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Local Alcohol Policies in New Zealand

an overview of their implementation and effects on crime

Abstract

We document the implementation of local alcohol policies in New Zealand and then study their impacts on crime. A key contribution of our study is that we construct a detailed data set on local alcohol policies applicable across territorial authorities between July 2014 and January 2019. To our knowledge, we are the first ones to provide such a comprehensive overview. In a subsequent analysis, we find that local alcohol policies as recently implemented in New Zealand do not appear to have reduced crime. This result holds for specific policy dimensions and their stringency (e.g., closing times and geographic restrictions on issuing new licences), and is reasonably robust across crime types, days/times of occurrence, and socio-economic subgroups. Our failure to identify significant reductions in crime following the imposition of local alcohol policies may partly reflect the policies being non-binding in some cases: for example, licensed premises had sometimes already operated within the restricted trading hours specified by a local alcohol policy.

Keywords local alcohol policies, crime

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Alcohol consumption is an important part of the sporting, home and social lives of many New Zealanders. While it is widely accepted that moderate levels of consumption yield significant private benefits and generate only small negative externalities, excess alcohol consumption generates large internal and external costs, including via violence and injury (Babor et al., 2010). For example, 18% of interpersonal violence-related deaths worldwide in 2016 were attributable to alcohol consumption (World Health Organization, 2018, p.67). Domestically, the New Zealand Police report that one in three violent crimes are committed by perpetrators who have been drinking prior to the offence (New Zealand Police, 2010, 2018), and the Ministry of Health finds that roughly one in five New Zealanders engage in drinking that carries a risk of harming themselves or others (Ministry of Health, 2019).

Alcohol availability – that is, the ease with which alcohol can be obtained – is considered to be a key environmental factor in alcohol-related crime (Babor et al., 2010). In many countries, the post-World War Two era saw a liberalisation of access

to alcohol (Stockwell and Chikritzhs, 2009). This trend has often been reversed in the last two decades, following growing public discontent with increased alcohol availability and a perceived increase in alcohol-related problems as a result (Wilkinson, Livingston and Room, 2016). Researchers have suggested that, in some circumstances, decreasing the availability of alcohol in a society leads to decreased consumption and societal problems such as crime (Stockwell and Gruenwald, 2003).

In New Zealand, the Sale and Supply of Alcohol Act 2012 set national default trading hours for alcohol outlets. The Act also gave territorial authorities the option to develop their own local alcohol policies to regulate alcohol availability through licensing constraints, such as local maximum trading hours. In this article, we document the gradual implementation of local alcohol policies and study their impact on crime.

Overall, we do not find any strong evidence of a reduction in crime following the implementation of local alcohol policies. This null result holds for a range of policy characteristics and crime types, and across various sub-samples by the day of week and time of day. Our failure to identify significant reductions in crime following the imposition of local alcohol policies may reflect policies being non-binding: as discussed further below, in some cases licensed premises appear to have already operated within the restricted trading hours specified by the policy.

Background: alcohol-related legislation in New Zealand

Prior to the end of World War Two, New Zealand had relatively strong liquor laws. In 1967 the nationwide ban on selling liquor after 6pm, which had been in place for 50 years, and was unique to New Zealand, was lifted and replaced with a 10pm nationwide closing time (Gibson, 2008). The pace of reform increased following the passing of the Sale of Liquor Act 1989, which liberalised New Zealand's alcohol-licensing regime. Licences became easier to obtain, as the earlier 'needs test', which required applicants to demonstrate that a new outlet was 'necessary or desirable' for the public, was removed (Law Commission, 2009). In addition, licences were available to a wider

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range of premises, including supermarkets and grocery stores, which were able to sell wine (Christoffel, 2006). This allowed for the rapid proliferation of alcohol outlets, which almost doubled in just five years, from around 6,200 in 1990 to 10,800 by 1995 (Hill and Stewart, 1996). Uniform hours of sale were also removed. Instead, hours were at the discretion of the Liquor Licensing Authority, which often allowed liberal closing times (Christoffel, 2006).

The year 1999 brought further changes, including the removal of the nationwide ban on the sale of alcohol on Sundays, lowering the drinking age from 20 to 18, and allowing supermarkets to sell beer (Law Commission, 2009). Per capita alcohol consumption increased by 9% between 1998 and 2008 (Law Commission, 2010).

Various reports in the 2000s drew associations between the apparent increase in alcohol availability and an increase in alcohol-related harm (Huckle, Pledger and Casswell, 2006; Kypri et al., 2017). Eventually, mounting public concern led the government to commission a comprehensive review of the current regulatory settings for alcohol in New Zealand (Maclennan et al., 2016). The Law Commission's review was completed in

2010 and called for the 1989 Sale of Liquor Act to be repealed and replaced, noting in particular that they believed it had had the effect of increasing rather than reducing alcohol-related harm (Law Commission, 2010, p.8).

In response to the commission's findings, the government introduced the Sale and Supply of Alcohol Act 2012. The Act legislates that 'the sale, supply, and consumption of alcohol should be undertaken safely and responsibly; and the harm caused by the excessive or inappropriate consumption of alcohol should be minimised'. It lists crime as one of the key harms to be minimised.

The Act introduced two main measures that constrain alcohol availability. First, it set national default trading hours of 8am–4am for club and on-licences and 7am–11pm for off-licences.¹ These restrictions reportedly led to only modest reductions in alcohol availability in urban centres. For example, Randerson, Casswell and Huckle (2018) found that just 6% of on-licence premises in New Zealand were affected by the national maximum trading hours. Second, and importantly for our purposes, the Act gave territorial authorities the option to develop local alcohol policies, which were seen as key instruments for achieving the Act's wider goal of enabling greater community input into local licensing decisions (Maclennan et al., 2016).

Through a local alcohol policy, territorial authorities can restrict the maximum trading hours beyond the national default provided in the Act.² A local alcohol policy can also include policies on the following matters relating to alcohol licensing: (1) one-way door policies, which allow patrons to leave premises but not enter or re-enter after a certain time; (2) whether further licences, or licences of particular kinds, should be issued for premises in the district concerned, or any stated part of the district; and (3) restrictions on the locations of licensed premises, by reference to the proximity to certain facilities (such as sensitive sites), premises of particular kinds or broad areas. The third only applies to new licenses, and therefore may limit the impacts of local alcohol policies in districts that already have a large number of outlets (Jackson and Robertson, 2017).

Previous evidence on local alcohol policy implementation and effects

Research to date on the implementation of local alcohol policies in New Zealand has primarily consisted of qualitative case studies and descriptive statistics. The appeals process has been a key focus. For example, a mixed methods study by Randerson, Casswell and Huckle (2018) conducted between 2013 and 2015 found that appeals, particularly by the alcohol industry, are the most frequently reported barrier to developing a local alcohol policy, with some territorial authorities deferring or halting development until appeal outcomes in other districts are confirmed. Jackson and Robertson (2017) found some descriptive evidence of delays: of the 33 provisional policies notified as of August 2017, 32 were appealed and just 21 were adopted, and there was an average of 790 days between provisional notification and adoption of the policy.

A report by UMR (2018) emphasises that although there was optimism that local alcohol policies would be an important vehicle for addressing alcohol-related harm, there was also concern that the long, costly and resource-intensive appeals process may result in some territorial authorities being tempted to 'water down' their local alcohol policies (or abandon them altogether) to avoid appeals. Jackson and Robertson (2017) document the change in the stringency of policies as they move through each stage towards adoption, and observe that less restrictive provisions tend to be included in local alcohol policies as they progress.

The New Zealand Institute of Economic Research (NZIER, 2019) measured changes in spending patterns at licenced venues after the implementation of local alcohol policies by three territorial authorities (Tauranga, Western Bay of Plenty and Waimakariri). While they did not find evidence of a reduction in total spending at on-licence premises, they observed a decline in spending during peak times following reductions in maximum trading hours. They also found strong evidence of a shift in spending from on-licence premises to liquor stores, and mixed evidence of spending at on-licence premises being brought forward (to immediately before new restricted closing hours).

In some of our analyses, we employ territorial authority-level control variables that the literature suggests may be positively associated with crime.

Data and methods

We constructed a unique panel data set on the licensing restrictions implemented in each mainland territorial authority in New Zealand (available on request) from July 2014 to January 2019. To do this, we obtained information from each territorial authority's local alcohol policy document, as published online as at 1 January 2019. We then manually recorded all key provisions and categorised them into the following local licensing restrictions: maximum on-licence trading hours (and whether on-licence premises in the central business district are allowed to extend their closing time); one-way door policy; an indicator for the club licence closing time being earlier than the on-licence closing time; a restriction on issuing new licences (including a cap on the total number of licences to be issued in an area and a restriction on the location by proximity to other licensed premises or sensitive sites such as schools); and the difference between on- and off-licence closing times. We provide a descriptive analysis of our data below.

We then matched local alcohol policy characteristics with monthly territorial authority-level crime rates³ and tested whether these local alcohol policies have reduced crime. The New Zealand Police

record each instance of a person, organisation or premise being the victim of a crime. They also record the territorial authority where the crime occurred and the crime type, and the month, day of the week and time that the crime occurred. The crime data is broken down into the following crime categories: abduction and kidnapping; assault; blackmail and extortion; illegal use of property; robbery; sexual assault; theft; and burglary. Information on crimes committed in the home (except for burglary) and homicides is not publicly available due to its sensitive nature.

In our analysis of the effects of local alcohol policies on crime, we consider territorial authorities that implement local alcohol policies as members of the treatment group, receiving doses that vary in intensity and/or type, and territorial authorities that do not implement local alcohol policies as members of the control group.⁴ Since we derive crime rates from crime counts, which take on a limited number of non-negative integer values, we estimate our regression coefficients using a Poisson estimator. We include population⁵ as an exposure variable to control for the number of people who could have committed a crime.

In some of our analyses, we employ territorial authority-level control variables that the literature suggests may be positively associated with crime. These include the proportion of young men (16–24 years old) and the New Zealand socio-economic deprivation index score in 2013 (Atkinson, Salmond and Crampton, 2014; Cameron, Cochrane and Livingston, 2016).

Characteristics of local alcohol policies as implemented from July 2014 to January 2019

Just under half of New Zealand's territorial authorities (32 out of 66) had adopted local alcohol policies by January 2019, covering a quarter of the national population (Table 1). The first was Ruapehu in August 2014; the majority of territorial authorities adopted their local alcohol policies in 2016 and 2017. Half of the territorial authorities with local alcohol policies have adopted a joint policy which two or three authorities have developed together. Overall, there are 22 individual local alcohol policies.

Table 1: Local alcohol policies adopted over time

Year	Number of territorial authorities to adopt a new local alcohol policy	Number of new local alcohol policies adopted (i.e. counting joint policies once)
2014	1	1
2015	4	3
2016	15	9
2017	7	6
2018	5	3
Total	32	22

Table 2: Latest permitted on-licence and club licence closing times among territorial authorities with local alcohol policies

	On-licence	Club licence
3am	Gore, Mackenzie, Ruapehu, [†] Southland, Timaru, Waimate	Gore, Invercargill, Southland,
2am	Ashburton, Gisborne, Hurunui, New Plymouth, ^{††} Selwyn, Stratford, Tasman, Waipā, Waitomo, Whakatāne	New Plymouth, ^{††} Porirua, Stratford, Tasman, Whakatāne
1am	Carterton, Hauraki, Invercargill, ^{††} Kawerau, Hutt City, Masterton, Matamata-Piako, Ōpōtiki, South Wairarapa, Tauranga, ^{††} Thames-Coromandel, Waikato, Western Bay of Plenty	Hauraki, Kawerau, Mackenzie, Matamata-Piako, Ōpōtiki, Ōtorohanga, Ruapehu, Tauranga,^{††} Thames-Coromandel, Timaru, Waikato, Waimate, Waipā, Waitomo, Western Bay of Plenty
Midnight	n/a	n/a
11pm ^{†††}	Waimakariri	Waimakariri, Gisborne
10pm ^{†††}	n/a	Hurunui, Selwyn

[†] Ruapehu's Waimarino-Waiouru and National Park wards have a maximum closing time of 3am, while the Taumarunui and Ōhura wards have a maximum closing time of 1am

^{††} Central business district closing time of 3am

^{†††} Weekend closing time of midnight (1am for Waimakariri)

Note: Territorial authorities in bold impose stricter closing times on the club licence than on-licence

Table 3: Latest permitted off-licence closing times among territorial authorities with local alcohol policies

	Off-licence
11pm	Gore, Invercargill, Whakatāne, Ruapehu (2014)
10pm	Carterton, Hurunui, Kawerau, Hutt City, Masterton, Ōpōtiki, Ōtorohanga, Porirua, Ruapehu (2018), South Wairarapa, Stratford, Tasman, Tauranga, Waikato, Waimakariri, Waipā, Waitomo, Western Bay of Plenty
9:30pm	Ashburton, New Plymouth
9pm	Gisborne, Hauraki, Mackenzie, Matamata-Piako, Selwyn, Thames-Coromandel, Timaru, Waimate

Our analysis is conducted at the territorial authority level, as in many instances there are different provisions applying to each territorial authority even within a joint local alcohol policy.

Territorial authorities with local alcohol policies tend to be smaller; New Zealand's four most populous territorial authorities – Auckland, Christchurch, Wellington and Hamilton – do not have local alcohol policies in force.

On-licence closing times

The latest permitted on-licence closing times adopted in local alcohol policies range from 11pm to 3am (Table 2). The most common choice is 1am. Most territorial authorities have the same closing times for on-licences and club licences. However, ten have earlier closing times for club licences. Four territorial authorities (Invercargill, Hutt City, New Plymouth and Tauranga) provide extended on-licence closing times

of 3am for on-licence premises in the central business district. Some territorial authorities have different closing times for different types of on-licences, such as restaurants or wineries.

One-way door policy

Six territorial authorities have one-way door policies as part of their local alcohol policy. In addition, Whāngārei does not have a local alcohol policy but implemented a one-way door policy during the period of study. One-way door policies come into effect one–two hours ahead of closing. Of the seven territorial authorities to implement a one-way door policy, in three cases it only applies to the central business district (Ashburton, Tauranga, Whāngārei), and in three only on Thursday, Friday and Saturday nights (Mackenzie, Timaru and Waimate). Gisborne is the only territorial authority with a one-way door policy throughout the district and on all days of the week.

Off-licence closing times

The latest permitted off-licence closing times in local alcohol policies range from 9pm to 11pm (Table 3). Just over half of territorial authorities with a local alcohol policy specified 10pm. Five territorial authorities opted to keep the national default maximum closing time of 11pm.

Restrictions on issuing new licences

Local alcohol policies include three key types of restrictions on the issuing of new licences: a cap on the total number of off-licences allowed in an area; a restriction on the location of a new licensed premise with respect to its proximity to other licensed premises; and a restriction on the location of a new licensed premise with respect to its proximity to sensitive sites. We group these three restrictions in our analysis due to the limited number of territorial authorities adopting them, as well as the significant overlap of authorities (for example, Waikato is one of only two territorial authorities to adopt a cap on further off-licences, and one of only two to adopt the proximity restriction). These restrictions are also similar in that they all aim to restrict new licensed premises from opening in a specified area.

Four territorial authorities – Stratford, New Plymouth, Waitomo and Hauraki –

include restrictions on the location of licensed premises by reference to proximity to 'sensitive sites'. The definition of a sensitive site varies. For example, in their joint local alcohol policy, Stratford and New Plymouth restrict new on- and off-licence premises outside the central business district from being within 100 metres of a school, a recreational facility or an open space designed to attract young people (e.g., a playground or a skate park), a community centre, a hospital or an addiction treatment centre.

The effects of local alcohol policies on crime⁶

To investigate the effect of local alcohol policy implementation on crime, we first estimated a simple correlation between the overall crime rate and the presence of a local alcohol policy (Table 4, model 1). This relationship is not statistically significant, meaning that we cannot reliably detect any relationship between the two variables. The results remain similar when we control for variables that reportedly increase crime, namely the percentage of young males and social deprivation (model 2). Having a local alcohol policy in force again does not lead to a reduction in crime rates. As expected, social deprivation in itself has a positive and significant relationship with crime: on average, and holding all else constant, a one-point increase in a territorial authority's social deprivation score is associated with a 0.5% increase in crimes per month.

However, the above estimates may be biased due to unobservable factors that are correlated with crime rates as well as local alcohol policy adoption. Our preferred model, therefore, controls for any stable differences across territorial authorities, as well as national (and to some extent also authority-specific) time trends, so that we can more clearly isolate any true, causal effect of local alcohol policy implementation. There continues to be no statistically significant relationship between adopting a local alcohol policy and crime (model 3). In fact, introducing appropriate controls drives the estimated effect of local alcohol policies to zero.

Using a crude binary variable to capture when a local alcohol policy is in force may disguise effects driven by different levels of stringency. In our subsequent analysis, we therefore employ a set of detailed policy

Table 4: The effects of local alcohol policy presence on overall crime rates

Dependent variable: number of crimes			
	(1)	(2)	(3)
Policy in force (yes vs no)	0.864	0.920	1.007
	(0.075)	(0.069)	(0.026)
% young males	–	1.041	–
		(0.041)	
Social deprivation	–	1.005***	–
		(0.001)	
Controls for:			
Stable differences across territorial authorities	No	No	Yes
National time trend	No	No	Yes
Territorial authority-specific time trend	No	No	Yes
Number of observations	3,630	3,630	3,630

Notes: The reported estimates are incidence rate ratios (IRRs) obtained from a Poisson regression. An IRR value greater than 1.0 indicates an increase in crime rates and a value lower than 1.0 a reduction in crime rates. Standard errors (heteroscedasticity-robust and clustered at the territorial authority level) are reported in parentheses.

*** indicates statistical significance at the 99% confidence level. None of the other IRRs reach statistical significance at the 90% level or more.

All models include population as an exposure variable.

dimensions instead. Overall, we find very little evidence that crime rates fall more in territorial authorities with more stringent alcohol policies.

Crime type

An analysis of total crimes may mask heterogeneous effects of local alcohol policies across individual crime types. Indeed, the literature primarily focuses on the link between alcohol and assault (or a slightly broader group of violent crimes). When we analyse different crime types separately, we observe that the introduction of a local alcohol policy is weakly associated with a decrease in assaults. We fail to find significant relationships between local alcohol policies and other types of crime. Similarly, we find only very weak effects of individual local alcohol policy dimensions on most crime types – including assaults – and some of the estimates even have unexpected signs, suggesting possible crime increases.

Weekend crime

To take into account well-known public drinking patterns and to focus on times when local alcohol policy provisions such as on-licence maximum trading hours are most likely to be binding, we re-estimated our models for weekend crimes. Following previous studies, some of our weekend analyses control for the number of crimes that occurred during non-weekend hours in order to compare

weekend behaviour with a baseline crime rate not expected to be affected by local alcohol policies (Tesch and Hohendorf, 2018). Similar to our other estimates, our weekend analyses do not reveal any strong relationships between local alcohol policy presence/dimensions and assaults or theft.

Time of day

It is possible that varying restrictions on trading hours affect the temporal distribution of crimes, even if they do not change the overall number of crimes. Consistent with previous studies, we investigated weekend assaults over the following time periods: 9–11:59pm, 12–2:59am and 3–5:59am. If a local alcohol policy has an effect on crime, we might expect this to be a decrease in assaults over the 3–5:59am period (i.e. after on-licence closing times) and possibly a shift in assaults to earlier time periods. Yet again, our analyses do not reveal any robust patterns consistent with this hypothesis.

Socio-demographic characteristics

Finally, we tested whether the effect of adopting a local alcohol policy on crime varies across territorial authority socio-demographic characteristics that the literature suggests are important. These include the social deprivation index, population size, the percentage of young men, and, for weekend crimes, the baseline crime rate. Our results are qualitatively

similar across subgroups, indicating that local alcohol policies do not appear to have a heterogeneous effect based on territorial authority socio-demographic attributes.

Conclusions

We constructed a unique panel data set on the recent implementation of local alcohol policies in New Zealand. In our subsequent analysis, we found little evidence that local alcohol policies introduced by territorial authorities between July 2014 and January 2019 have had a significant impact on crime. Our findings are robust to many different specifications, including: controlling for specific policy dimensions and the stringency with which they are applied; sub-sampling by different types of crimes; and sub-sampling by crimes occurring at different times of the day/week. In addition, we did not find any strong evidence of temporal shifts in assaults to earlier parts of the evening as a result of closing hours being brought forward.

Our results alone do not conclusively show that local alcohol policies, and the specific measures contained in them, are ineffective in combating crime. One reason for the absence of a change in crime rates may be that local alcohol policies that territorial authorities have implemented to date have not been very binding. Some authorities, including Gore, Invercargill, Southland and Porirua, explicitly acknowledge in their policy document that the prescribed on-licence hours reflect the actual hours observed at the time of implementation. Using Ministry of Justice data⁷ on all active licences in New Zealand between 2015 and 2018, we are able to estimate the percentage of existing licences that are likely to have been affected by maximum on-licence trading hours in the local alcohol policy.⁸ Based on active licences before local alcohol policies were

introduced in each region, none of the on-licence premises would have been affected by the local alcohol policy on-licence trading hours in two of the five territorial authorities (South Wairarapa and Porirua) that introduced local alcohol policies in 2018. Just one, five and 14 existing licences, representing 7%, 20% and 18% of total on-licences, would have been affected in Carterton, Masterton and Gisborne respectively.

NZIER's analysis of spending at licensed venues in Tauranga, Western Bay of Plenty and Waimakariri provides additional evidence that at least some local alcohol policies have imposed maximum trading hours that do not affect actual hours of operation for the majority of premises (NZIER, 2019). Spending data for licences in these districts reveals that new trading hour restrictions for both on-licences and off-licences are estimated to have affected less than 0.1% of sales. Territorial authorities may be seeking to lock in existing settings as a means of future-proofing against the possibility of more liberal district licensing committees. Our inability to find a significant impact on crime, coupled with suggestive evidence that core local alcohol policy provisions were not binding for at least some territorial authorities, is consistent with other studies and commentary to date, which emphasise the 'watering down' of local alcohol policies following legal appeal or negotiation with industry.

There are a number of valuable potential extensions. First, it would be useful to repeat this analysis using a different harm outcome variable, such as hospitalisations or motor vehicle accidents. Second, it would be useful to repeat this study with updated data on local alcohol policies which continue to be introduced in additional territorial authorities. Third, obtaining data for each territorial authority

on the actual numbers of licences, and their permitted or actual trading hours, would also be worthwhile because it would provide a more accurate picture of experienced changes in alcohol availability following the introduction of a local alcohol policy. Obtaining individual licence-level sales data, as in the NZIER study, but with an expanded scope to include all territorial authorities, would be a further step. This would be useful in enabling a more direct observation of the impact of local alcohol policies on alcohol consumption, which is the key mechanism through which alcohol availability is believed to influence crime.

- 1 On-licence and club licence premises can sell alcohol for consumption at the premise, while an off-licence premise can sell alcohol for consumption somewhere else. A club licence has an extra condition that it may only supply alcohol to authorised customers of the club.
- 2 While the option to extend trading hours past the national default also exists in theory, no territorial authority has successfully adopted such a provision in practice. Wellington included a 5am closing time in its provisional local alcohol policy. During the appeal process, however, the Alcohol Regulatory and Licensing Authority ruled that Wellington's proposed 5am closing time was unreasonable in light of the object of the Act (NZARLA, 21–8 January 2015). Auckland also included a 5am closing time in its draft local alcohol policy but decided to remove it in its provisional policy.
- 3 Obtained from the New Zealand Police website, <https://www.police.govt.nz/about-us/publications-statistics/data-and-statistics/policedatanz/victimisation-time-and-place>. Data before July 2014 was not available due to a major change in crime recording which made older records not comparable.
- 4 Details of our estimation strategy are available at <https://ideas.repec.org/p/cbt/econwp/20-02.html>.
- 5 Obtained from Statistics New Zealand's annual population estimates for each territorial authority: <http://nzdotstat.stats.govt.nz/>.
- 6 Our detailed results are available at <https://ideas.repec.org/p/cbt/econwp/20-02.html>.
- 7 <https://www.justice.govt.nz/tribunals/arla/register-of-licences-and-certificates/>.
- 8 Specifically, we look at on-licences that were active directly before the local alcohol policy entered into force, to see whether any/what percentage of these licences allowed staying open beyond the maximum trading hours that were subsequently introduced.

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Social Policy Practice and Processes

In Aotearoa New Zealand



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A wide-ranging, multi-author work covering all aspects of social policy in Aotearoa New Zealand

This book is essential reading for tertiary students in social policy and related subjects, as well as the wider policy-making community.

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Issues of race, identity and wellbeing are a constant thread throughout, as are possible future issues policymakers may have to contend with.

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