NEW ZEALAND
WORK RESEARCH INSTITUTE

Capping problem gambling in NZ

The effectiveness of local government policy intervention

Christopher Erwin[†], Gail Pacheco[†], Alexandra Turcu[†]

[†]*New Zealand Work Research Institute*

Auckland University of Technology, NZ

16 April 2020

AUT
RESEARCH & INNOVATION

Research Aim

What is the impact of public policy interventions on gambling behaviour in NZ?

Motivation

Background:

- Problem gambling is a significant health concern in NZ – affecting approximately 11 percent of NZers each year (DIA, 2008)

- There are four types of gambling that can contribute to harm
  - Non-casino electronic gaming machines (EGMs)
  - Table games and EGMs at casinos
  - Sports and race betting at the TAB
  - Lottery products from the Lotteries Commission

Motivation

Background:

- Problem gambling is a significant health concern in NZ – affecting approximately 11 percent of NZers each year (DIA, 2008)

- There are four types of gambling that can contribute to harm
  - Non-casino electronic gaming machines (EGMs) ⟷ Class 4 gaming
  - Table games and EGMs at casinos
  - Sports and race betting at the TAB
  - Lottery products from the Lotteries Commission

Motivation

Background:

- Problem gambling is a significant health concern in NZ – affecting approximately 11 percent of NZers each year (DIA, 2008)

- There are four types of gambling that can contribute to harm
  - Non-casino electronic gaming machines (EGMs) ⟷ Class 4 gaming [Pokies]
  - Table games and EGMs at casinos
  - Sports and race betting at the TAB
  - Lottery products from the Lotteries Commission

Motivation

- Aggregate expenditure on pokies has continued to increase, despite a decrease in number of venues and EGMs

- Class 4 venues and EGMs have decreased 22 and 18 percent respectively over the period 2000 to 2018; but real gross machine proceeds have gone up 28 percent

Motivation

- Aggregate expenditure on pokies has continued to increase, despite a decrease in number of venues and EGMs

- Class 4 venues and EGMs have decreased 22 and 18 percent respectively over the period 2000 to 2018; but real gross machine proceeds have gone up 28 percent

- Expenditure on Class 4 gaming is also significantly higher than any of the other gambling activities

Motivation

- Aggregate expenditure on pokies has continued to increase, despite a decrease in number of venues and EGMs
- Class 4 venues and EGMs have decreased 22 and 18 percent respectively over the period 2000 to 2018; but real gross machine proceeds have gone up 28 percent
- Expenditure on Class 4 gaming is also significantly higher than any of the other gambling activities
- No studies evaluating effectiveness of policy interventions

Theory

Four main theories shape NZ's policy strategies for minimising harm associated with problem gambling

- Availability theory – problem gambling linked positively with exposure
- Adaptation theory – problem gambling influenced by several psychosocial and economic factors
- Mental health theory – addiction "pathological gambling as a disorder of impulse control" *American Psychiatric Association*
- Public health theory – takes on a more holistic approach beyond the mental health model

Policy response

- Policy interventions include:

  - At a minimum, provisions under the 2003 Gambling Act (reference group
  - Absolute cap on the number of EGMs and / or venues
  - Per capita cap on the number of EGMs and / or venues
  - Sinking lid

  - Policies vary by territorial authority and are reviewed every three years

Research Aim

What is the impact of public policy interventions on gambling behaviour in NZ?

Research Aim

What is the impact of public policy interventions on gambling behaviour in NZ?

- EGMs and Class 4 venues
- Class 4 gambling expenditure
- Utilisation of the gambling helpline service
- Other addiction-related outcomes (justice system)

Research Aim

What is the impact of public policy interventions on gambling behaviour?

- EGMs and Class 4 venues
- Class 4 gambling expenditure
- Utilisation of the gambling helpline service
- Other addiction-related outcomes (justice system) - to do

Data

- Policy interventions – collected via OIA requests to all 67 territorial authorities
- Gambling statistics – Department of Internal Affairs
- Demographic and socio-economic information – Statistics NZ
- Helpline statistics – Client information collection database, Ministry of Health

Method

Difference-in-differences – with contemporaneous and lagged treatments

$$y_{it} = \beta_0 + \beta_1 AC_{i,t} + \beta_2 AC_{i,t-1} + \beta_3 PC_{i,t} + \beta_4 PC_{i,t-1} + \beta_5 SL_{i,t} + \beta_6 SL_{i,t-1} + \boldsymbol{X\theta} + \delta_t + \delta_i + \varepsilon_{it}$$

y_{it} = outcome for territorial authority *i* in year *t*

AC = Absolute cap; *PC* = Per capita cap; *SL* = Sinking lid

Method

Difference-in-differences – with contemporaneous and lagged treatments

$$y_{it} = \beta_0 + \beta_1 AC_{i,t} + \beta_2 \boldsymbol{AC_{i,t-1}} + \beta_3 PC_{i,t} + \beta_4 \boldsymbol{PC_{i,t-1}} + \beta_5 SL_{i,t} + \beta_6 \boldsymbol{SL_{i,t-1}} + \boldsymbol{X\theta} + \delta_t + \delta_i + \varepsilon_{it}$$

y_{it} = outcome for territorial authority *i* in year *t*

AC = Absolute cap; *PC* = Per capita cap; *SL* = Sinking lid

Method

Difference-in-differences – with contemporaneous and lagged treatments

$$y_{it} = \beta_0 + \beta_1 AC_{i,t} + \beta_2 \boldsymbol{AC_{i,t-1}} + \beta_3 PC_{i,t} + \beta_4 \boldsymbol{PC_{i,t-1}} + \beta_5 SL_{i,t} + \beta_6 \boldsymbol{SL_{i,t-1}} + \boldsymbol{X\theta} + \delta_t + \delta_i + \varepsilon_{it}$$

y_{it} = outcome for territorial authority *i* in year *t*

AC = Absolute cap; *PC* = Per capita cap; *SL* = Sinking lid

X = ethnicity, age and gender composition indicators; and economic activity

Region and year fixed effects included as well

Results

	EGMs	Venues	Machine spending
Treatments			
AC	-63.16***	-6.78**	-0.10***
Lagged AC	16.51	0.17	-0.03
PC	-71.96***	-7.70***	-0.14***
Lagged PC	28.65	-0.61	-0.03
SL	-34.87*	-4.39*	-0.09***
Lagged SL	-9.26	-0.34	-0.05**

Notes: N = 535, R squared = 0.67; 0.68; 0.57, All other demographic and socio-economic controls included, Spending is the natural log of real gross machine proceeds per capita, reported in 2019 dollars.

Results

	EGMs	Venues	Machine spending
Treatments			
AC	-63.16***	-6.78**	-0.10***
Lagged AC	16.51	0.17	-0.03
PC	-71.96***	-7.70***	-0.14***
Lagged PC	28.65	-0.61	-0.03
SL	-34.87*	-4.39*	-0.09***
Lagged SL	-9.26	-0.34	-0.05**

Notes: N = 535, R squared = 0.67; 0.68; 0.57, All other demographic and socio-economic controls included, Spending is the natural log of real gross machine proceeds per capita, reported in 2019 dollars.

Results

	EGMs	Venues	Machine spending
Treatments			
AC	-63.16***	-6.78**	-0.10***
Lagged AC	16.51	0.17	-0.03
PC	-71.96***	-7.70***	-0.14***
Lagged PC	28.65	-0.61	-0.03
SL	-34.87*	-4.39*	-0.09***
Lagged SL	-9.26	-0.34	-0.05**

Notes: N = 535, R squared = 0.67; 0.68; 0.57, All other demographic and socio-economic controls included, Spending is the natural log of real gross machine proceeds per capita, reported in 2019 dollars.

Results

	EGMs	Venues	Machine spending
Treatments			
AC	-63.16***	-6.78**	-0.10***
Lagged AC	16.51	0.17	-0.03
PC	-71.96***	-7.70***	-0.14***
Lagged PC	28.65	-0.61	-0.03
SL	-34.87*	-4.39*	-0.09***
Lagged SL	-9.26	-0.34	-0.05**

Notes: N = 535, R squared = 0.67; 0.68; 0.57, All other demographic and socio-economic controls included, Spending is the natural log of real gross machine proceeds per capita, reported in 2019 dollars.

Impact on problem gambling service use

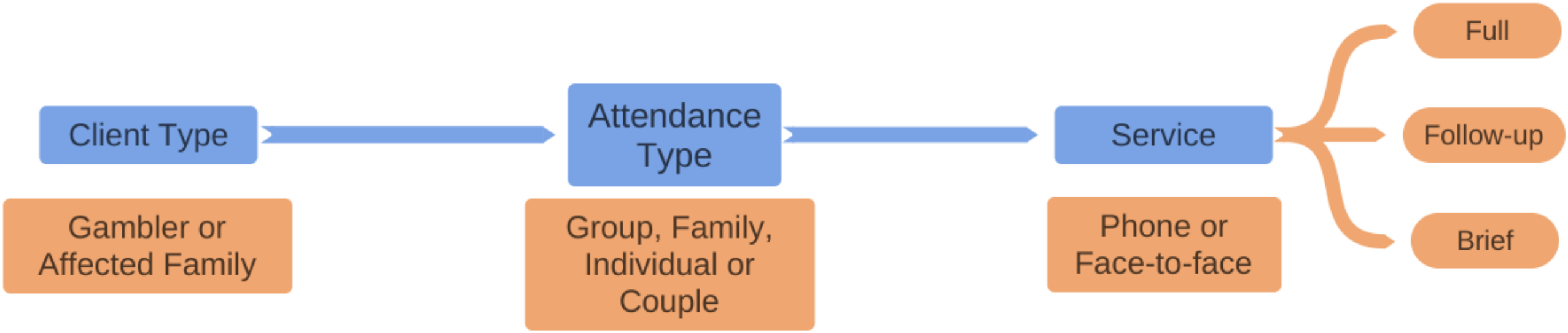
What do we expect? Theoretically ambiguous

Policy intervention >> ↓ access to machines and venues >> ↑ cost to access gambling >> ↓ problem gamblers that need access to helpline services

Or >> ↑ in those quitting leads to a ↑ in those needing services

Dynamic element – potential for short run ↑ and long run ↓

Information available in CLIC database



Results

- Lots and lots of tables….

- Only sinking lid policies resulted in decreased service use in year of implementation

  - All services (-0.372*)
  - Gamblers (-0.357*)
  - Face to face (-0.360*)
  - Brief (-0.174*)
  - Full (-0.297***)

- Per capita cap – mild evidence of increase in following year

Results

- When analysis is disaggregated, the driving force behind drop in service use is a drop in new clients, not existing clients.

- Results also suggest sinking lid reduces new clients in implementation year, but there is a small increase in the subsequent year

Conclusions

- Policy interventions at the local government level do appear to be effective – with both a direct impact on venues and EGMs, and the flow on effect on gambling expenditure

- Only the sinking lid policy is associated with drops in helpline service use

Conclusions

- Policy interventions at the local government level do appear to be effective – with both a direct impact on venues and EGMs, and the flow on effect on gambling expenditure

- Only the sinking lid policy is associated with drops in helpline service use

- Further work to do:
  - Use IDI to obtain TA level estimates of other addiction related events from the justice data. Is there evidence of substitution between addictive behaviours?

Conclusions

- Policy interventions at the local government level do appear to be effective – with both a direct impact on venues and EGMs, and the flow on effect on gambling expenditure

- Only the sinking lid policy is associated with drops in helpline service use

- Further work to do:
  - Use IDI to obtain TA level estimates of other addiction related events from the justice data. Is there evidence of substitution between addictive behaviours?
  - Working also with Kirdan Lees (Sense Partners) to explore relationship between bankruptcies and gambling locations at the neighbourhood level

Thank you

Questions?

NEW ZEALAND
WORK RESEARCH INSTITUTE

NZ Work Research Institute

@NZWorkResearch