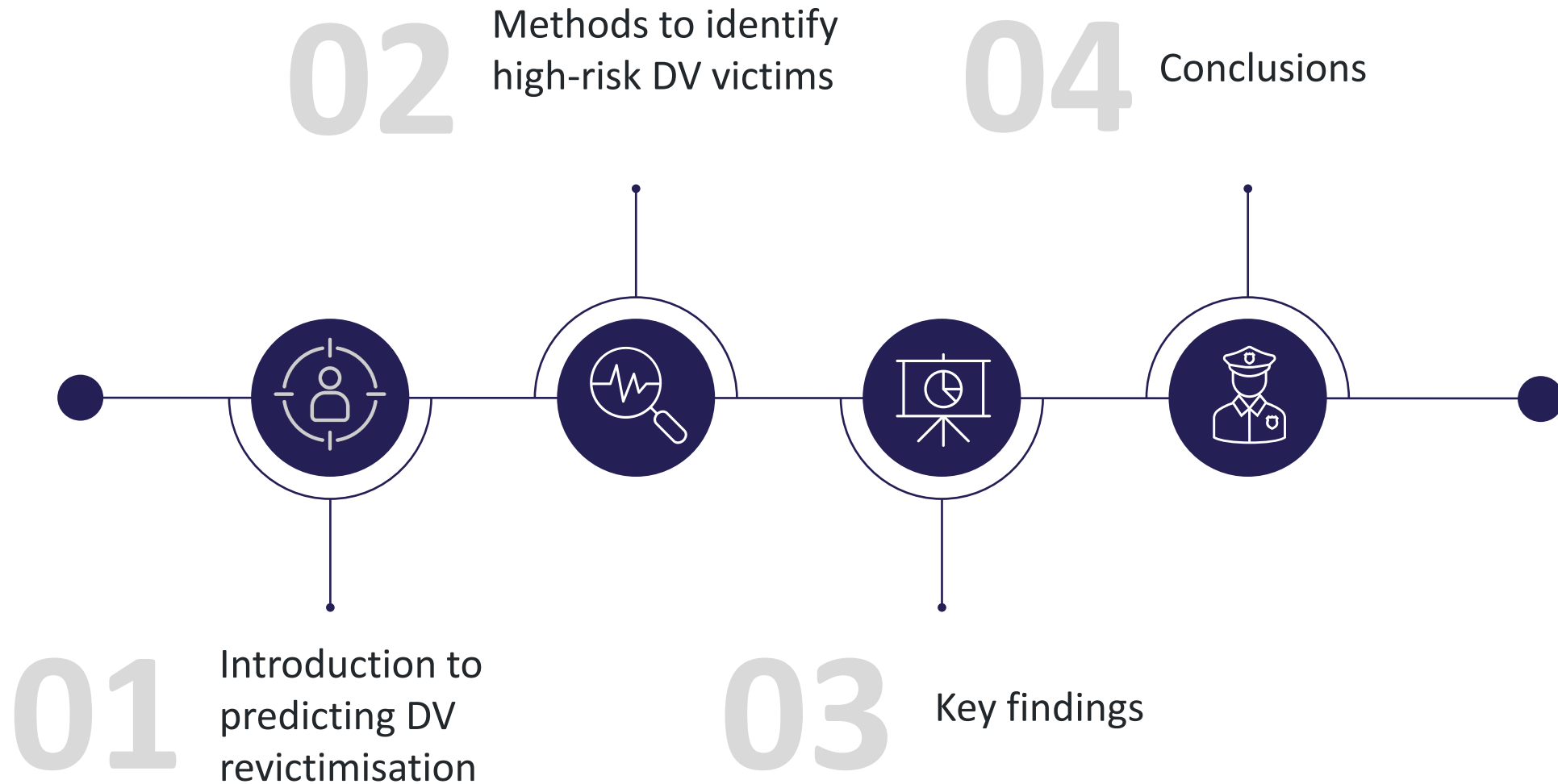
Fan Cheng & Min-Taec Kim
Senior Research Officer

01 July 2024

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**02** Methods to identify high-risk DV victims

**04** Conclusions

**01** Introduction to predicting DV revictimisation

**03** Key findings

# 1

DV revictimisation prediction

ABC NEWS

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# Mother of domestic violence murder victim slams system designed to protect women and children

ABC Central West / By Joanna Woodburn

Posted 18h ago, updated 17h ago



Donna Thornell says an AVO failed to protect her daughter Kristy Armstrong who was murdered in June 2023. *(ABC Central West: Joanna Woodburn)*

abc.net.au/news/mother-of-domestic-viole...   🔗 Copy link   ↗ Share article

- **In short:** The mother of domestic violence murder victim Kristy Armstrong says the support system failed her daughter.
- The young mother was murdered by her former husband in a road crash at Molong in 2023.
- **What's next?** The NSW government is being urged to overhaul the system designed to protect victim-survivors.

Media reports suggest a gap in risk assessment for Domestic Family Violence (DFV) victims

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# Leaving Violence Program for victim-survivors of intimate partner violence

- Australian Federal Government announced an investment of **$925.2** million for the **Leaving Violence Program**

  - Up to $1,500 cash
  - Up to $3,500 in goods and services
  - Safety assessments and referrals to support pathways

- **Motivation**: risk assessment to improve decision making

- **Aim**: identify a cohort of **DFV victims** that are at high-risk of DFV related repeat victimisation

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**Australian Government**
**Department of the Prime Minister and Cabinet**

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## Helping women leave a violent partner payment

**Release Date:** Wednesday 1 May 2024
Media release

Listen

**Portfolio Responsibilities**

Senator the Hon Katy Gallagher is the Minister for Finance, Minister for Women, Minister for the Public Service

**Contact the Minister**

**Joint release with**

The Hon Anthony Albanese MP
Prime Minister of Australia

The Hon Amanda Rishworth MP
Minister for Social Services

The Albanese Labor Government is committed to ending family, domestic and sexual violence in a generation. This is a national crisis.

We want women to know if they need to leave they can afford to go.

We understand the insidious links between financial insecurity and stress and vulnerability to family and domestic violence. Too often, financial insecurity can be a barrier to escaping violence.

That's why the Government will invest $925.2 million over five years to permanently establish the Leaving Violence Program – so those escaping violence can receive financial support, safety assessments and referrals to support pathways.

Those eligible will be able to access up to $5,000 in financial support along with referral services, risk assessments and safety planning.

This commitment builds on a record $2.3 billion in measures put in place by the Albanese Government to help address violence against women.

Further, the Albanese Government has expanded eligibility for parenting payment single – helping 82,000 more single parents remain on higher payment rates until their youngest child turns 14; legislated ten days paid family and domestic violence leave; increased rent assistance with the largest increase in 30 years; and invested in crisis accommodation and affordable housing for women and children escaping violence.

Intimate partner violence is a problem of epidemic proportions in Australia, with a quarter of all Australian women having experienced it in their lifetime.

The Leaving Violence Program will support victim-survivors of intimate partner violence to make informed choices about leaving violent relationships and receive the vital support they need.

# 2

Methods to identify high-risk DV victims

# BOCSAR Re-Victimisation Database (RVD)

## Demographics

- Age
- Gender
- Aboriginality

## Criminal justice contact

- Prior victimisation
- Prior offending
- Age at first victimisation
- Age at earliest incident

## Most serious offence details

- Number of victims
- Age at victimisation
- Age of POI
- Gender of POI
- POI relationship to victim
- Premise type
- Crime Seriousness
- Remoteness
- SEIFA

## Victimisation event details

- Days since first event
- Days since latest event
- Number of child sexual victimisations
- Number of alcohol related victimisations
- Number of DV related victimisations
- Number of breach AVO victimisations
- Police Area Command

# Datasets

**179,630**

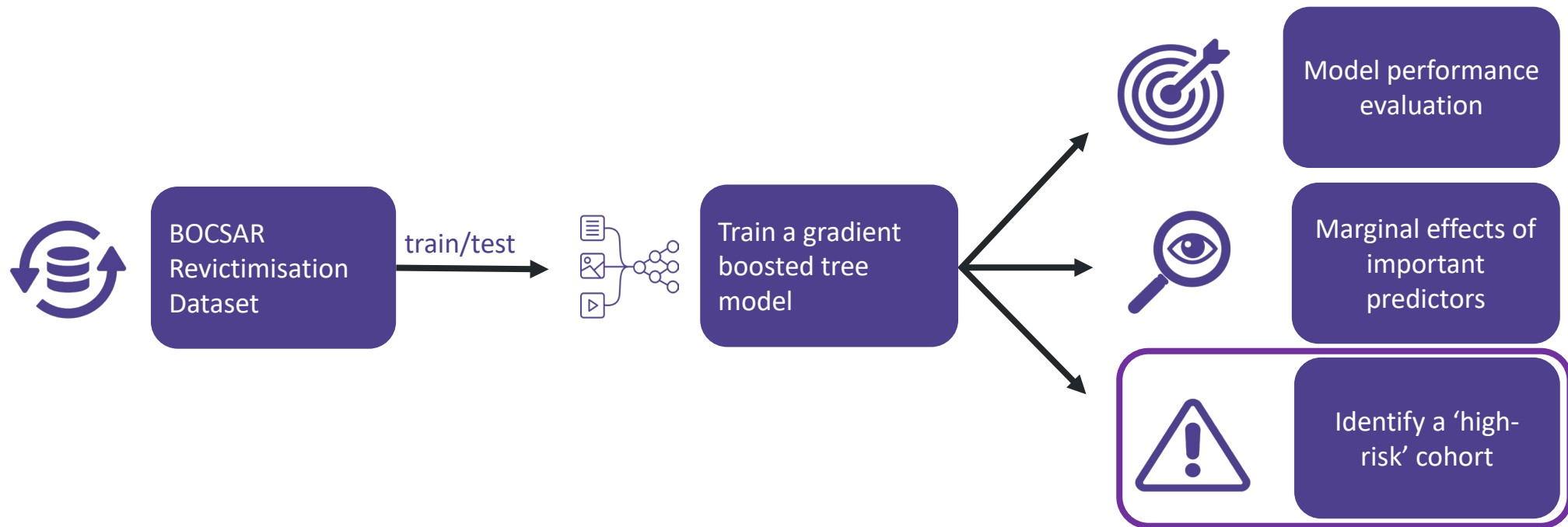individuals with DV-related victimisation, with **15,298 (8.5%) experienced DV revictimisation in 2019**

Individuals who experienced DV victimisation during 2014-2018

Observe whether they are revictimised in DV in 2019 (8.5%)

**2014**   **2015**   **2016**   **2017**   **2018**   **2019**
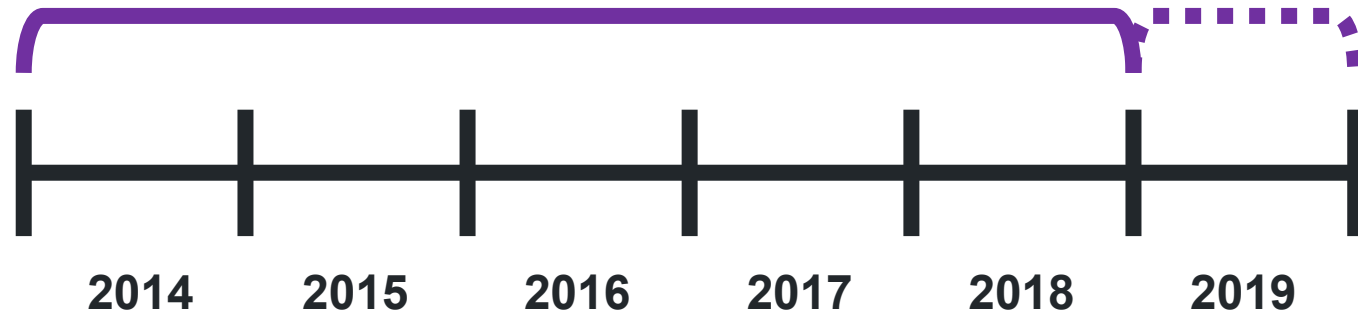
# Proposed empirical strategy to predict DV revictimisation and identify a 'high-risk' cohort



BOCSAR Revictimisation Dataset

train/test

Train a gradient boosted tree model

Model performance evaluation

Marginal effects of important predictors

Identify a 'high-risk' cohort

# 3

## Key Findings

# The prediction model is accurate and does not differ significantly in AUC by gender or Aboriginality

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|  |  | AUC | Accuracy | Precision | Sample size |
|---|---|---|---|---|---|
| Full sample | | **0.76** | **0.92** | **0.76** | 35,926 |
| | Female | 0.76 | 0.90 | 0.76 | 23,942 |
| | Male | 0.73 | 0.95 | - | 11,984 |
| | Aboriginal | 0.73 | 0.84 | 0.78 | 6,608 |
| | Non-Aboriginal | 0.74 | 0.94 | 0.50 | 29,318 |

Note. The prediction for male is NA because no male individual in the test data is predicted with revictimisation.

- **AUC**: model prediction measure to distinguish revictimised from not revictimised

- **Accuracy:** proportion of all predicted revictimisation that are correct

- **Precision**: proportion of those predicted to be revictimised that are actually revictimised

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The model uses previous victimisation, offending, Aboriginality and gender most in predicting revictimisation
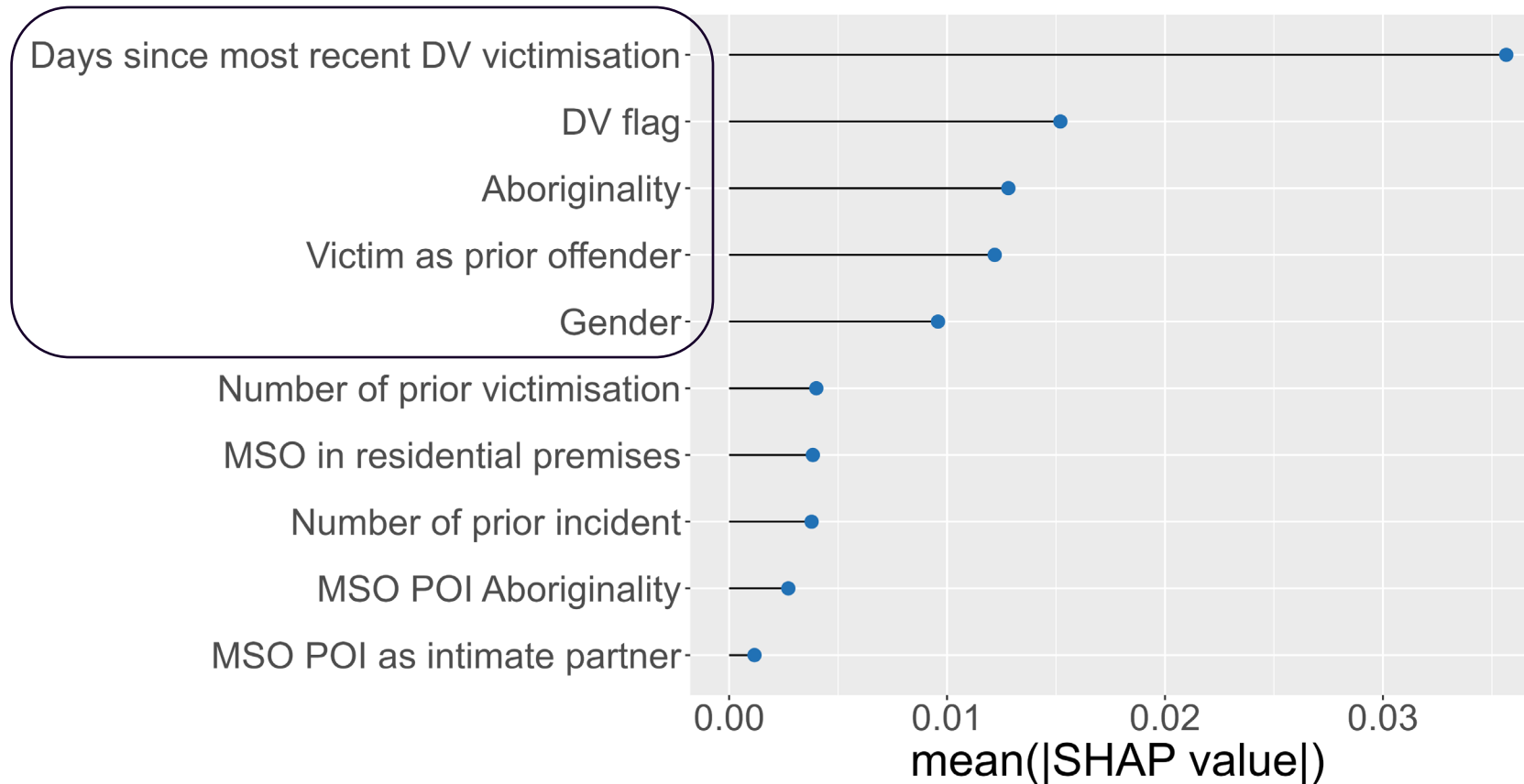
# The marginal effects in predicted revictimisation risk by predictor - how recently the individual has been victimised
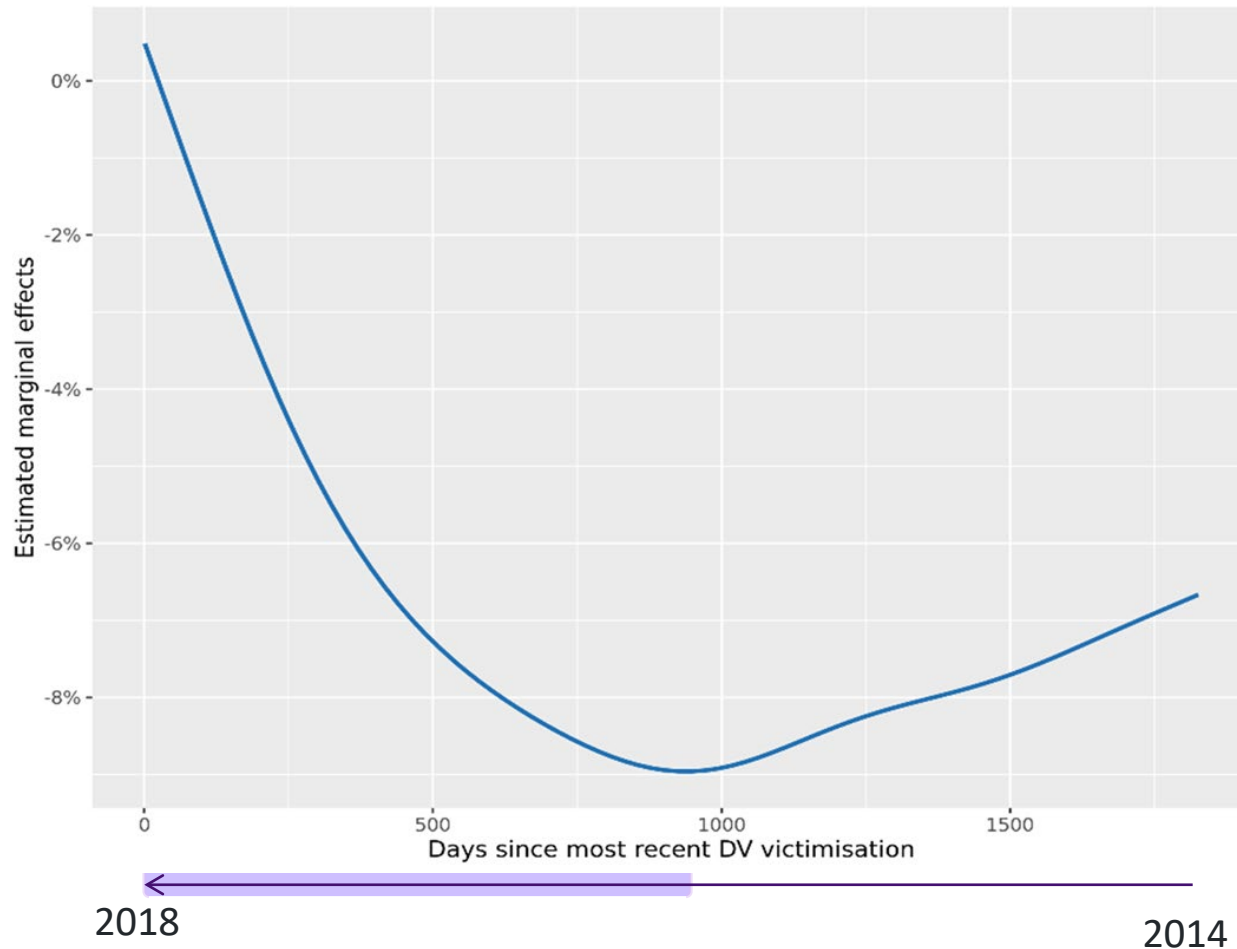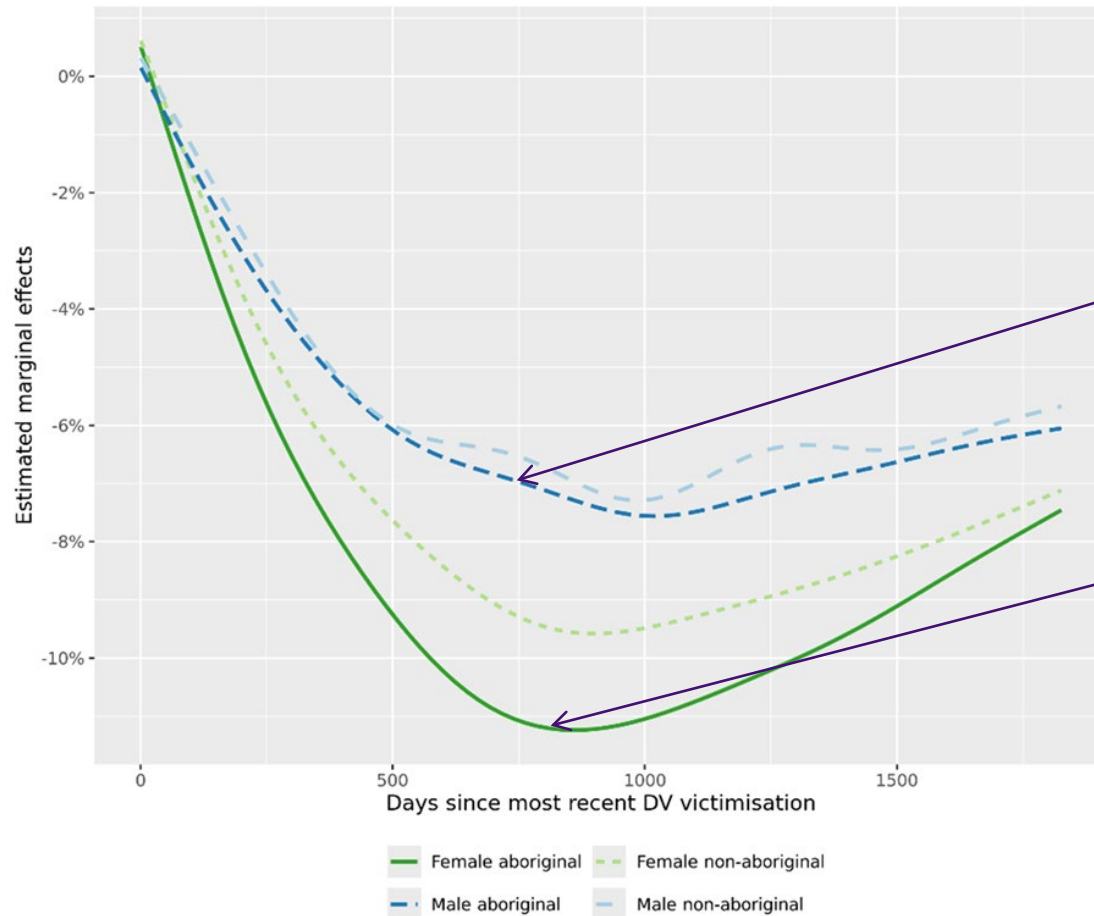


Marginal effects compared with 31st Dec, 2018

More recent victimisation, higher risk of revictimisation

Greatest risk for victimisations within two and a half years

# The marginal effects in predicted revictimisation risk by predictor - how recently the individual has been victimised



Predicted risks plateau more quickly for both Aboriginal and non-Aboriginal men

This predictor is more important for predicting female, especially Aboriginal females

# The marginal effects in predicted revictimisation risk by predictor – indicator variables
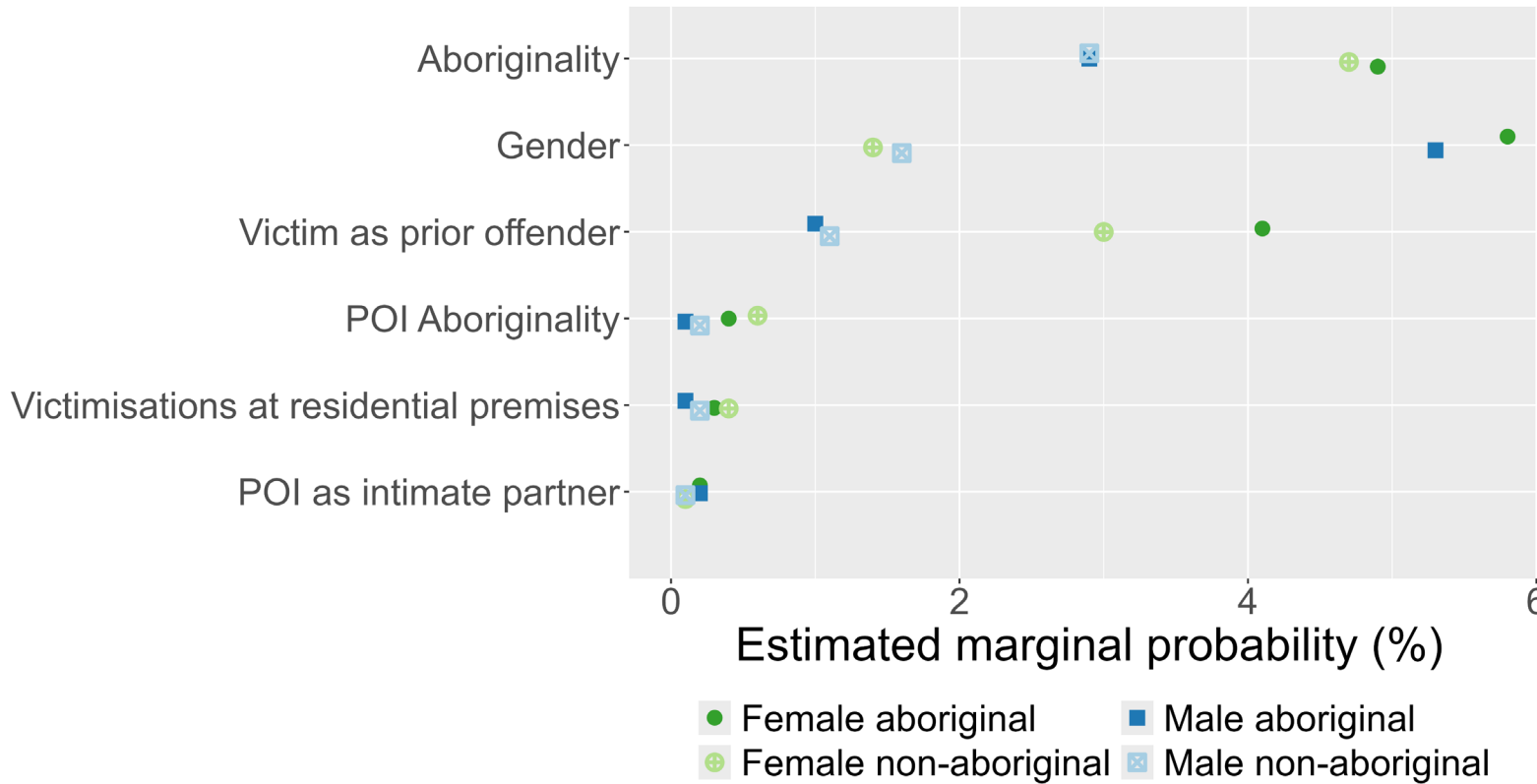


Marginal effects compared between TRUE/FALSE for all indicator variables

Female and Aboriginal people have stronger marginal effects

# Define the 'high-risk' cohort with the predicted revictimisation rate
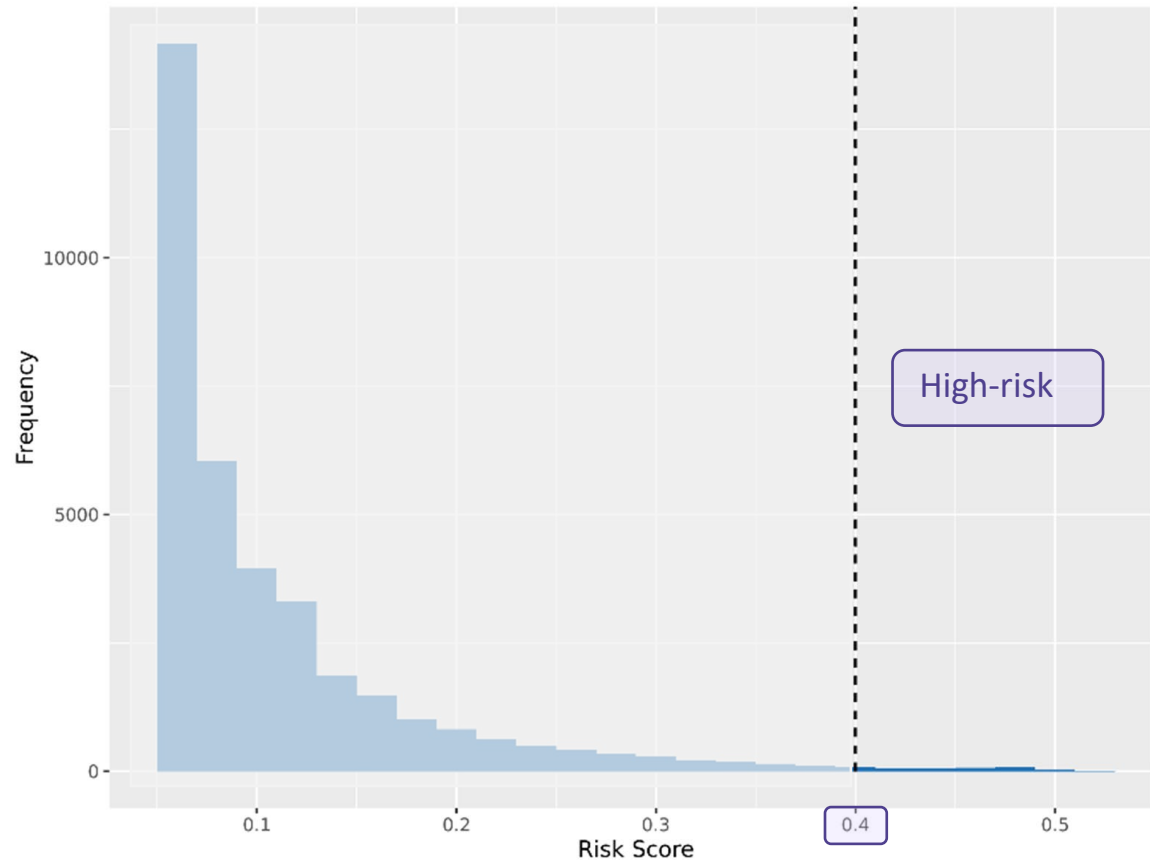


Top 1% predicted risk score

Roughly 1,800 people state-wide

54% are revictimised in 2019 (compared with 7.8% of those not high-risk)

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## Demographics and MSO details:

**100%**
Female

**73%**
Aboriginal people

Little difference in POI relationship types

Spread evenly across many locations, little difference in number of victims in MSO, victims age etc.

## Criminal justice contact and victimisation:

**10**
Average prior victimisations

**88%**
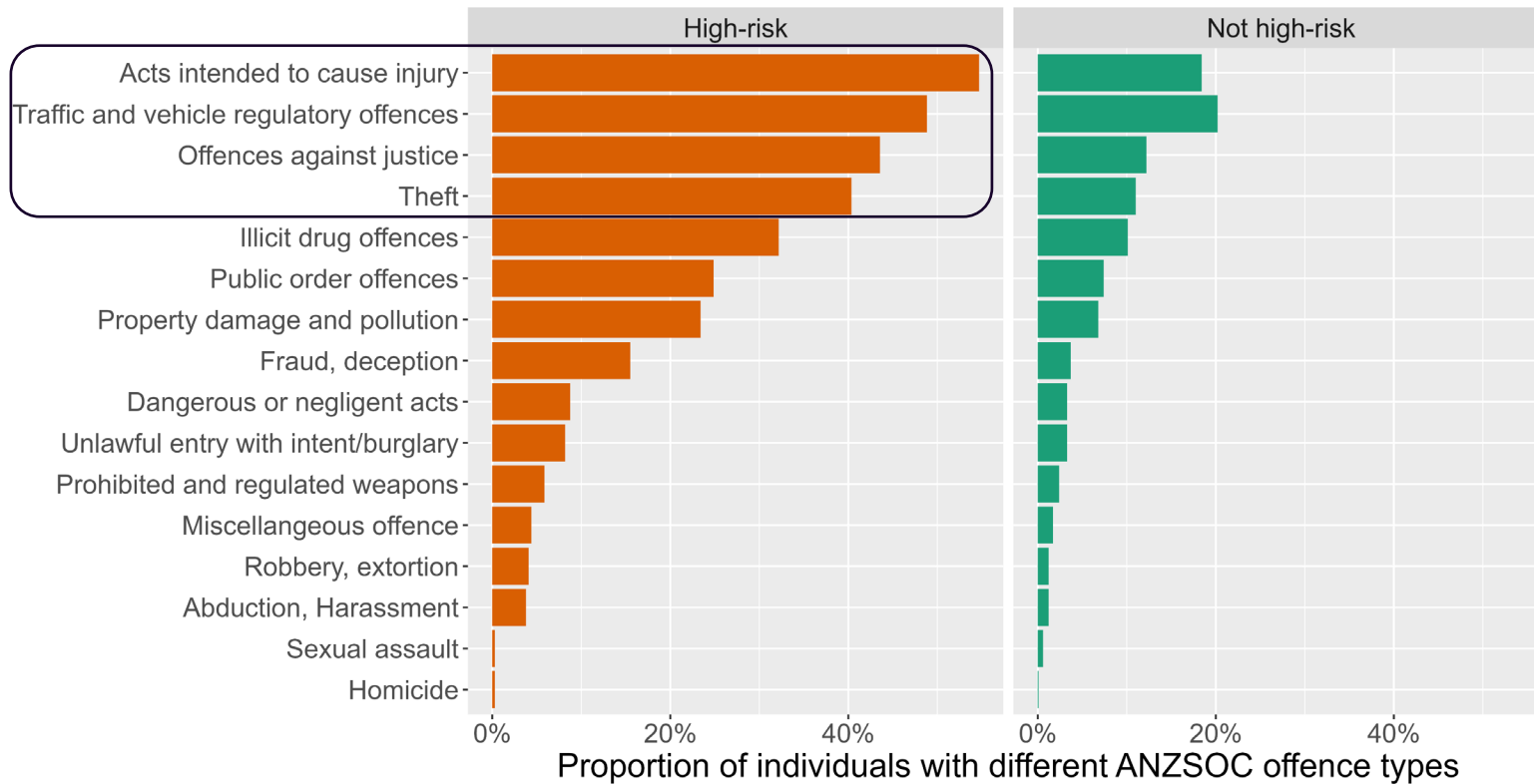Experienced first victimisation before 30yr; 59% before 18yr

**98%**
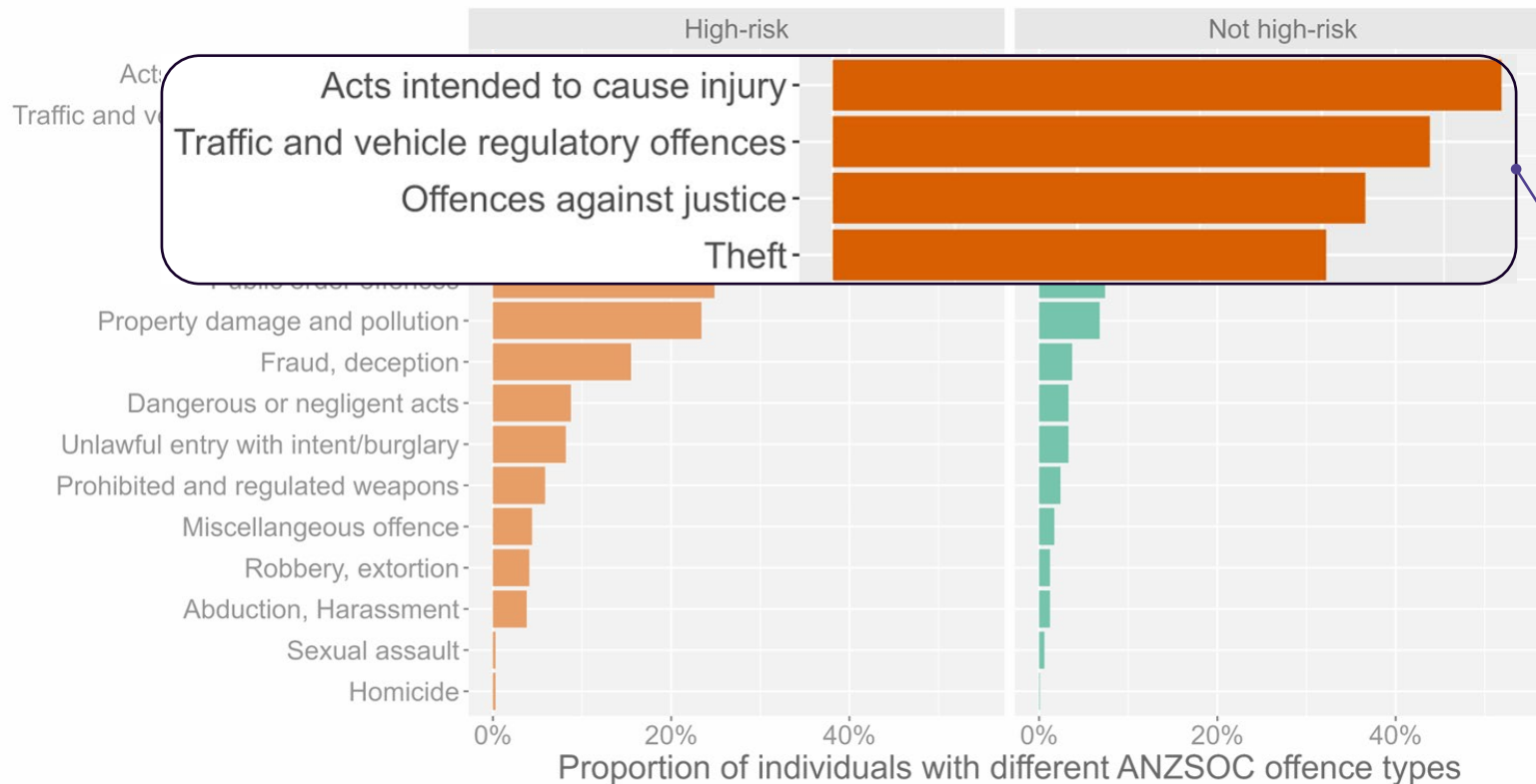Experienced DV victimisation within the last 6 months

**92%**
Had previous CJS contact as an offender; 44% as DV-related

# Primary criminal offences for the 'high-risk' cohort as an offender



Comparison in 16 ANZSOC offence divisions

# Primary criminal offences for the 'high-risk' cohort as an offender



**Comparison in 16 ANZSOC offence divisions**

**Top 4 offences with over 40% individuals in the high-risk cohort**

# 4

## Conclusions

# Conclusions

**01**

We use a data-driven approach to predict DV revictimisation and identify high-risk victims

**02**

Time to victimisation, previous victimisation and offending are all important predictors

**03**

Could improve the cost effectiveness of existing programs by targeting resources and/or creating a referral pathway

**04**

Could enable business cases for new, more expensive, interventions for the high-risk cohort

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# Thank you

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