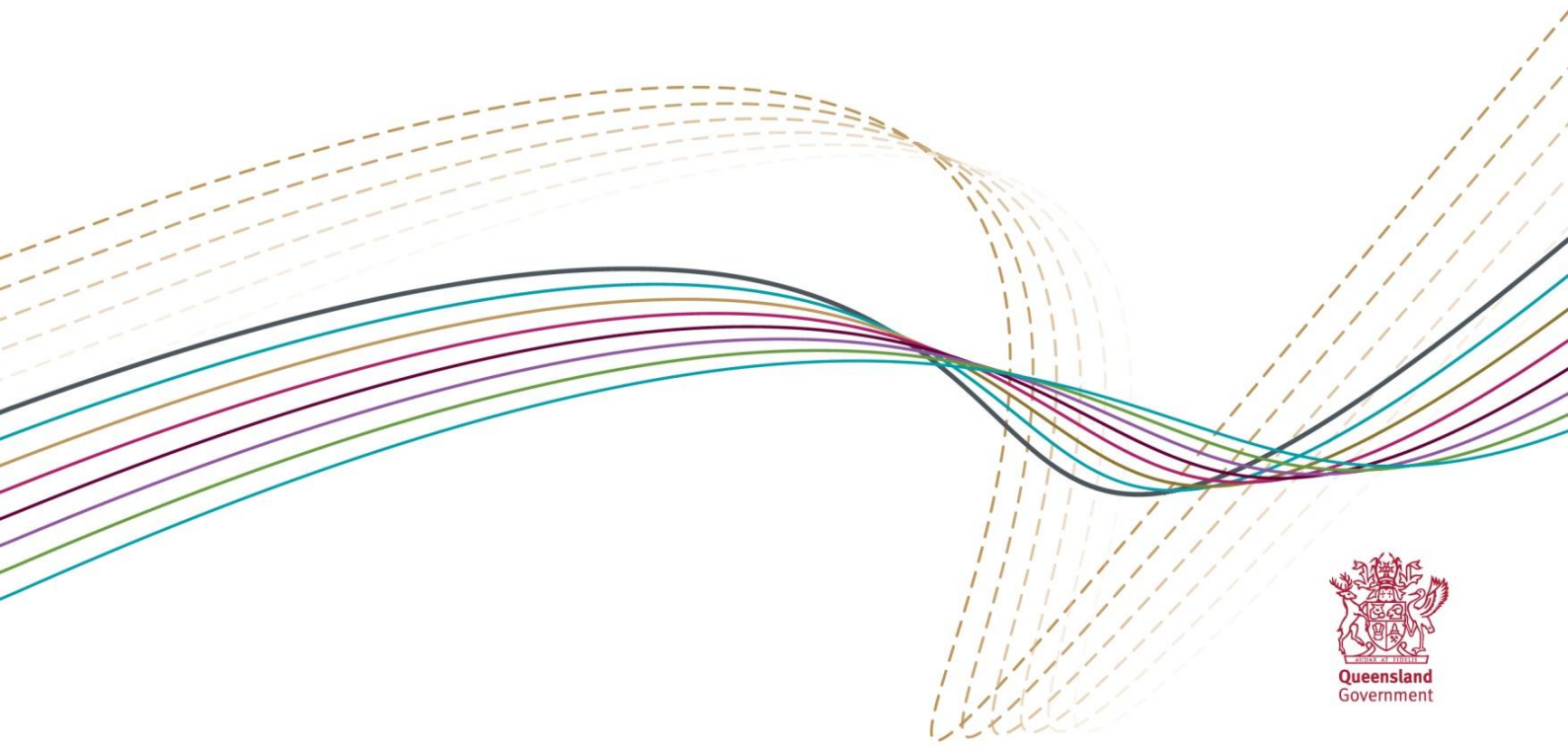
QUEENSLAND TREASURY

COVID-19 and DFV assault offence trends, March–September 2020

Crime research paper



Queensland Government

Queensland Government Statistician's Office
Queensland Treasury
http://www.qgso.qld.gov.au

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Background

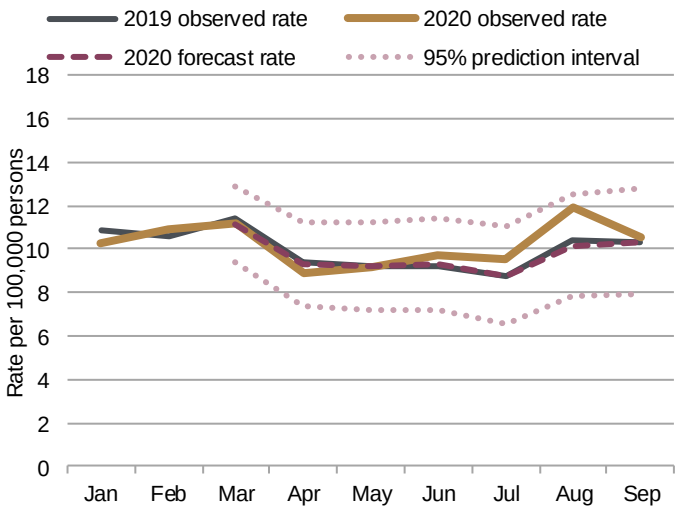
Research and social commentary have suggested that stressors relating to the COVID-19 pandemic and associated containment measures could contribute to increases in the prevalence and severity of domestic and family violence (DFV) in the community. Police administrative data were therefore investigated as a source of information regarding DFV trends during the early stages of the COVID-19 pandemic in Queensland.

The research involved examining DFV assault and breach of domestic violence order offences recorded by police between March 2020 and September 2020 (hereafter referred to as the COVID-19 months)[1]. These data were compared with forecasts based on pre-COVID-19 data to determine if COVID-19 was associated with unexpected changes in recorded DFV incidents. Rates of DFV assault were also examined in relation to socio-economic factors and assault severity.

Key findings

- The research found no evidence to suggest significantly higher than expected rates of DFV assault during the COVID-19 months when examining police data (see adjacent figure). Observed rates of DFV assault were generally consistent with forecast rates, with the slight increases observed in July and August remaining within the 95% prediction interval (and therefore not deemed statistically significant). Observed rates of breach of domestic violence order offences were also not significantly different from forecast rates.
- Examining the different types of DFV assault (DFV common assault and DFV assault causing bodily harm) did not suggest changes in the severity of recorded DFV incidents. Rates of DFV assault remained within predicted ranges across areas characterised by varying levels of socio-economic advantage/disadvantage.
- While DFV assault trends did not appear to change during the COVID-19 months, assaults involving strangers tended to decline and increase in tandem with the expansion and contraction of social containment measures.

DFV assault offence rates, Queensland



Conclusion

Analysis of police administrative data did not demonstrate any statistically significant changes in recorded DFV assault or breaches of domestic violence orders in Queensland during the early stages of COVID-19. However, other Australian-based research has found evidence to suggest increases in the prevalence and severity of DFV occurring in the COVID-19 context and relevant literature has highlighted how DFV can be underreported to the police. Further research using different sources of data (such as ambulance call outs, DFV support service utilisation and hospital separations) is therefore required to establish the impact of COVID-19 on DFV.

[1] See Appendix, Offence categories and counting rules, for the definition of *DFV assault* and other terms used in this paper.

1.0 Introduction

Previous analyses undertaken by Queensland Government Statistician's Office (QGSO) found that the containment measures aimed at reducing the impact of the COVID-19 pandemic coincided with an overall decrease in recorded crime rates in Queensland between March and June 2020, with some differences observed depending on the type of offence being considered (QGSO 2021a, 2021b). This research paper continues efforts made to monitor the potential effects of the COVID-19 pandemic on crime trends, with a focus on domestic and family violence (DFV).

The paper begins by providing background information to assist with the interpretation of research results. Research findings are then presented and discussed.

2.0 Background

This section outlines the containment measures implemented in Queensland to reduce the impact of COVID-19, describes how routine activity theory has been used to explain changing crime trends in the COVID-19 context and summarises other research discussing the possible impact of COVID-19 on DFV. This is followed by a brief description of the research approach.

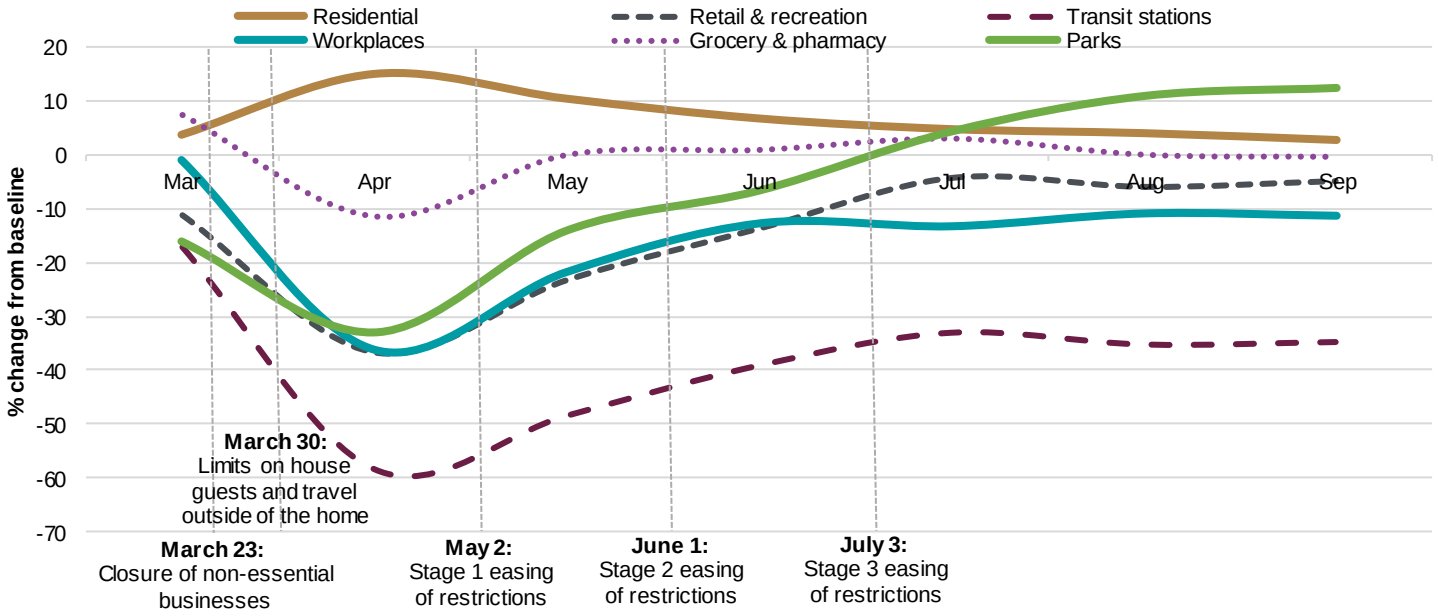
2.1. COVID-19 and associated containment measures

Figure 1 shows a clear relationship between Queensland's COVID-19 containment measures and community mobility trends. The introduction of limits on social gatherings, the closure of non-essential businesses, and home confinement measures from mid-March 2020 coincided with a reduction in movement in public spaces such as transit stations and retail and recreation locations, while more people spent time at home. The subsequent staged easing of restrictions began with stage one on 2 May, which included travel outside of the home for specified recreational activities.[2] Stage two easing of restrictions began at the start of June and included unrestricted travel within the state, more visitors allowed in the home (up to 20 people) and increased capacity at venues (including pubs and clubs). On 3 July, stage three easing of restrictions commenced and allowed for further increases in capacity at venues, larger gatherings in homes, and larger commercial events to be held. The easing of restrictions saw movement to most locations returning to similar levels to what was seen prior to the pandemic from around June and July. However, movements associated with transit stations remained relatively lower as many people continued to work from home where possible.

The COVID-19 pandemic has been associated with a variety of negative personal, social and economic outcomes. This includes increases in stress and anxiety (Biddle et al. 2020a), financial instability (Australian Bureau of Statistics (ABS) 2020a) and harmful levels of drug and alcohol consumption in some groups (Australian Institute of Health and Welfare 2020; Biddle et al. 2020b). It has also been associated with isolation from informal social support networks (Morgan and Boxall 2020) and disruptions to formal support service availability and delivery (Biddle and Gray 2020; Carrington et al. 2020). Although the more restrictive social distancing measures began to ease from May 2020, the ongoing impacts of the COVID-19 pandemic across different groups within the community continue to be monitored (ABS 2020b; Melbourne Institute 2020).

[2] On 16 May, restrictions were eased further to allow for many non-essential businesses (including pubs and clubs) to reopen at reduced capacity, up to five visitors in homes, and recreational travel up to 150 kilometres from home within Queensland.

Figure 1 Queensland community mobility trends[3] and timing of COVID-19 containment measures, 2020



2.2. Impacts of COVID-19 and associated containment measures on crime

Reductions in overall recorded crime were observed in the initial stages of the pandemic around the world, which coincided with the use of social containment measures aimed at reducing the spread of COVID-19. Routine activity theory has often been used to explain changes in recorded crime trends (Campedelli et al. 2020; Halford et al. 2020; Hodgkinson and Andresen 2020; Payne, Morgan and Piquero 2020; Stickle and Felson 2020).

Routine activity theory suggests that three elements must converge for a crime to occur: motivated offenders, suitable targets and an absence of capable guardianship (Cohen and Felson 1979).[4] Social containment measures have impacted these elements in various ways. For example, the closure of many retail businesses along with increased home guardianship resulting from home confinement may reduce the opportunities for property offences, such as shop stealing and unlawful entry of dwellings. Some research has also referred to the way in which negative personal, social and economic outcomes resulting from the pandemic could contribute to an increase in offending, particularly violent offending (Payne, Morgan and Piquero 2020). The latter is discussed further below in relation to DFV.

2.3. Emerging commentary and research on the impact of COVID-19 on domestic and family violence

There has been media and research attention dedicated to understanding the impact of COVID-19 on DFV given concerns regarding the safety of victims. Boxall, Morgan and Brown (2020) summarised the various factors that could potentially contribute to an increase in the prevalence and severity of DFV as being:

- victims having increased exposure to offenders due to reduced social mobility
- limited victim access to support due to social isolation and reduced social movement
- possible increases in situational stressors associated with DFV (for example, financial stress, job insecurity and increased alcohol use)
- the use of violence and abuse by offenders as a means of creating a sense of control because they feel situational stressors are beyond their control.

[3] Google's (2020) *COVID-19 Community Mobility Reports* provide a measure of how visits and length of stay at different locations changed compared with the baseline period (3 January to 6 February 2020). Percentage change from baseline trends represents monthly averages of daily percentage changes from baseline.

[4] Guardianship is 'the physical or symbolic presence of an individual (or group of individuals) that acts (either intentionally or unintentionally) to deter a potential criminal event.' (Hollis-Peel et al. 2011, p. 4).

The research evidence to date has resulted in mixed findings regarding the impact of COVID-19 on DFV, with some Australian research indicating an increase in the prevalence and severity of DFV during the early stages of the pandemic and other research finding no evidence of change. The differences in findings can largely be understood in terms of the methods used to examine the issue. For example, a survey of Australian women found that the pandemic coincided with the onset of DFV and/or increases in the frequency and severity of DFV (Boxall, Morgan and Brown 2020), and a survey of Australian support workers undertaken between June and August 2020 found perceived increases in the complexity of DFV clients' needs, increases in the controlling behaviours of DFV perpetrators, and increases in the number of clients seeking assistance for the first time (Carrington et al. 2020). This compares with research using police data which indicated DFV-related assault in New South Wales (Freeman 2020; Freeman and Leung 2021) and breach of domestic violence order offences in Queensland (Payne, Morgan and Piquero 2020) did not increase in March and April 2020 following the introduction of containment measures. However, analyses of DFV incidents attended by Victorian police suggested that, while no significant changes were apparent in March and April 2020, DFV incidents were slightly higher than expected in May and June 2020 (Rmandic et al. 2020).

Given that police administrative data reflect (among other issues) the reporting behaviour of victims, the sometimes-conflicting information apparent in the available research regarding DFV may be somewhat explained by a reduced ability of victims to report DFV to the police due to social containment measures (Carrington et al. 2020; Fitz-Gibbon and Meyer 2020; Foster et al. 2020).[5] Other research has also highlighted the complexity of help-seeking decisions in the DFV context (Meyer 2009), and it is possible that the situational factors affecting reporting behaviour changed during the early stages of the pandemic. For example, an increased exposure to financial insecurity (a possible impact of COVID-19) may influence the likelihood of a victim reporting DFV (Arenas-Arroyo, Fernandez-Kranz and Nollenberger 2020; Foster et al. 2020). Some research has suggested that women may be experiencing DFV for the first time during the COVID-19 pandemic (Boxall, Morgan and Brown 2020; Carrington et al. 2020), which can be understood in light of other research which found that women with prior DFV experience are more likely to report DFV to the police (Voce and Boxall 2018).

Having recognised the possible limitations of using police administrative data, there is still value in exploring these data as part of a broader strategy to measure and monitor the impact of COVID-19 on DFV in Queensland. This objective forms the basis of research discussed in this paper which is framed by the following key questions.

Does analysis of police administrative data provide any indication that the COVID-19 pandemic coincided with changes in:

- rates of DFV assault offences or breach of domestic violence order offences?
- rates of DFV assault in relation to the socio-economic characteristics of the location in which the offences took place?
- the severity of DFV assault?

2.4. Research approach

The research project involved comparing rates of DFV assault and breach of domestic violence order offences recorded by police between March 2020 and September 2020 (hereafter referred to as the COVID-19 months) with forecasts based on pre-COVID-19 data. Trends in DFV assault were also examined with regard to the socio-economic characteristics of the location in which the assault occurred and assault severity. DFV assault was conceptualised as assault offences occurring between intimate partners and family members.

Forecasting was performed to determine if the observed monthly offence rates since COVID-19 containment measures were introduced in March 2020 were significantly different to what would be expected if the pandemic had not occurred. If the observed rate was outside of the 95% prediction interval (forecast range), it was deemed to be significantly different from a statistical perspective. The observed rate was also compared to the forecast point estimate as a measure of the size of difference or change between observed and expected rates.

Further information on data source, data categorisation, forecasting techniques and research limitations is available in the Appendix. Research findings relating to DFV assault are contextualised within broader offence trends and assault involving strangers and non-family members (friends and acquaintances).

[5] Concerns about increased difficulties for victims of DFV to report to police informed an initiative by the Queensland Police Service to establish a new online DFV reporting tool (Queensland Government 2020).

3.0 Results

Queensland police administrative data were analysed to support efforts to monitor the potential impact of COVID-19 on DFV. Overall, the results indicate that DFV assaults recorded by police during the COVID-19 months were not statistically different to what may have been expected should COVID-19 had not occurred. However substantial decreases in some types of offences occurred and assaults involving strangers and non-family members changed substantially during the observation period.

This section includes information on total offence trends to contextualise the DFV-related information discussed subsequently. Readers should note that different scales are used to present findings in figures included across the results section.

3.1. Overall offence trends

Queensland's observed rate of total offences occurring between January 2020 and September 2020 is displayed in Figure 2, which shows that COVID-19 was associated with changes in recorded crime overall. A substantial decrease in total offences occurred after the introduction of strict containment measures at the end of March 2020, with the total offence rate dropping from 875 offences per 100,000 persons in March to 685 in April (–21.7%). The observed total offence rate remained significantly below forecast offence rates in all subsequent COVID-19 months despite the easing of containment measures.

Figure 2 also shows that decreases in Queensland's total offence rate during the COVID-19 months were largely driven by a reduction in property offences which also accounted for the majority of total recorded offences during this period.[6] The property offence rate declined from 464 to 303 offences per 100,000 persons between March and April 2020 (–4.8%), and then remained relatively stable until increasing slightly in August. This compares with the rate of 'other' offences, which increased by 19.6% from April to May (336 to 401 offences per 100,000 persons) and then remained relatively stable until August, before declining in September.[7] Other research undertaken by QGSO shows that 'other' offences trends were largely driven by changes in recorded illicit drug offences (QGSO 2021b).

Offences against the person (less common than other types of offences) were characterised by different trends to those of property and 'other' offences during the COVID-19 months.[8] The rate of offences against the person initially decreased from 58 offences per 100,000 persons in March 2020 to 46 in April (–20.3%), then subsequently increased each month from May (46) through to August (66) before decreasing in September (63 offences per 100,000 persons). While not immediately apparent in Figure 2, trends of offences against the person tended to align with the use and then gradual relaxation of COVID-19 containment measures and related shifts in community mobility shown in Figure 1. These trends become more evident in Figure 3 to Figure 6.

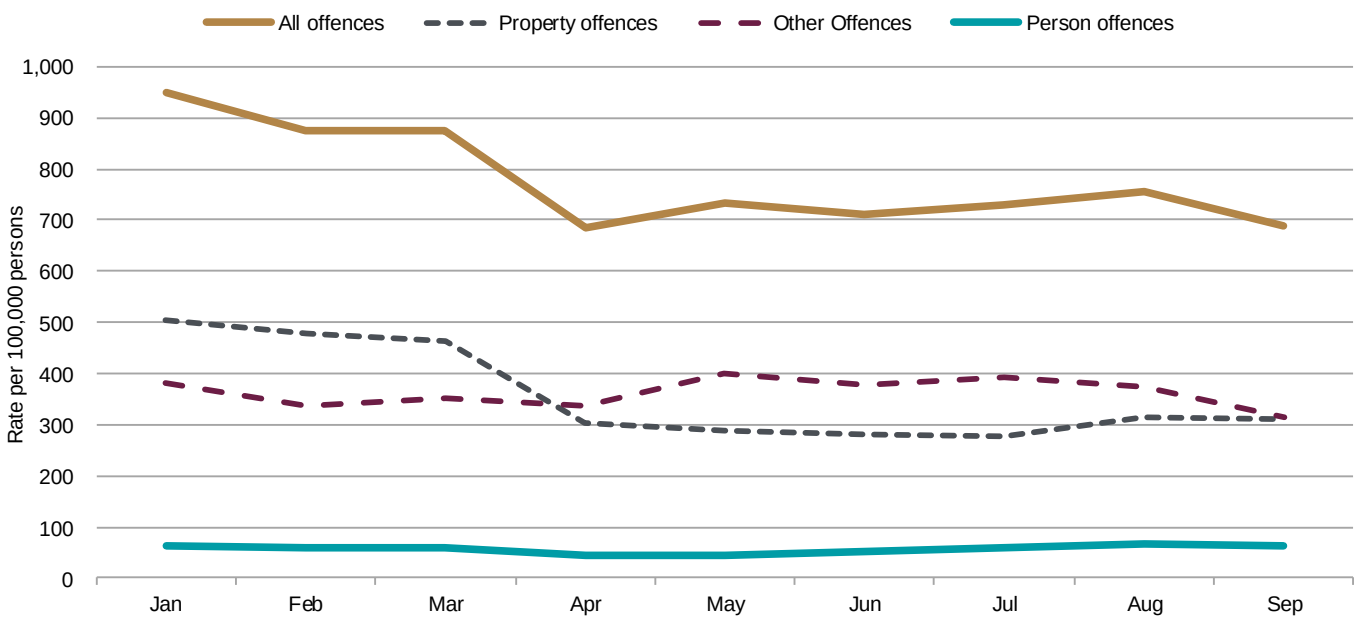
Further analyses (data not shown) revealed that trends of offences against the person were largely influenced by assault offences, which accounted for 70.5% of offences against the person in the COVID-19 months. Given this, and the DFV focus of this paper, trends in observed assault rates are compared next.

[6] Property offences include unlawful entry, arson, unlawful use of motor vehicle, other theft, fraud, and handling stolen goods.

[7] 'Other' offences include illicit drug offences, breach of domestic violence order, Weapons Act offences, good order offences and traffic offences.

[8] Offences against the person include homicide and related offences, assault, sexual offences and robbery.

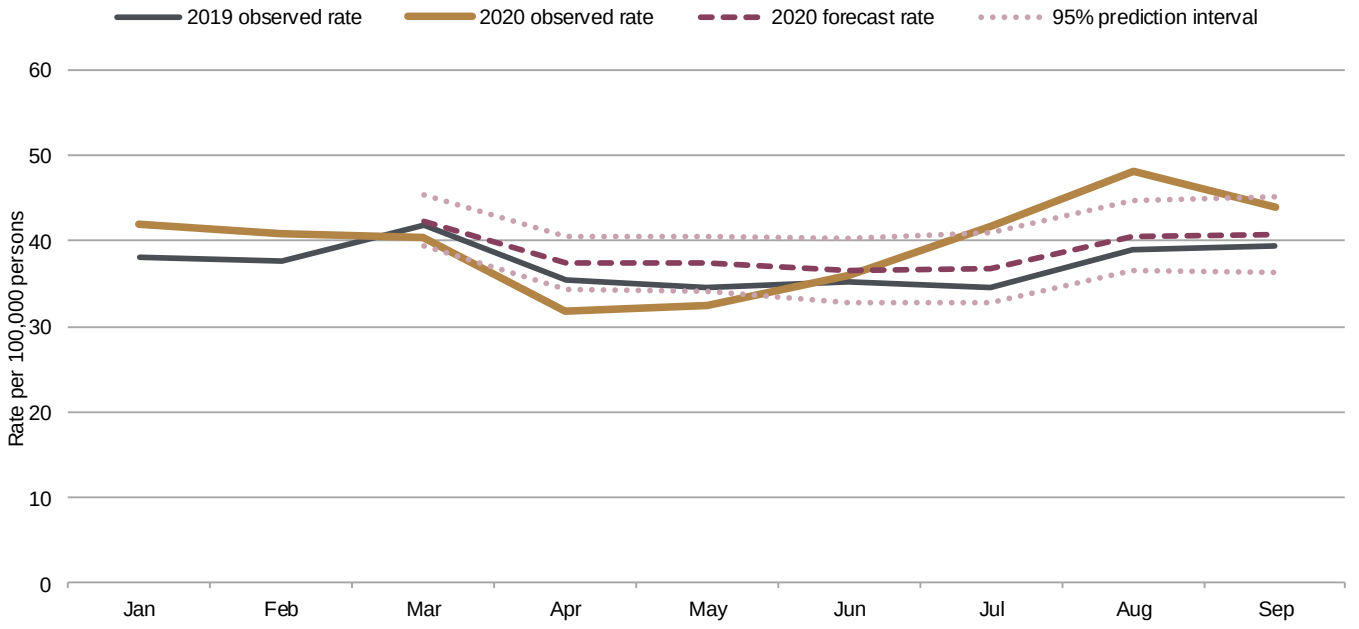
Figure 2 Rates of recorded offences by category, January to September 2020



3.2. Assault offence rates

The rates of observed recorded assault offences were significantly below forecast rates in April and May 2020, and significantly above forecast rates in July and August 2020 (Figure 3). A decrease in the assault offence rate coincided with the implementation of COVID-19 containment measures (declining by 21.3% between March 2020 and April, from 40 to 32 offences per 100,000 persons). Recorded assault offences then increased each month as social mobility rose (to a peak of 48 per 100,000 persons in August), before decreasing to 44 per 100,000 persons in September.

Figure 3 Assault offence rates



The following analyses explore if there was any variation in assault trends in relation to the offender–victim relationship. This follows the ideas of routine activity theory that suggest COVID-19 type containment measures would differentially impact opportunities for different types of assault.

3.3. Assault offence rates by relationship between offender and victim

Figure 4 through Figure 6 show observed rates of recorded DFV assault, assaults involving strangers, and assaults involving non-family members in relation to forecast rates.[9] Observed rates of DFV assault remained within the 95% prediction interval in all COVID-19 months, while assaults involving strangers and assaults involving non-family members saw some significant deviation from forecasts.

Rates of DFV assault decreased from 11 to 9 offences per 100,000 persons between March 2020 and April 2020, however this reduction was consistent with the seasonal decline apparent in 2019 and forecast trends (Figure 4). The rate of recorded DFV assault then rose to a peak in August 2020, followed by a drop in September. While observed DFV assault rates exceeded forecast rates in some COVID-19 months, they remained within the 95% prediction interval and therefore do not appear to have been impacted significantly by the COVID-19 containment measures.

Conversely, trends in assaults involving strangers and assaults involving non-family members did exceed forecast rates during some COVID-19 months (Figure 5 and Figure 6). Observed rates of assault involving strangers fell below predicted levels in April 2020 (10 offences per 100,000 persons) and May (11) and were higher than expected in August (17). Assaults involving non-family members saw similar trends from March 2020 to April (from 11 to 9 offences per 100,000 persons), with offence rates slightly below the 95% prediction interval in May (9). Observed rates of assault involving non-family members subsequently increased each month, peaking in August 2020 at 13 offences per 100,000 persons, and were significantly above predicted rates in July and August. Assaults involving strangers and assaults involving non-family members have largely driven the total assault trends shown in Figure 3 and align with the escalation and relaxation of COVID-19 containment measures.

Figure 4 DFV assault offence rates

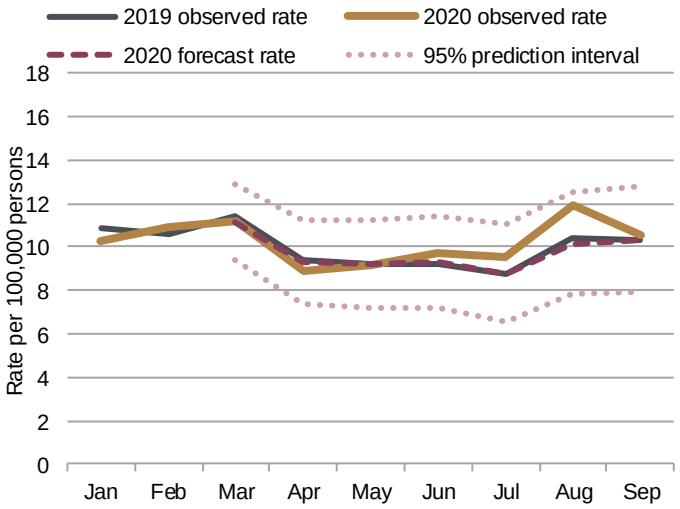
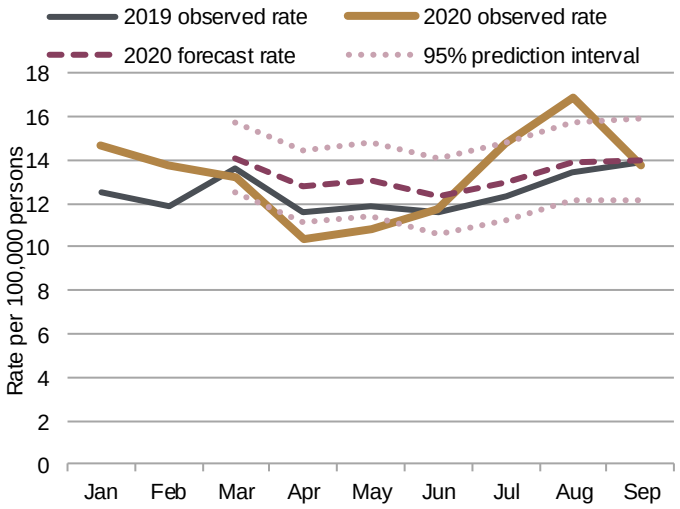
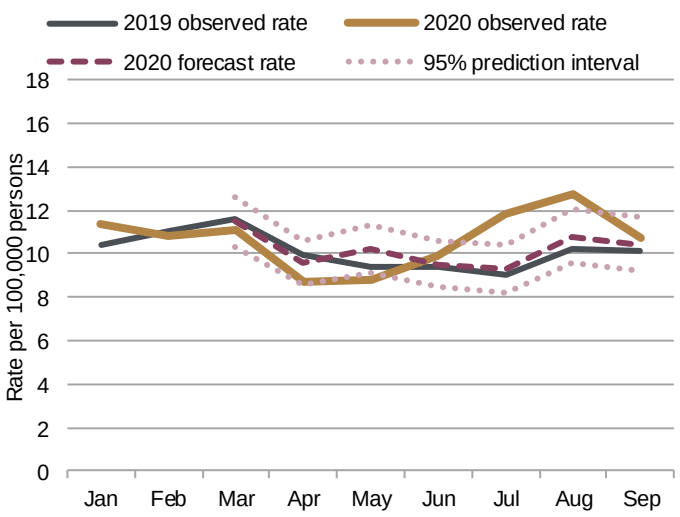


Figure 5 Stranger assault offence rates



[9] DFV assault includes assaults involving intimate partners and family members. Between March and September 2020, recorded DFV assaults comprised 25.9% of all assaults, while assaults involving strangers and assaults involving non-family members accounted for 33.4% and 26.9% respectively.

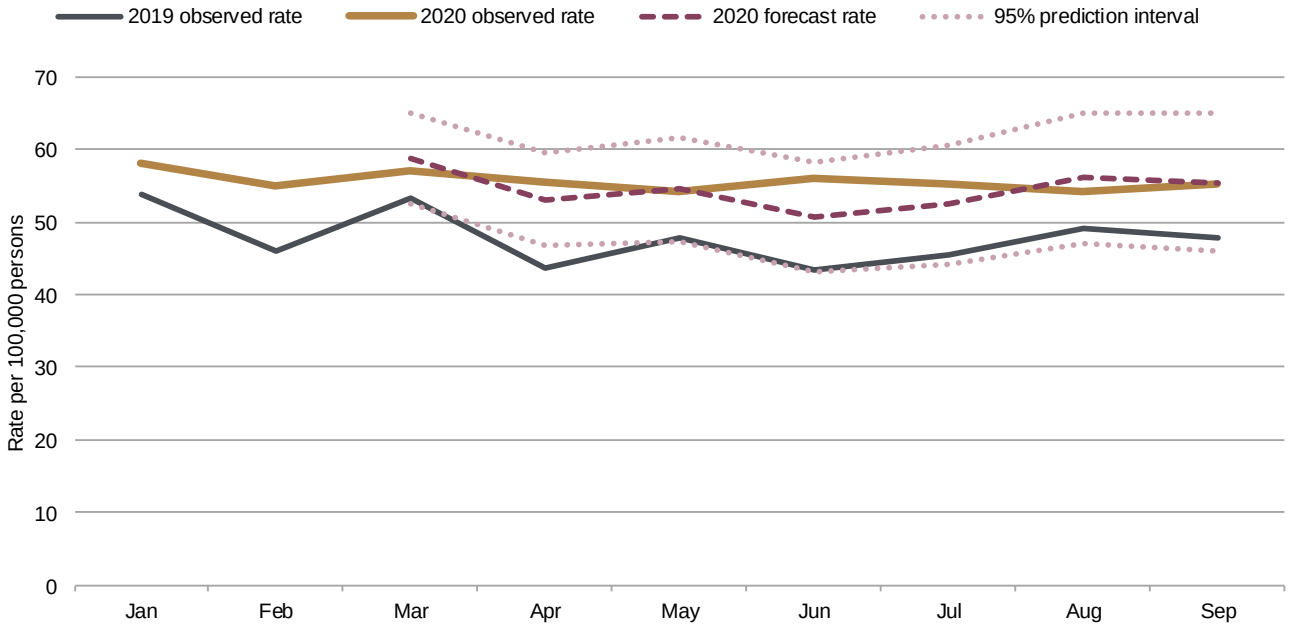
Figure 6 Non-family assault offence rates



The above data provide some indication that observed recorded DFV assault rates did not significantly differ from pre-COVID trends during the COVID-19 months. Offences relating to breach of domestic violence order offences (which are more common than recorded DFV assault offences) are presented below as another potential indicator of DFV available in police administrative data.[10]

Figure 7 shows that the observed rate of recorded breach of domestic violence order offences exhibited little change and remained within expected ranges during COVID-19 months—varying between 54 and 57 offences per 100,000 persons. That said, the rate was consistently above that recorded as occurring during the same period in 2019.[11] During the COVID-19 months, there were 19.2% more breach of domestic violence order offences compared with the same period in 2019 (16,861 offences in 2019 compared with 20,090 offences in 2020).

Figure 7 Breach of domestic violence order offence rates



[10] A domestic violence order is a civil order of the court requiring a person to (among other things) be of good behaviour and not commit domestic violence against a specified person or persons. It is a criminal offence to breach a domestic violence order.

[11] Growth in breach of domestic violence order offences observed between 2019 and 2020 is consistent with longer term trends. Other research undertaken by QGSO has shown increases in the number of domestic violence orders imposed (QGSO 2021c) and recent legislation (effective May 2017) increased the duration of domestic violence orders from a minimum of two years to five years (unless the court is satisfied that there are reasons for a shorter order) which will in effect have increased the number of orders in operation. Raised community awareness and efforts to provide a more supportive criminal justice system may have also promoted higher DFV reporting rates.

While police–recorded DFV assaults and breach of domestic violence order offences did not significantly change following the introduction of COVID-19 containment measures, further analyses were undertaken to determine if DFV assault trends varied in relation to other contextual factors. The following analyses explore rates of recorded DFV assault across locations characterised by varying levels of socio-economic disadvantage and advantage.

3.4. DFV assault offence rates by SEIFA[12]

Figure 8 to Figure 12 present rates of DFV assault by the offence location's SEIFA quintile. SEIFA quintile 1 (SEIFA 1) represents locations experiencing the greatest socio-economic disadvantage, while SEIFA quintile 5 represents the locations of greatest socio-economic advantage. During the COVID-19 months, the majority of DFV assaults occurred in SEIFA 1 and SEIFA 2 locations (35.7% and 22.6% respectively), while SEIFA 3 locations accounted for 19.5% of DFV assaults. Locations experiencing the highest relative socio-economic advantage accounted for the smallest proportions of DFV assault, with 15.8% occurring in SEIFA 4 locations and 6.2% occurring in SEIFA 5 locations.[13]

The upward trend in DFV assaults observed in August 2020 (see Figure 4) appears to largely be driven by increases in DFV assaults recorded as occurring in the most disadvantaged locations (SEIFA 1) (Figure 8). Rates for DFV assault in SEIFA 1 locations increased between July and August from 19 to 24 offences per 100,000 persons. However, these rates remained within the 95% prediction intervals. DFV assault rates in other SEIFA locations remained around or below predicted rates in all COVID-19 months (Figure 9 to Figure 12).

Further analyses (data not shown) showed that DFV assault trends differed to those for assaults involving strangers and non-family relationships across SEIFA locations. For example, in SEIFA 4 locations rates of assault involving strangers were significantly above forecast in July, as were rates for assault involving non-family members in July and August. This may be related to increased mobility in entertainment precincts as restrictions eased, many of which are in, or near, SEIFA 4 locations (for example, Fortitude Valley in Brisbane).

Figure 8 DFV assault offence rates in SEIFA 1 locations

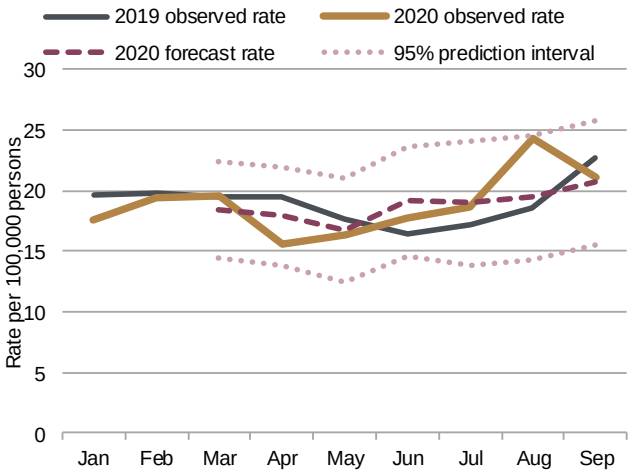
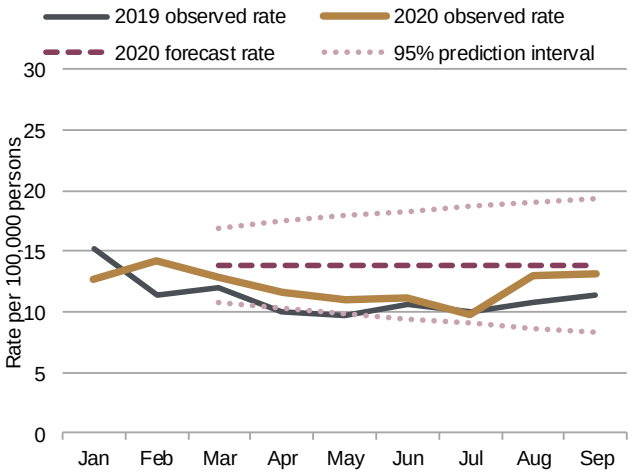


Figure 9 DFV assault offence rates in SEIFA 2 locations



[12] SEIFA is an index developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage and are indicative of the collective socio-economic characteristics of the people living in a geographic area (ABS, *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), 2016*, March 2018 release). The geographic area used for SEIFA analyses in this paper is statistical area level 2 (SA2).

[13] It is recognised that DFV occurs across all socio-economic groups and that socio-economic disadvantage may be both a risk factor and an outcome of DFV (Australian Institute of Health and Welfare 2019).

Figure 10 DFV assault offence rates in SEIFA 3 locations

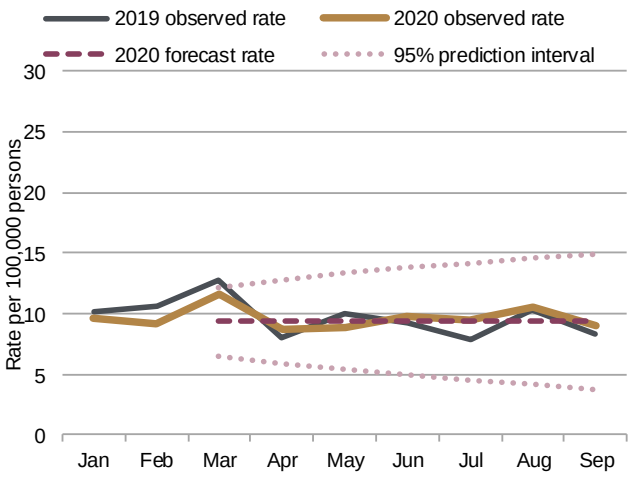


Figure 11 DFV assault offence rates in SEIFA 4 locations

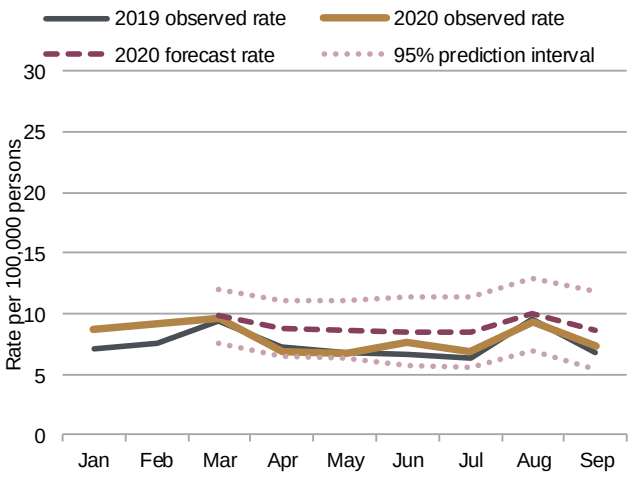
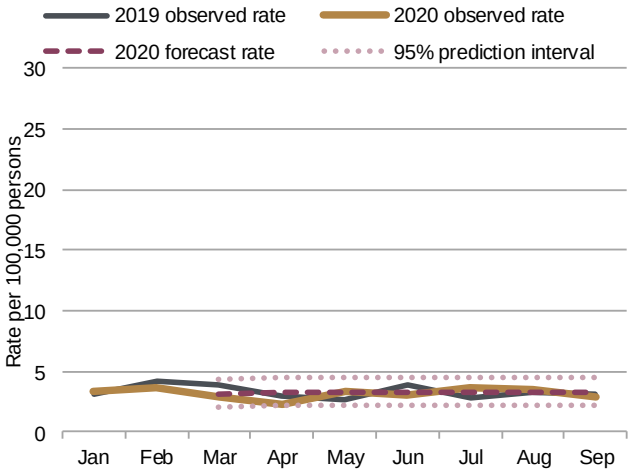


Figure 12 DFV assault offence rates in SEIFA 5 locations



3.5. DFV assault severity

Figure 13 and Figure 14 show the rates of DFV common assault and DFV assault causing bodily harm. Common assault is considered a less serious form of assault and includes striking or applying force to another, or threatening to do so, causing minor or no injury. Assault causing bodily harm is considered more serious and accounts for those assaults that result in injuries that interfere with a victim's health or comfort (e.g. needing hospital treatment or time off work) (Queensland Government 2018). In the COVID-19 months, observed DFV common assault offences accounted for 42.7% of all DFV assault offences, while DFV assault causing bodily harm accounted for 53.8%.[14]

Observed rates of DFV common assault and DFV assault causing bodily harm were within 95% prediction intervals for all COVID-19 months. While both types of assault saw initial decreases between March and April 2020, which were similar to 2019 and expected trends, observed rates of DFV assault causing bodily harm increased in May and June 2020 while DFV common assaults remained lower. Rates for both DFV common assault and DFV assault causing bodily harm increased and peaked in August 2020 at 5 and 7 offences per 100,000 persons respectively. These data suggest that recorded rates of more severe forms of DFV assault did not significantly increase during the COVID-19 months, however

[14] Other types of assault (including assault occasioning grievous bodily harm, torture and wounding) could not be reliably forecast due to small offence counts.

there is some indication that recorded rates of DFV assault causing bodily harm increased in some months while DFV common assault did not.

Additional analyses (data not shown) indicated that the initial decrease in assaults involving strangers and non-family members (see Figure 5 and Figure 6) was driven by significant declines in assaults causing bodily harm. Subsequent growth occurring in July and August was underpinned by increases in both common assault and assault causing bodily harm.

Figure 13 DFV common assault offence rates

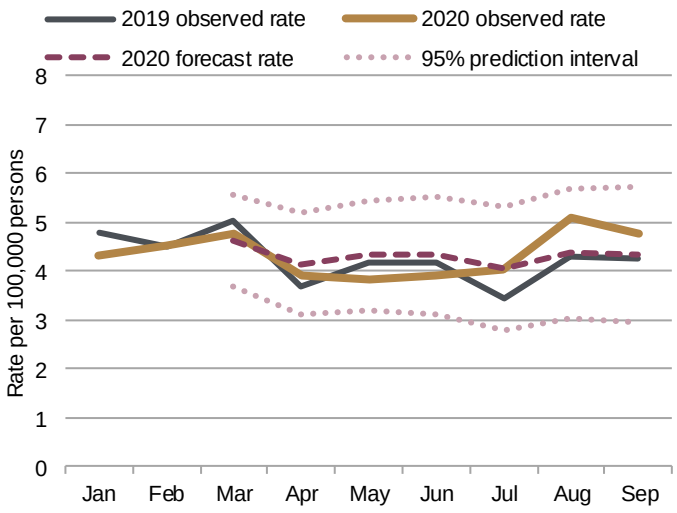
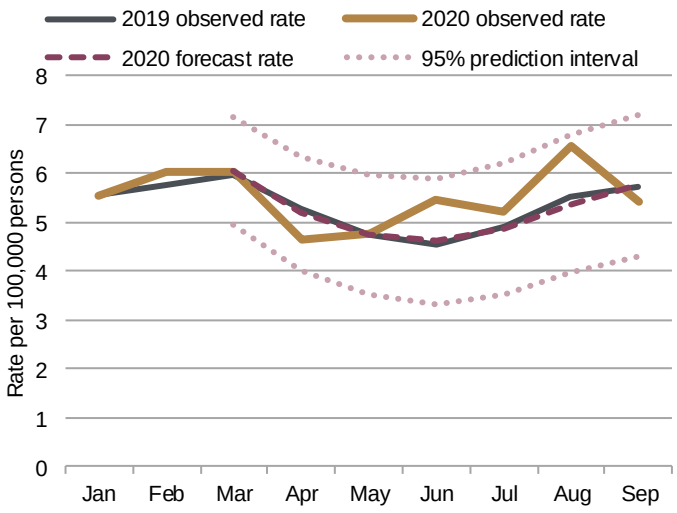


Figure 14 DFV assault causing bodily harm offence rates



4.0 Conclusion

The research presented in this paper did not find any statistically significant differences in DFV assault recorded by police in Queensland during COVID-19 months when seasonal and historical trends were taken into account.[15] However, analyses of police administrative data provide one indicator of DFV trends, and other research has found evidence to suggest increases in the prevalence and severity of DFV in relation to the COVID-19 pandemic (Boxall, Morgan and Brown 2020; Carrington et al. 2020; Pfitzner et al. 2020). Further research is required to understand if differences in research findings can be explained by changes in a) reporting practices, b) the profile of people experiencing DFV and/or c) the type of DFV offences being committed in the COVID-19 context. Ongoing monitoring of DFV using various sources of data will be important to understanding and responding to DFV as recovery from the COVID-19 pandemic continues.

COVID-19 containment measures appear to have impacted non–DFV related assaults. That is, decreases in assaults involving strangers or non-family members coincided with decreases in social mobility. Ongoing monitoring of these types of offences will provide further insight into the impact of COVID-19 on crime trends.

[15] Slight increases in the DFV assault rate were observed in June, July and August 2020, but these did not exceed 95% prediction intervals of forecasts.

5.0 References

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Appendix – Research approach

Further information on the approach used by the research project is provided below. This includes information on the data used to address the project's key research questions, the operationalisation of key concepts, forecasting techniques and research limitations.

Data source

Administrative data from the Queensland Police Service (QPS) form the basis of the quantitative analyses undertaken as part of the research project. These monthly data were derived from official crime reports recorded in the Queensland Police Records and Information Management Exchange (QPRIME). The data cover January 2015 to September 2020 and were current at the time of extraction on 9 November 2020. The dynamic nature of QPRIME means data are subject to change.

QPS offence classifications, Australian and New Zealand Standard Offence Classification (ANZSOC) schemes and the relationship between offender and victim recorded by police were used to categorise the offence groups examined by the research. The location (statistical area level 2 (SA2)) in which each offence occurred was assigned to a quintile group that represents the location's relative advantage/disadvantage using the Socio-Economic Indexes for Areas (SEIFA)[16]. Monthly counts of offences were converted to rates per 100,000 persons so that direct comparisons across time and location could be made.

Offence categories and counting rules

DFV assault was conceptualised as assault offences (ANZSOC subdivision 021) involving intimate and family relationships, as these constitute a 'relevant relationship' according to the *Domestic and Family Violence Protection Act 2012 (Qld)*. Intimate and family relationships include ex-partners, relatives, parent, child, couple and spousal relationships. Information is also presented on *assault offences involving strangers* (ANZSOC subdivision 021) and *assault offences involving non-family relationships* (ANZSOC subdivision 021). Non-family relationships include acquaintances, friends and work colleagues. Informal care relationships also constitute a 'relevant relationship' as defined by legislation, however recorded DFV involving informal care relationships is not common.

More detailed examination of DFV assaults was enabled through the use of the Australian Standard Offence Classification (Queensland Extension) (QASOC) which enables more specific categorisation of assaults.[17] *DFV common assault* relates to common assault offences (QASOC 02131) involving intimate and family relationships, while *DFV assault causing body harm* relates to assault occasioning actual bodily harm (QASOC 02114) involving intimate and family relationships.

The counting rules used to generate offence counts are based on guidelines provided by the ABS to jurisdictional crime data custodians for national reporting purposes. For each incident where a victim is recorded, the most serious offence (MSO) for each relevant offence subdivision apparent within the incident is counted. By applying the MSO rule across the different offence subdivisions occurring within the incident, a single criminal incident may result in several offences being counted. For example, if a person is kidnapped and assaulted twice, one kidnapping offence and one assault offence is counted. For offences against the person, there is one exception to these counting rules:

- sexual offences—for each victim, the MSO per offence subdivision is counted on the basis of time and place.

The reference date used to generate monthly crime counts shown in this paper is the date the offence occurred. This ensures that only offences committed during the focus period, rather than historical offences, are included for analysis. Crime statistics developed by QGSO and other agencies generally use the date an offence was reported to (or became known by) police to generate offence trends, rather than the date the offence occurred.

[16] SEIFA is an index developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage and are indicative of the collective socio-economic characteristics of the people living in a geographic area (ABS, *Socio-Economic Indexes for Areas (SEIFA)*, March 2018). The geographic area used for SEIFA analyses in this paper is statistical area level 2 (SA2).

[17] QASOC (https://www.qgso.qld.gov.au/about-statistics/statistical-standards-classifications/australian-standard-offence-classification-queensland-extension) was developed for use by Queensland agencies when more detail is needed, and is an extension of ABS' *Australian and New Zealand Standard Offence Classification*.

Rate calculations

To calculate offence rates, estimated resident population (ERP) figures from the ABS were obtained for Queensland[18] and for Queensland statistical areas level 2 (SA2).[19] [20] SA2 regions were assigned to a quintile group that represents their relative advantage/disadvantage using SEIFA. There may be variability of SEIFA between SA1 regions located within a single SA2.[21]

Forecasting

For each separate forecast model discussed in this report, three forecasting methods were constructed and compared to determine the best forecasting model to use[22]: an exponential smoothing state space (ETS) model, a non–seasonally adjusted auto–regressive integrated moving average (ARIMA) model, and a seasonally adjusted ARIMA model. Within each model type, the model specification and parameters were automatically selected based on the model with the lowest Akaike Information Criterion (AIC) value. The three resultant models were then compared and the most appropriate model chosen based on the best forecast accuracy (i.e. the model with the lowest level of error as measured by the mean absolute percentage error (MAPE).[23] Monthly data from January 2015 to June 2019 were used to train the model, with monthly data from July 2019 to February 2020 used to test the model.

Once the best model was selected, offence rates were forecast from March to September 2020, based on monthly data from January 2015 to February 2020.[24] As noted previously, COVID-19 containment measures were introduced in the latter half of March 2020, with substantial changes in community mobility in Queensland starting in that month as well. It was therefore decided that March 2020 should be included in forecasting, rather than used as an observed value from which to forecast.

Limitations

Limitations which should be considered in the interpretation of research findings include:

- The data used for analyses relate to recorded offences (those reported to or detected by police) and do not provide an accurate and true measure of all offending within Queensland. This is because not all offending is reported to, or detected by, police. Other publications may refer to recorded offences as reported offences.
- In Queensland, when a domestic violence order is breached due to an assault incident, police generally record a breach of the order, but may not necessarily record the associated criminal offence (ABS 2020c). Further, if no domestic violence order is in place, and the person experiencing DFV does not wish to proceed with criminal charges, the police may issue a police protection notice (PPN) and create an incident record, without recording the alleged criminal offence (ABS 2020c). These practices will impact DFV assault offence counts and there may be variability in the recording of DFV-related offences across the state given the availability of police discretion.
- The offence date used for analyses in this report is the date an offence occurred, not the date an offence was reported to or detected by police. This means that the crime rates for the most recent months are subject to some undercounting as offences taking place in a particular month may not be reported in the same month. For example, an offence could occur in September, but not be reported to police until October. In this case, the offence would not be counted in September rates until October data are included in analyses.
- The use of forecasting based on historical trends relies on the strength of the relationship between past and future values. Where volatility or low counts exist in the data, forecasts can become less reliable and result in wider prediction intervals, making statistical inference difficult. It is also possible that any divergence from the forecast trends is due to other factors, unrelated to COVID-19 containment measures, that occurred at or around the same time as the pandemic.

[18] Population estimates for Queensland are sourced from ABS, *Australian Demographic Statistics, Australia*.

[19] There are 528 SA2s within Queensland. SA2s are one of the spatial units defined under the *Australian Statistical Geography Standard* (ASGS). The ASGS is a hierarchical geographical classification, defined by the ABS, which is used in the collection and dissemination of official statistics. The ASGS provides a common framework of statistical geography and thereby enables the production of statistics which are comparable and can be spatially integrated. SA2 population estimates for Queensland are sourced from ABS, *Regional Population Growth, Australia*.

[20] The mid-point ERP of each calendar year was used to provide the most accurate estimate of rates. As ERPs for 2020 were not available at the time of publication, the population for this year was projected. This was done by calculating the absolute change in ERP between 2018 and 2019 and adding that value to the 2019 ERP to project the 2020 ERP.

[21] Further information on SA1 and SA2 statistical regions is available on the ABS website at: https://itt.abs.gov.au/itt/r.jsp?ABSMaps.

[22] Separate forecasting was undertaken in relation to different offence types and spatial subgroups using offence rates.

[23] The MAPE provides a measure of forecast error (the difference between an observed value and its forecast) and is therefore useful when evaluating the potential accuracy of a forecast. Model accuracy was assessed by testing how well the trained models (January 2015 to June 2019) performed when forecasting the remaining pre-COVID-19 test data (July 2019 to February 2020) and the model with the lowest error value was deemed to be the 'best' model.

[24] Due to the large number of forecast models produced for analysis, the model specification and associated parameters will not be discussed

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Government