Criminology Research Grants

Understanding the extent and nature of adult-onset offending: Implications for the effective and efficient use of criminal justice and crime reduction resources

Carleen M. Thompson
Anna L. Stewart
Troy J. Allard
April Chrzanowski
Chelsea Luker
Jerneja Sveticic

Report to the Criminology Research Advisory Council
Grant: CRG 09/11-12

October 2014

This is a project supported by a grant from the Criminology Research Grants.
The views expressed are the responsibility of the author and are not necessarily those of the Council.

Contents

Acknowledgements iv
Executive Summary 1
Introduction 3
Defining Adult-Onset Offending 3
The Prevalence of Adult-Onset Offenders 4
The Rate and Nature of Adult-Onset Offending 5
Responding to Adult-Onset Offending 8
The Current Study 9
Method 10
Data Sources 10
Classifying Adult-Onset Offenders 10
Rate and Nature of Offending 11
Costs of Offending 11
Results 13
What is the Rate and Nature of Adult-Onset Offending? 13
How do Low Rate and High Rate Adult-Onset Offenders Differ? 14
How do High Rate Adult-Onset Offenders differ from High Rate Early-Onset Offenders? 21
How do Low Rate Adult-Onset Offenders differ from Low Rate Early-Onset Offenders? 25
What are the Cost Implications Associated with Cautioning Low Rate Adult-Onset Offenders? 30
Discussion 30
Rate and Nature of Adult-Onset Offending 31
Differentiating Low Rate and High Rate Adult-Onset Offenders at their Onset Event 32
Comparing High Rate Adult-Onset Offenders with High Rate Early-Onset Offenders 32
Comparing Low Rate Adult-Onset Offenders with Low Rate Early-Onset Offenders 33
The Cost of Low Rate Adult-Onset Offenders: A Case for Cautioning First-Time Adult-Onset Offenders 34
Limitations and Directions for Future Research 36
Conclusion 39
References 40

Acknowledgements

We would like to thank the Queensland Police Service, the Department of Justice and Attorney-General, the Department of Communities, and the Office of Economic and Statistical Research (renamed Office of the Government Statistician) for the assistance they provided for this project. We would like to thank Associate Professor Lisa Broidy for her helpful comments and suggestions on an earlier draft. This project was supported by a grant from the Criminology Research Council.

Executive Summary

Background: Criminologists have traditionally considered adult-onset offending to be a rare phenomenon (Eggleston & Laub 2002). However, an emerging body of research suggests that a substantial number of offenders have their first contact with the criminal justice system at 18 years of age or older (Delisi & Piquero 2011). Despite increasing interest in adult-onset offenders, the nature of adult-onset offending is still not well understood. Moreover, it is unclear whether traditional criminal justice responses for adult offenders are appropriate for adult-onset offenders.

The limited research that has been conducted suggests that for many adult-onset offenders, their criminal career may be brief and less serious. However, it appears that for some adult-onset offenders, their criminal career may be both chronic and serious. To date, research has not disaggregated adult-onset offenders across severity or chronicity. If both low-rate/less serious and chronic/serious groups of adult-onset offenders can be identified, this has important implications for responding to these offenders.

According to best practice principles of offender rehabilitation (Andrews & Dowden 2006), intensive services and supervision should be reserved for chronic offenders who pose an ongoing risk. For low risk offenders, criminal justice system interventions should be minimised or even avoided whereby interventions may unintentionally increase the likelihood of reoffending (Andrews & Dowden 2006). For these offenders, diversion may be a more appropriate, efficient and cost-effective response than current practices of court processing, such as formal police cautioning.

Aims: To (a) examine the extent, nature and costs of adult-onset offending (b) investigate potential variability in the chronicity of adult-onset offending (c) compare adult-onset offenders and early-onset offenders to determine if and how these offenders differ and (d) investigate the cost-implications associated with formally cautioning first-time low rate, less serious adult-onset offenders.

Method: Data from the 1983/1984 Queensland Longitudinal Dataset (83/84 QLD) were used in this study. The 83/84 QLD includes data about all offences committed in Queensland by individuals born in 1983 or 1984, between 10 and 25 years of age, that resulted in formal police cautions (youth), youth justice conferences, youth court finalisations or adult court finalisations (excluding breaches of justice orders and minor traffic offences under the ANZSOC division 14). Individuals were classified as adult-onset offenders if their first official criminal justice contact was for an offence perpetrated at 18 years of age or older. The costs of adult-onset offending, and the cost implications of cautioning adult-onset offenders, were assessed using Allard et al's (2013) cost estimates.

Results: This research generated six key findings. First, adult-onset offenders were prevalent, constituting half of all offenders in the cohort. Second, the vast majority of adult-onset offenders were low rate, less serious offenders. In most cases, adult-onset offenders perpetrated just one or two offences that were minor or moderate in nature, and resulted in non-supervised orders. Just 6.6% had a moderate or chronic pattern of offending that was more serious in nature. These latter offenders

were responsible for a disproportionate amount of offences in general and serious offences in particular.

Third, high rate adult-onset offenders and low rate adult-onset offenders could be distinguished at their onset event according to the rate, type and severity of offending. Fourth, high rate early-onset offenders perpetrated significantly more offences and more serious offences than high rate adult-onset offenders overall. However, the frequency and severity of offences perpetrated by high rate early-onset offenders and high rate adult-onset offenders was comparable in adulthood.

Fifth, low rate adult-onset offenders had slightly lower individual rates of offending and perpetrated somewhat less serious offences than low rate early-onset offenders. On average, each early-onset offender cost more socially and economically than each adult-onset offender. This reflects the more serious and costly offence types committed by early-onset offenders as well as slightly higher rates of offending. However, on average, each early-onset offender cost *less* to the criminal justice system than each adult-onset offender. This is primarily due to the frequent use of cautioning with low rate early-onset offenders which is not available to adult offenders in Queensland (except for minor offences perpetrated by individuals over 65 years or with intellectual disabilities, whereby it is infrequently applied).

Sixth, formally cautioning all first-time low rate adult-onset offenders dealt with in the Magistrates Court who received non-supervised orders could have saved $32.5 million in police and court costs. This represents a 23.4% cost reduction in processing this group through the criminal justice system and a 4.3% reduction in the cost of processing all members of the cohort through the criminal justice system (Allard et al. 2013). However, these figures only represent the cost savings associated with diverting less serious, first-time offences by low-rate adult-onset offenders *in this single cohort*. The cost savings would be substantially more if considered on a cross-sectional basis.

Conclusion: A large proportion of offenders do not come into contact with the criminal justice system until 18 years of age or older. For 95% of these offenders, their offending career is brief and less serious. In line with best practice principles of offender rehabilitation, it may be more appropriate to respond to these offenders using diversionary schemes like adult cautioning. Doing so would save the criminal justice system considerable resources. These resources could be (a) targeted towards higher risk offenders who pose an ongoing risk and (b) used to fund initiatives to address the social problems that give rise to the types of offences perpetrated by (the highly prevalent) low-rate adult-onset offenders.

Introduction

Criminologists have traditionally considered adult-onset offending to be a rare phenomenon (Eggleston & Laub 2002). Consequently, little criminological theory, research or policy has focused on adult-onset offending. However, an emerging body of research suggests that a substantial number of offenders have their first contact with the criminal justice system at 18 years of age or older (Block et al. 2010; Delisi & Piquero 2011; Eggleston & Laub 2002; Kratzer & Hodgins 1999; McGee & Farrington 2010). These findings have generated increasing interest in adult-onset offenders in recent years. Despite this, the nature of adult-onset offending is still not well understood (Zara & Farrington 2013). The limited research that has been conducted suggests that adult-onset offenders may perpetrate different types of offences to early-onset offenders (McGee & Farrington 2010) and their offending may be associated with different risk factors (Zara & Farrington 2013). Given these findings, some have questioned whether the same traditional criminal justice responses are appropriate for adult-onset and early-onset offenders (McGee & Farrington 2010; Zara & Farrington 2013). In the current study, the extent, nature and costs of adult-onset offending will be examined in a Queensland population-based offender cohort (1983/1984 Queensland Longitudinal Cohort; 83/84 QLD). Adult-onset offenders will be compared with early-onset offenders to determine if and how their offending profiles differ. In addition, the appropriateness and cost-effectiveness of current criminal justice responses to adult-onset offending will be examined.

Defining Adult-Onset Offending

Adult-onset offenders are those who commence their criminal careers in adulthood (Gomez-Smith & Piquero 2005; McGee & Farrington 2010). However, the age at which an individual is considered an adult differs across empirical research and theoretical frameworks (eg 18, 21 and 25 years of age; Cauffman 2012; Eggleston & Laub 2002; Sohoni et al. 2013). Nevertheless, the majority of research classifies adult-onset offenders as those who onset at 18 years of age or older (eg Carrington et al. 2005; Eggleston & Laub 2002; Kratzer & Hodgins 1999; Lussier et al. 2010). The primary justification for employing this cut-point is that individuals are defined as adults at 18 years of age in most legal systems (eg all Australian jurisdictions except Queensland that defines adults as 17 years of age and older, Chrzanowski & Wallis 2011; Canada, United Kingdom, United States of America; Farrington et al. 2012). Individuals also receive new (adult) rights and responsibilities at 18 years of age in many contemporary societies (Gibson & Krohn 2012). For example, individuals in Australia are legally allowed to vote and purchase alcohol at 18 years of age (eg s93 Commonwealth Electoral Act 1918 (Cth); s156 Liquor Act 1992 (Qld)).

Developmental psychologists also identify 18 as the start of a new developmental period in contemporary societies, often termed emerging adulthood (Arnett 2000). This period of development spans from 18 years of age to the mid-20s, after which a (later) ‘adulthood’ developmental period begins (Arnett 2007, 2000). Emerging adulthood is considered quite different from adolesence (Arnett 2007). For example, individuals in emerging adulthood have gone through puberty, have completed

secondary schooling and have new legal rights and responsiblilties (Arnett 2007). However, in contemporary industrialised societies, individuals in this period often delay 'long-term adult roles' such as marriage and having children (Arnett 2007). Often these individuals also undertake extended periods of study or choose to trial a variety of experiences such as travelling abroad. Therefore, while 18 years of age may signify a developmental shift away from adolescence, emerging adulthood is still thought to differ from the developmental period of 'adulthood' (Arnett 2007). Consequently, it is possible that there may be differences in the nature of adult-onset offending in emerging adulthood and (later) adulthood developmental periods. To date, this has not been examined.

The Prevalence of Adult-Onset Offenders

Studies have found considerable variation in the prevalence of adult-onset offending. This is largely due to methodological variations across studies. Studies that report lower levels of adult-onset offenders typically: (a) use older minimum thresholds to define adult-onset (eg 21 years of age), as these definitions exclude offenders who would have been classified as adult-onset using a threshold of 18 years of age, (b) use self-report data rather than official records as self-reported delinquency is much more common in adolescence than criminal justice system contacts/convictions, (c) have shorter follow-up periods as adult-onset offenders may commence offending after the follow-up period has ceased, and (d) use targeted, high-risk samples, given that these samples are more likely to experience risk factors characteristic of an early-onset of criminality (Bergman & Andershed 2009). The impact of these methodological differences is apparent and has resulted in considerable variation in the prevalence of adult-onset offending (eg 11% Buck et al. 2013; 43% Carrington et al. 2005).

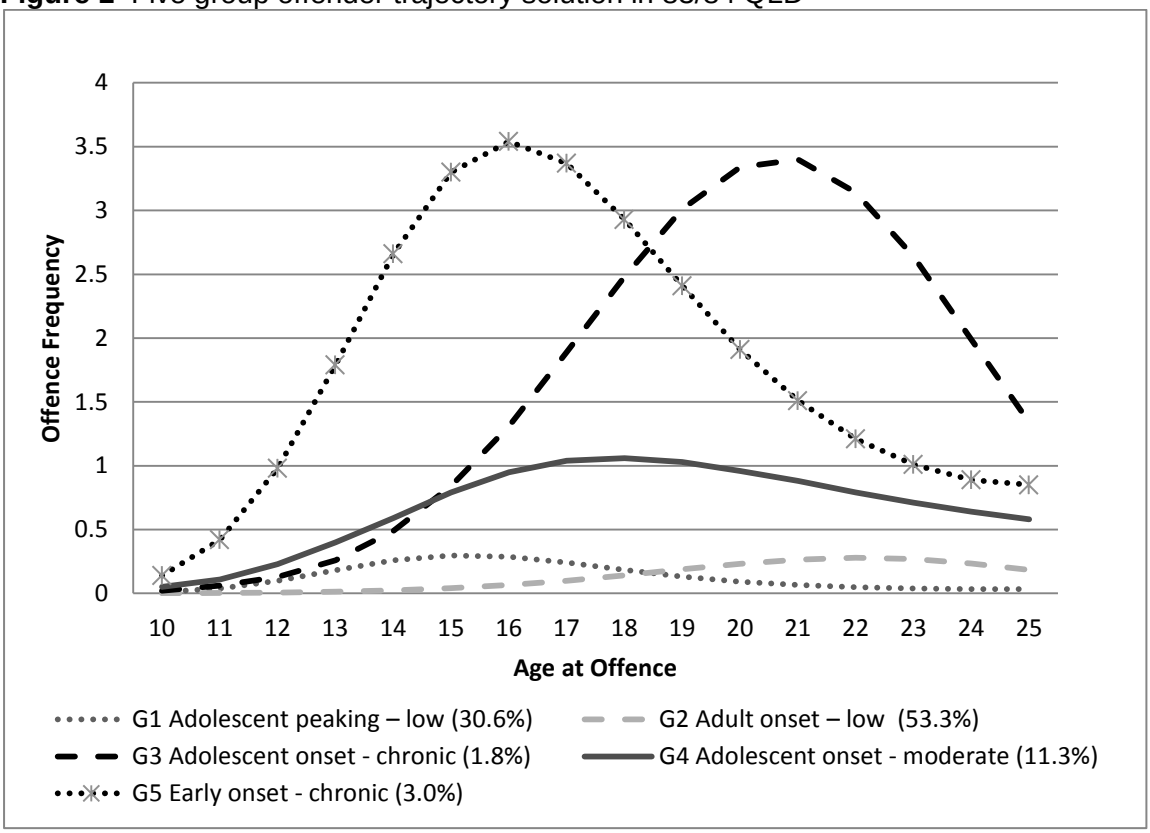
Self-Report versus Official Records. The methodological issue that causes the greatest debate in the adult-onset literature is the choice between self-reported offending data and official criminal justice records (Eggleston & Laub 2001; Farrington 2001; Mata & van Dulmen 2012). Adult-onset offenders identified using official criminal justice data may have offended earlier without an associated criminal justice contact. Therefore, these individuals may not have truly onset in adulthood. In fact, numerous longitudinal studies indicate that self-reported offending in adolescence is ubiquitous and therefore 'true' adult-onset offending is likely to be rare (McGee & Farrington 2010; Moffit et al. 2001). While this may be true, further investigation into some of this research suggests that even with the omnipresence of undetected self-reported offending prior to 18 years of age (a) there are still clear differences between adult-onset offenders with prior self-reported adolescent delinquency and early-onset offenders with both self reported delinquency and criminal justice contacts prior to 18 years of age and (b) there are marked differences between the nature and extent of *adult* offending self-reported by adult-onset offenders and those with no convictions in youth or adulthood, yet the self-reported offending of these groups looks similar prior to age 18 (Zara & Farrington 2010). In addition, differences in risk factors have been reported across those with no criminal justice system contacts, early-onset offenders with juvenile system contacts and adult-onset offenders whose first criminal justice system contact is in adulthood (Zara & Farrington 2013; 2010). This is despite self-reported

offending by the majority of individuals in all three groups prior to 18 years of age (Zara & Farrington 2013; 2010). Moreover, research suggests that there may be important differences between those offenders who first come to the attention of the criminal justice system in adulthood and those who have contact with the criminal justice system prior to adulthood (McGee & Farrington 2010; Zara & Farrington 2013). Due to these findings, Zara and Farrington (2013) have omitted self-reported offending from their recent analyses of adult-onset offending using data from the Cambridge Study in Delinquent Development (CSDD), even though it was available. Other researchers using the CSDD data have only included the most serious and/or frequent self-report data (McGee & Farrington 2010; Zara & Farrington 2010). After all, as McGee and Farrington argue (2010: 16), 'it would not be useful to label every person as a delinquent'.

The Rate and Nature of Adult-Onset Offending

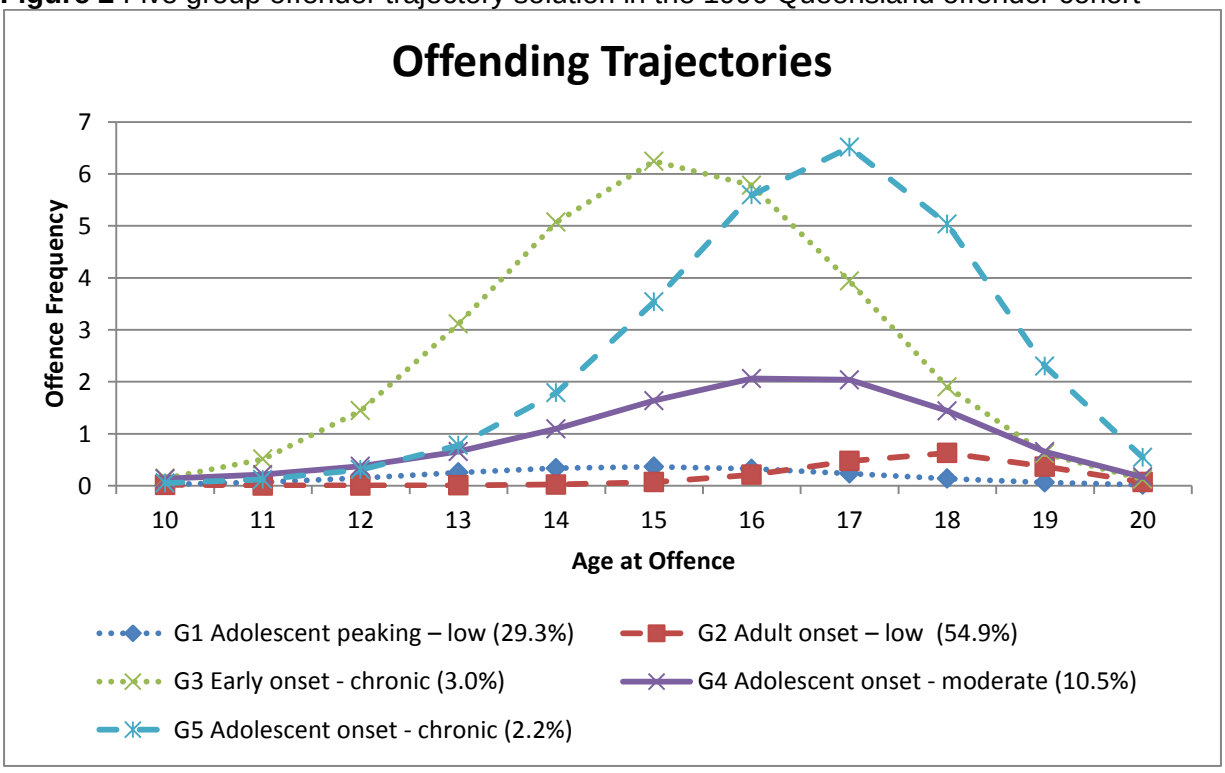
Most research examining adult-onset offenders indicates that these offenders have lower rates of reconviction, commit far fewer crimes and perpetrate less serious offences than early-onset offenders (eg Carrington et al. 2005; Farrington et al. 2006; Farrington et al. 2009; Harris 2011; Kratzer & Hodgins 1999; van Koppen et al. 2009). However, adult-onset offenders may have similar (eg Kratzer & Hodgins 1999) or even higher rates of offending than adolescent-limited offenders (Farrington et al. 2009). In addition, in some cases, the criminal careers of adult-onset offenders are extensive and serious (Andersson et al. 2012; Delisi & Piquero 2011; Eggleston & Laub 2002; Harris 2010). Consistent with many of these findings, recent research in two population-based Queensland offender cohorts have identified a clear and prevalent *low rate* adult-onset offender trajectory (ie 83/84 QLD and the 1990 Queensland Offender Cohort; Allard et al. 2012; Allard et al. 2013). The trajectories identified in both of these cohorts are remarkably similar (see Figures 1 and 2). In both studies, the *low rate* adult-onset offender trajectory group have similarly low rates of offending as the low rate adolescent-limited trajectory, but much lower rates of offending than the chronic and moderate groups of offenders. Although a high rate adult-onset offender trajectory was not identified in either cohort, a small late-onset chronic trajectory was identified (labelled adolescent-onset chronic). As the late-onset chronic trajectories in these studies had a mean age of onset of 17.5 years (*SD* = 3.9*;* Allard et al. 2013), it is possible that there were adult-onset offenders with a chronic pattern of offending classified into the late-onset chronic trajectories. High rate adult-onset offending trajectories have been identified in at least two other studies (Andersson et al. 2012; Mata & van Dulmen 2012).

Figure 1 Five group offender trajectory solution in 83/84 QLD



Source: Allard et al. 2013

Figure 2 Five group offender trajectory solution in the 1990 Queensland offender cohort



Source: Allard et al. 2012

Several studies suggest that adult-onset offenders perpetrate different types of offences than early-onset or adolescent-onset offenders. For example, there is evidence that adult-onset offenders may be more likely to perpetrate sexual offences, white collar crimes, organised crime, fraud, workplace theft, traffic offences or offences related to drugs or weapons (McGee & Farrington 2010; van Koppen et al. 2009) and less likely to perpetrate motor vehicle theft, other property crimes, assault, robbery (McGee & Farrington 2010) and serious offences against the person (Carrington et al. 2005). Importantly, the types and severity of offences also seem to vary within adult-onset offenders, these variations are apparent both within and across samples (Andersson et al. 2012; Carrington et al. 2005; Mata & van Dulmen 2012; McGee & Farrington 2010). In addition, some research has identified both aggressive and nonaggressive adult-onset offender trajectories.

Together, this research suggests heterogeneity in offending patterns of adult-onset offenders. For many adult-onset offenders, their criminal career may be brief and less serious in nature. However, for some adult-onset offenders, their criminal career may be both chronic and serious. Differentiating adult-onset offenders in terms of their offending patterns may provide further understanding of their criminal careers. To date, research has not attempted to disaggregate adult-onset offenders across severity, chronicity or types of offences. If both low-rate/less serious and chronic/serious groups of adult-onset offenders can be identified, these types of offenders may pose different levels of risk and their behaviour may be associated with different risk factors. Moreover, these risk factors may differ from those associated with early-onset offending.

Researchers have not investigated the possibility that risk factors may vary across more and less serious/frequent adult-onset offenders. However, risk factors for adult-onset offending have been compared with those associated with early-onset offending. These studies suggest that, in comparison to early-onset offenders, adult-onset offenders are more likely to have poorer social skills, maintain close parental relationships in adolescent years, maintain less anti-social peer and family relationships, experience a late onset of sexual intercourse, display pro-social personality characteristics, and have higher rates of internalising disorders (Armour & Haynie 2007; Donnellan et al. 2002; Gunnison & McCartan 2010; Mata & van Dulmen 2012; van der Geest et al. 2009; Zara & Farrington 2013; 2010). However, it is unknown whether these factors differ across more or less serious adult-onset offenders. It is possible that different risk factors are associated with more and less serious/frequent adult-onset offending since different risk factors are associated with more and less serious/frequent earlier-onset offending (eg life-course persistent offenders versus adolescent-limited offenders and persisters versus desisters; Moffitt 2006). Research has investigated the factors that increase the likelihood of an adult-onset offender reoffending. This research suggests that significant life events such as employment problems and difficulties with martial or family relations are associated with higher rates of reconviction in adult-onset offenders (Harris, 2011). Therefore, these factors may help to differentiate more and less serious/frequent adult-onset offenders.

Responding to Adult-Onset Offending

When considering the most appropriate manner to respond to adult-onset offending, it is critical to look toward established practices of offender rehabilitation. Best practice guidelines for offender rehabilitation include five principles: risk, needs, responsivity, professional discretion and program integrity (Andrews et al. 1990). These concepts, known more generally as the 'What Works' principles, have been found to be effective in reducing recidivism rates when applied to the management of both juvenile and adult offenders (eg Andrews et al. 1990; Vieira et al. 2009). When considering the initial response to offending, the risk principle is most relevant (Thompson & Stewart, 2011). This principle advocates that the level of intervention, service provision and supervision should be commensurate with the level of risk posed by an offender (Andrews et al. 1990; Andrews & Dowden, 2006). Intensive interventions, services and supervision should be reserved for chronic offenders who pose an ongoing risk (Lowenkamp et al, 2006). For low risk offenders, criminal justice system interventions should be minimised or even avoided whereby such intervention may unintentionally increase the likelihood of reoffending (Andrews & Dowden, 2006). For these offenders, diversion may be a more appropriate, efficient and cost-effective response than court processing. The risk principle is supported by empirical research that shows: (a) a small portion of high-risk offenders are responsible for a large portion of criminal offences (Jones et al. 2001; McGloin & Stickle 2011; Wolfgang et al. 1972), (b) high-risk offenders are more responsive to intervention than low-risk offenders (Lowenkamp et al. 2006; Taxman & Thanner 2006), and (c) engagement in the criminal justice system, and unnecessary intervention, can increase recidivism rates for low-risk offenders (Andrews & Dowden 2006; Andrews et al. 1990; Lowenkamp et al. 2006; Taxman & Thanner 2006).

Given the risk principle, and that the offending behaviour of many adult-onset offenders is more transient and less serious than that of early-onset offenders, it may be preferable to reduce the contact they have with the criminal justice system. One option that is consistent with the risk principle is the use of diversionary processing, such as formal police cautioning. This practice involves the offender receiving an official warning from a delegated police officer, rather than being processed through the court system (Queensland. Criminal Justice Commission 1999). The primary benefits of cautioning are that it is (a) swift (b) cost-effective (c) reduces the labelling and stigmisation that may occur as a result of contact with the CJS for less serious, transient offenders and (d) is associated with lower rates of reoffending (Allard et al. 2009).

Although formal police cautioning for adults is not legislated in Queensland, police policy enables cautions to be used for minor offences perpetrated by individuals over 65 years of age or with intellectual disabilities (Queensland Police Service 2012). Given these restrictions, cautioning is infrequently used for adults in Queensland (Queensland Police Service 2012). Formal adult cautioning is also used for limited offences in some other jurisdictions in Australia such as for minor drug offences and shoplifting in Victoria (Victoria Police Service 2012) and for possessing cannabis in New South Wales and Tasmania (NCPIC, 2013). Furthermore, broader adult cautioning schemes operate in some countries overseas. For example, England and Wales' simple cautioning scheme

enables cautions to be issued to adults for predominantly less serious and first-time offences (United Kingdom. Ministry of Justice 2013). In addition, Ireland's adult cautioning scheme allows cautions to be issued for select, predominantly first-time offences (eg minor assaults, damaging property, disorderly conduct, theft under €1000; Ireland. Citizens Information Board 2010). Formal police cautioning is also routinely used for youths across a broad range of offences in all jurisdictions in Australia (Little & Allard 2011).

Evaluations of formal police cautioning schemes provide some support for the effectiveness of these schemes for reducing recidivism and costs, particularly for low risk offenders (eg Allard et al. 2010; Baker & Goh 2004; United Kingdom. Office for Criminal Justice Reform 2010; Payne et al. 2008; The Audit Office for New South Wales 2011). To illustrate, after controlling for potential demographic and offence differences, Allard and colleagues (2009) found that young people who were cautioned for their first offence were 1.7 times less likely to have re-contact than young people who appeared in court. If most adult-onset offenders are low-rate, less serious and transient offenders (ie low risk offenders), diversion may be a more appropriate response to most adult-onset offending rather than processing these individuals through the adult courts. Given this, the current research project will examine the viability and cost-effectiveness of cautioning first-time, low rate, less serious adult-onset offenders.

While diversionary processing may be an appropriate response to adult-onset offenders who evidence less serious, more transient offending patterns, research suggests that a group of high-level, chronic adult-onset offenders may also exist. In line with the risk principle, different management strategies are required to manage these offenders. Prior to developing these strategies, however, several questions need be answered. These include: (1) the extent and nature of high rate adult-onset offenders, (2) if and how high rate adult-onset offenders differ from low rate adult-onset offenders, (3) if and how high rate adult-onset offenders differ from high rate early-onset offenders, and (4) the risk factors and criminogenic needs of high rate adult-onset offenders, including whether these differ from those associated with early-onset offenders. Once these questions are addressed, more attention can be focused on reviewing appropriate intervention strategies for high rate adult-onset offenders. The current research project will start to answer the first three of these questions.

The Current Study

In this study, we investigate the extent, nature and costs of adult-onset offending along with the potential variability in the chronicity of adult-onset offending. Analyses compare adult-onset offenders and early-onset offenders to determine if and how these offenders differ. Finally, given the frequent use of cautioning with less serious youth offending and the introduction of cautioning (of varying levels of inclusiveness) for adults nationally and internationally, we will investigate the cost implications associated with cautioning low rate, less serious adult-onset offenders.

To address these issues, we focus on five specific research questions:

1. What is the rate and nature of adult-onset offending?
2. How do low rate and high rate adult-onset offenders differ?
3. How do high rate adult-onset offenders differ from high rate early-onset offenders?
4. How do low rate adult-onset offenders differ from low rate early-onset offenders?
5. What are the cost implications associated with cautioning low rate adult-onset offenders?

Method

Data Sources

Data from the 1983/1984 Queensland Longitudinal Dataset (83/84 QLD) were used in this study (see Allard et al. 2013). The 83/84 QLD includes data about all offences committed in Queensland by individuals born in 1983 or 1984, between 10 and 25 years of age, that resulted in formal police cautions (youth), youth justice conferences, youth court finalisations or adult court finalisations. This offence-level data was obtained by linking data from the Queensland Police Service, Department of Communities and Department of Justice and Attorney-General. Data across these sources were linked at the individual level based on offenders' names and dates of birth using data linkage software (ie Link King; see Allard et al. 2013 for further information). Data were then aggregated at the individual level, to create a population-based Queensland offender cohort with complete official offence histories to age 25 (*N* = 54,598 individuals). Offending data was available from age 10 as this is the age of criminal responsibility in Queensland.

In this study, the following offences were excluded from the 83/84 QLD: (a) offences that resulted in not guilty verdicts (b) breaches of justice orders, as these offences are often technical breaches and any offending behaviour that led to breaches is already recorded in the dataset and (c) minor traffic offences classified under the Australian and New Zealand Standard Offence Classification (ANZSOC; Australian Bureau of Statistics 2011) division 14, as these offences are typically processed by the Queensland State Penalties Enforcement Registry (SPER) (not the courts). Only individuals who contest their SPER tickets are processed in the courts. Offenders were also excluded if their usual residence was interstate or overseas because their complete offending histories were not available. Given these exclusions, the total sample in this study was 40,523 offenders (25.9% female; 8.9% Indigenous Australian). These individuals were responsible for 206,857 offences and 106,981 finalised criminal justice events (ie cautions, conferences or court finalisations).

Classifying Adult-Onset Offenders

Consistent with much previous research (Block et al. 2010; Carrington et al. 2005; Eggleston & Laub 2002; Kratzer & Hodgins 1999), individuals were classified as adult-onset offenders if their first official criminal justice contact was for an offence perpetrated at 18 years or older. All other offenders were classified as early-onset offenders. As individuals in Queensland are processed in the adult courts for

offences allegedly perpetrated from 17 years of age (not 18 like other states), adult-onset offenders were identified using their age of onset. Age of onset was calculated using date of birth and the date that individuals perpetrated their first offence recorded in the 83/84 QLD (applying exclusion criteria). When the date of the offence was not available to calculate age of onset, the date of lodgement for court contacts was used as well as the court type, with Children's court contacts representing early-onset offending. All youth cautioning and youth conferencing contacts pertained to offences perpetrated in youth and were therefore classified as early-onset offending. The implications of offenders being processed in the adult justice system in Queensland at 17 years of age will be examined in the discussion.

Rate and Nature of Offending

The rate and nature of offending was examined using five variables. First, the rate of offending per individual was calculated based on the number of offences recorded between 10 and 25 years of age for each individual in the dataset. Second, as several offences could be finalised at one event, the number of events per individual was calculated based on the number of formal police cautions (youth), youth justice conferences, youth court finalisations and adult court finalisations for each individual in the dataset. Third, offence types were categorised using the ANZSOC (Australian Bureau of Statistics 2011) system (excluding division 14, traffic offences) that classifies offences into 16 divisions. The ANZSOC divisions were further collapsed into five offence types: (1) personal offences (ANZSOC categories 1 to 6: 'Homicide and related offences', 'Acts intended to cause injury', 'Sexual assault and related offences', 'Dangerous or negligent acts endangering persons', 'Abduction, harassment and other offences against the person' and 'Robbery, extortion and related offences'), (2) property offences (ANZSOC categories 7, 8, 9 and 12: 'Unlawful entry with intent/burglary, break and enter', 'Theft and related offences', 'Fraud, deception and related offences' and 'Property damage and environmental pollution'), (3) drug offences (ANZSOC division 10: 'Illicit drug offences'), (4) public order offences (ANZSOC division 13: 'Public order offences') and (5) other offences (ANZSOC divisions 11, 15 and 16: 'Prohibited and regulated weapons and explosives offences', 'Offences against justice procedures, government security and government operations' and 'Miscellaneous offences'). Fourth, seriousness of offending was measured using the National Offence Index (NOI; Australian Bureau of Statistics 2009) that ranks the ANZSOC multi-digit codes by their level of seriousness (ranked 1 to 157, with 1 representing the most serious offences). Based on previous research (Stewart et al. under review; Bartels 2009), the following categories of seriousness were applied to each offence in the database: *serious* (NOI 1–30), *moderate* (NOI 31–93), or *minor* (NOI 94–157). Fifth, outcomes of offending were categorised as: diverted from formal order (ie cautioning and conferencing available to youth offenders), non-supervised order, community supervision order, immediate release order, detention, suspended sentence or prison.

Costs of Offending

The costs of offending were assessed using the cost estimates developed by Allard and colleagues (2013). These costings include both criminal justice system (CJS) costs and the wider social and

economic costs of crime. The costing methodology used the Transactional and Institutional Cost Analysis (TICA) to assess the average opportunity costs of CJS events (eg caution, Children's Court, Magistrates Court), taking into account police, court and supervision costs (Table 1). The costs were additive, for example, the cost of a caution only involved police resources whereas the cost of a Magistrates Court finalisation involved both police ($2,696) and court ($394) resources.

Table 1 Allard and colleague's (2013) estimated CJS costs of crime

Arm of the CJS	Type of event/contact	Youth/Adult Justice System	Cost ($)
Police	Court	Youth	3,701
		Adult	2,696
	Conference	Youth	1,961
		Adult	1,961
	Caution	Youth	1,275
		Adult	1,103
Court	Supreme Court	Adult	7,573
	District Court	Adult	6,262
	Magistrates Court	Adult	394
	Children's Court	Youth	672
Supervision	Incarceration costs per day	Youth	567[a]
		Adult	289[a]
	Community based supervision per day	Youth	35[a]
		Adult	12[a]
	Conference		3,558

a: Costs per day

Source: Allard et al. 2013

Wider social and economic costs were assessed using a bottom-up costing approach that involved updating Rollings (2008) original assessment and mapping these costs to the ANZSOC codes (Table 2). Social and economic costs were applied based on offence type. Each offence type was assigned an estimated average cost on the basis of the nature of the crime (eg estimates of average medical costs, costs of loss of property, costs of property damage, costs related to lost productivity, intangible costs). These costs did not include justice system costs (which were estimated separately), costs for victim services, and security and insurance administration costs. The total social and economic costs of crime for each offender depended on the number and types of offences he or she perpetrated. For example, the social and economic costs of crime for an offender who perpetrated one sexual assault ($9,123) and one abduction ($1,000) would be $10,123 (ie $9,123 + $1,000). The costing methodology and the justifications for each of the individual costs are detailed in Allard et al. (2013).

Table 2 Allard and colleague's (2013) estimated Australian social and economic costs of crime.	
ANZSOC division	**Cost ($)**
Homicide and related offences	2,329,919
Sexual assault and related offences	9,123
Acts intended to cause injury	2,062
Unlawful entry with intent	3,490
Robbery, extortion and related offences	2,798
Theft and related offences	1,510
Fraud, deception and related offences	517
Property damage and environmental pollution	4,084
Abduction/harassment/other offences against the person	1,000
Prohibited/regulated weapons and explosives offences	500
Illicit drug offences	500
Dangerous and negligent acts endangering persons	250
Public order offences	250
Offences against justice	250
Miscellaneous offences	250

Source: Allard et al. 2013

Results

The results will be reported in five sections according to the five research questions proposed for this study. First, the rate and nature of adult-onset offending will be reported. Second, comparisons will be made between adult-onset offenders that had a high rate of offending and adult-onset offenders that had a low rate of offending. Third, the differences between high rate adult-onset offenders and high rate early-onset offenders will be investigated across the rate, nature and costs of offending. Fourth, the differences between low rate adult-onset offenders and low rate early-onset offenders will be investigated across the rate, nature and costs of offending. Fifth, the cost implications of cautioning low rate adult-onset offenders will be investigated.

Data will be analysed using a range of descriptive and inferential statistics. Given the very large sample size, the power for analyses is very high. Although statistically significant results will be highlighted (using $p \leq .001$ due to the high number of comparisons and high power for analyses), readers are urged to consider the effect sizes that measure the strength of the associations when interpreting the results.

What is the Rate and Nature of Adult-Onset Offending?

Adult-onset offenders comprised 52.3% (n = 21,213) of all offenders in the cohort. Together, these offenders were responsible for only 25.3% (n = 52,418 offences) of all offences and 32.3% of all events in the dataset (34,555 events). Most adult-onset offenders perpetrated one offence (56.6%) or one or two offences (75.1%), although 8.8% perpetrated 5 or more offences (M=2.5, SD=3.8, max =

118). Over two-thirds (70.4%) of adult-onset offenders had just one finalisation (*M*=1.6 finalised events, *SD*=1.5, range = 1 to 44 events). The seriousness of offences varied across adult-onset offenders. The most serious offence ever perpetrated was minor in nature for 42.7% of adult-onset offenders, moderate in nature for 47.0% of adult-onset offenders and serious in nature for 10.3% of adult-onset offenders. For 87.6% of adult-onset offenders the most serious outcome recorded in the dataset was a non-supervised order. However, the most serious outcome was a community supervision order for 7.6% of adult-onset offenders, a suspended sentence for 2.1% of adult-onset offenders and a prison sentence for 2.7% of adult-onset offenders. These descriptive statistics suggest variability in the chronicity of offending among adult-onset offenders.

To differentiate between low rate and high rate adult-onset offenders, the offender trajectories already identified by Allard and colleagues (2013) for the 83/84 QLD were used. Allard and colleagues (2013) identified five offender trajectories for the 83/84 QLD using Nagin and Land's (1993) Semi-Parametric Group-Based Method. The trajectory analysis and the trajectory groups have been described in detail elsewhere (see Allard et al. 2013). In short, Allard and colleague's (2013) research suggested that a five-group trajectory model best fit the 83/84 QLD. These groups were labelled (1) adolescent-onset – low, (2) adult-onset – low, (3) adolescent-onset – moderate, (4) adolescent-onset – chronic and (5) early-onset – chronic (see *Figure 1* on page 4). Individual offenders in the 83/84 QLD were classified under one of the five groups based on their rate of offending over time. These offending trajectories were used to categorise offenders as either low rate or high rate offenders in the current study. Specifically, adult-onset offenders were considered low rate offenders if they were classified on a low rate trajectory (primarily adult-onset – low trajectory as adult-onset offenders commence offending at 18 years of age and over). Adult-onset offenders were considered high rate offenders if they were classified on a moderate or chronic trajectory (predominantly adolescent-onset – moderate and adolescent-onset – chronic trajectories as adult-onset offenders commence offending at 18 years of age and over). Using these criteria, 93.4% (*n* = 19,814) of adult-onset offenders were classified as low rate offenders. Just 6.6% (*n* = 1,399) of adult-onset offenders were classified as high rate offenders. Differences between low and high rate adult-onset offenders will be explored in the next research question.

How do Low Rate and High Rate Adult-Onset Offenders Differ?

A series of comparisons were made between low rate adult-onset offenders and high rate adult-onset offenders to ascertain how these offenders differed in relation to the rate and nature of offending, criminal justice system outcomes, justice system costs and social and economic costs. The results indicated that there were significant differences between these two groups of adult-onset offenders on all aspects of offending.

As expected, low rate adult-onset offenders had significantly lower rates of offending than high rate adult-onset offenders, (t [1401.4] = -38.9, p = .001, Cohen's d = -1.46) (Table 3). Low rate adult-onset offenders had an average of 1.8 offences and 1.4 events. Nearly 75% of low rate adult-onset offenders had just one court finalisation (*n* = 14,699) and 80% had just one or two offences (*n* =

15,928). In contrast, high rate adult-onset offenders had an average of 12 offences and 4.6 events. Although high rate adult-onset offenders constituted just over 5% of all adult-onset offenders, they accounted for one third of all adult-onset offences.

Low rate adult-onset offenders perpetrated significantly less serious offences than their high rate counterparts, with nearly five times as many high rate offenders perpetrating at least one serious offence, χ^2 (1, N =21,213) = 1313.5, p = .001, ϕ = .25 (Table 3). Moreover, 45.2% (n = 8958) of low rate adult-onset offenders only perpetrated minor offences compared with 7.6% (n = 106) of high rate offenders, χ^2 (1, N =21,213) = 756.3, p = .001, ϕ = -.19. High rate adult-onset offenders were significantly more likely to perpetrate most types of offences than low rate offenders, particularly property crimes, drug crimes, offences against justice procedures, acts intended to cause injury and weapons and explosive offences (Table 4). However, the proportion of offenders who perpetrated at least one public order offence was much more comparable across the groups. In addition, a similar proportion of offenders perpetrated at least one dangerous or negligent act endangering persons across these groups. Although almost all adult-onset offenders had received at least one non-supervised order, few low rate adult-onset offenders had ever been sentenced to community supervision, received a suspended sentence or been sentenced to prison (Table 3). In contrast, 49% of high rate adult-onset offenders had been sentenced to community supervision at least once, 16.8% had received at least one suspended sentence and approximately 20% had been sentenced to prison at least once.

The total criminal justice system cost was estimated for each adult-onset offender using the methodology developed by Allard and colleagues (2013; see *Method* section). As a group, adult-onset offenders cost the criminal justice system approximately $198 million between 18 and 25 years of age, with each adult-onset offender costing an average of $9,336 (Table 5). Each high rate adult-onset offender was far more costly to the criminal justice system than each low rate adult-onset offender, t (1423.5) = -15.0, p = .001, Cohen's d= -0.54. Given the higher frequency and more serious nature of offending by high rate adult-onset offenders, and more severe sentences, this group of just over 5% of adult-onset offenders was responsible for almost one third of the total criminal justice system costs for all adult-onset offenders. Nevertheless, due to the sheer number of low rate adult-onset offenders, these offenders were still estimated to cost the criminal justice system nearly $140 million between the ages of 18 and 25 years for this cohort alone.

The total social and economic cost was estimated for each adult-onset offender using the methodology developed by Allard and colleagues (2013; see *Method* section). The results indicated that adult-onset offenders cost approximately $71.8 million in social and economic costs between 18 and 25 years of age, with each adult-onset offender costing an average of $3,381 (Table 5). Again, each high rate adult-onset offender was far more costly than each low rate adult-onset offender, t (2,986.5) = -16.6, p = .001, Cohen's d= -0.27. Given the higher frequency and more serious nature of offending by high rate adult-onset offenders, this group of just over 5% of adult-onset offenders was responsible for more than one quarter of the social and economic costs for all adult-onset offenders.

Table 3 Rate and nature of adult-onset offending: High rate versus low rate offenders

Type of offender	Proportion of Adult-Onset Offenders across chronicity		Total offences		Number of offences[a]		Number of events[b]		Ever serious offence (NOI 1-30) [c]	Ever Non-Supervised Order[d]	Ever Supervised order[e]	Ever Suspended Sentence[f]	Ever Adult Imprisonment [g]
	N	%	N	%	M	SD	M	SD	%	%	%	%	%
Low rate adult-onset	19,814	93.4	35,495	67.7	1.8	1.3	1.4	0.9	8.3	95.9	6.1	1.7	1.5
High rate adult-onset	1,399	6.6	16,923	32.3	12.1	9.9	4.6	3.5	38.7	90.0	49.0	16.8	19.9
Total adult-onset	21,213	100.0	52,418	100.0	2.5	3.8	1.6	1.5	10.3	95.5	8.9	2.7	2.7

a: t test conducted: t (1401.4) = -38.9, p = .001, Cohen's d = -1.46
b: t test conducted: t (1410.2) = -33.1, p = .001, Cohen's d = -1.25
c: chi square analysis conducted: χ^2 (1, N =21,213) = 1313.5, p = .001, ϕ = .25
d: chi square analysis conducted: χ^2 (1, N =21,213) = 108.2, p = .001, ϕ = -.07
e: chi square analysis conducted: χ^2 (1, N =21,213) = 2960.8, p = .001, ϕ = .37
f: chi square analysis conducted: χ^2 (1, N =21,213) = 1135.1, p = .001, ϕ = .23
g: chi square analysis conducted: χ^2 (1, N =21,213) = 1656.8, p = .001, ϕ = .28

Table 4 Adult-onset offenders who had *ever* perpetrated an offence from each ANZSOC offence type: High rate versus low rate offenders

Offence Type	ANZSOC Codes	Adult onset – low N (%)	Adult onset – high N (%)	Total N (%)	χ^2 (*df = 1*)[a]	ϕ
Personal Offences	Homicide and related offences	13 (0.1)	0 (0.0)	13 (0.1)	0.9	-.01
	Acts intended to cause injury	1,173 (5.9)	325 (23.2)	1,498 (7.1)	596.6*	.17
	Sexual assault and related offences	98 (0.5)	36 (2.6)	134 (0.6)	90.0*	.07
	Dangerous or negligent acts endangering persons	4,807 (24.3)	341 (24.4)	5,148 (24.3)	0.0	.00
	Abduction and related offences	59 (0.3)	24 (1.7)	83 (0.4)	67.4*	.06
	Robbery, extortion and related offences	47 (0.2)	31 (2.2)	78 (0.4)	139.6*	.08
	Any personal offence	5,984 (30.2)	597 (42.7)	6,581 (31.0)	95.0*	.07
Property Offences	Unlawful entry with intent/burglary, break and enter	361 (1.8)	275 (19.7)	636 (3.0)	1,429.2*	.26
	Theft and related offences	3,064 (15.5)	807 (57.7)	3,871 (18.2)	1,561.4*	.27
	Fraud, deception and related offences	959 (4.8)	344 (24.6)	1,303 (6.1)	884.0*	.20
	Property damage	1,216 (6.1)	389 (27.8)	1,605 (7.6)	877.3*	.20
	Any property offence	4,985 (25.2)	1,073 (76.7)	6,058 (28.6)	1,701.3*	.28
Drug Offences	Illicit drug offences	3,098 (15.6)	708 (50.6)	3,806 (17.9)	1,085.5*	.23
Public Order Offences	Public order offences	7,995 (40.4)	733 (52.4)	8,728 (41.1)	78.3*	.06
Other Offences	Offences against justice procedures	3,997 (20.2)	748 (53.5)	4,745 (22.4)	834.2*	.20
	Weapons and explosives offences	495 (2.5)	205 (14.7)	700 (3.3)	605.0*	.17
	Miscellaneous offences	194 (1.0)	79 (5.6)	273 (1.3)	224.1*	.10

* p≤.001

a: A series of chi square analyses were conducted. Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association.

Note. Traffic offences (under ANZSOC division 14) and breaches of justice orders were excluded from analyses.

Table 5 Costs of adult-onset offenders: High rate versus low rate offenders

Type of offender	Proportion of adult-onset offenders across chronicity		Justice System Costs				Economic & Social Costs				Total Costs			
	N	%	M	Mdn	Group Costs ($MIL)	Group Costs %	M	Mdn	Group Costs ($MIL)	Group Costs %	M	Mdn	Group Costs ($MIL)	Group Costs %
Adult-onset low	19,814	93.4	6,993	3,090	138.6	70.0	2,628	500	52.1	72.6	9,621	3,590	190.6	70.7
Adult-onset High	1,399	6.6	42,522	16,680	59.5	30.0	14,047	8,354	19.7	27.4	56,569	26,702	79.1	29.3
Total adult-onset	21,213	100.0	9,336	3,090	198.1	100.0	3,381	500	71.8	100.0	12,717	4,090	269.7	100.0

How do low rate adult-onset offenders differ from high rate adult-onset offenders at their onset event?

To identify whether high rate and low rate adult-onset offenders could be distinguished by the characteristics of their first conviction, factors associated with their onset events were compared (ie their first court finalisation). The results indicated that high rate adult-onset offenders had significantly more offences finalised at their first court event (M = 4.1; SD = 7.2) than low rate adult-onset offenders (M = 1.3; SD = 0.6), t (1399.4) = -14.7, p = .001, Cohen's d= -0.55 (Table 6). More than 80% of low rate adult-onset offenders were convicted of just one offence at their onset event and only 5% were convicted of more than two offences at their onset event. In contrast, just 38.6% of high rate adult-onset offenders were convicted of only one offence at their onset event and 42.2% were convicted of more than two offences at their onset event. High rate adult-onset offenders were also more likely than low rate adult-onset offenders to have serious offences finalised at their first court event (11.5% versus 5.6%, respectively) and receive more severe sentences (18.3% supervised orders, 2.8% suspended sentences and 3.2% imprisonment versus 3.9% supervised orders, 1.1% suspended sentences and 0.8% imprisonment, respectively).

Table 6 Rate and nature of offending at onset event: High rate versus low rate adult-onset offenders

Type of offender	Proportion of adult-onset offenders across chronicity		Total offences at onset event		Number of offences at onset event		Serious offence at onset event [a]	Non-Supervised order at onset event[b]	Supervised order at onset event[c]	Suspended Sentence at onset event[d]	Adult Imprisonment at onset event[e]
	N	%	N	%	M	SD	%	%	%	%	%
Adult-onset Low	19,814	93.4	24,778	81.3	1.3	0.6	5.6	94.7	3.9	1.1	0.8
Adult-onset High	1,399	6.6	5,681	18.7	4.1	7.2	11.5	79.8	18.3	2.8	3.2
Total adult-onset	21,213	100.0	30,459	100.0	1.4	2.1	6.0	93.7	4.8	1.2	1.0

a: Chi square analysis conducted: χ^2 (1, N =21,213) = 79.4, p = .001, ϕ = .06
b: Chi square analysis conducted: χ^2 (1, N =21,213) = 488.8, p = .001, ϕ = -.15
c: Chi square analysis conducted: χ^2 (1, N =21,213) = 590.7, p = .001, ϕ = .17
d: Chi square analysis conducted: χ^2 (1, N =21,213) = 34.0, p = .001, ϕ = .04
e: Chi square analysis conducted: χ^2 (1, N =21,213) = 74.4, p = .001, ϕ = .06

High rate adult-onset offenders were more likely than low rate adult-onset offenders to be convicted of property offences (44.9% versus 21.3%) and drug offences (23.6% versus 11.9%) at their onset event (Table 7). Low rate adult-onset offenders were more likely than high rate adult-onset offenders to be convicted of a personal offence at their onset event than their high rate counterparts (24.8% versus 12.2%), due to a much greater likelihood of being convicted of offences endangering persons (20.3% versus 6.4%; primarily dangerous or negligent operation of a vehicle [13% of low rate adult-onset offenders] or dangerous/negligent driving under the influence of alcohol or other substances [7% of low rate adult-onset] – which differs to driving while exceeding the prescribed content of alcohol under ANZSOC division 14). Low rate adult-onset offenders were also more likely to be convicted of public order offences at their onset event than their high rate counterparts (34.0% versus 24.8%, primarily

offensive behavior and disorderly conduct). Together, 54.2% of low rate adult-onset offenders were convicted of one of these two offences (endangering persons or public order offences) at their onset event, compared with 30.7% of high rate adult-onset offenders. High rate adult-onset offenders were also more likely to have an earlier age of onset (19.9 years of age versus 21.5 years of age, t (1733.7) = 31.1, p = .001, Cohen's d= 0.82) and to be Indigenous Australian than their low rate counterparts (13.3% versus 5.9%, χ^2 (1, N =21,213) = 121.7, p <.001, ϕ = 08.). Males comprised approximately 80% of both groups of adult-onset offenders (77.7% low rate offenders and 79.1% of high rate offenders). In the next section, high rate adult-onset offenders will be compared with high rate early-onset offenders.

Table 7 Adult-onset offenders who perpetrated an offence from each ANZSOC offence type *at their onset event*: High rate versus low rate offenders

Offence Type	ANZSOC Codes	Adult onset – low N (%)	Adult onset – high N (%)	Total N (%)	χ^2 (*df = 1*)[a]	ϕ
Personal Offences	Homicide and related offences at onset event	7 (0.0)	0 (0.0)	7 (0.0)	0.5	-.01
	Acts intended to cause injury at onset event	766 (3.9)	69 (4.9)	835 (3.9)	3.9	.01
	Sexual assault and related offences at onset event	77 (0.4)	13 (0.9)	90 (0.4)	9.0	.02
	Dangerous or negligent acts endangering persons at onset event	4,022 (20.3)	90 (6.4)	4,112 (19.4)	160.8*	-.09
	Abduction and related offences at onset event	41 (0.2)	4 (0.3)	45 (0.2)	0.4	.00
	Robbery, extortion and related offences at onset event	24 (0.1)	5 (0.4)	29 (0.1)	5.3	.02
	Any personal offence at onset event	4,921 (24.8)	170 (12.2)	5,091 (24.0)	115.2*	-.07
Property Offences	Unlawful entry with intent/burglary, break and enter at onset event	263 (1.3)	102 (7.3)	365 (1.7)	274.8*	.11
	Theft and related offences at onset event	2,601 (13.1)	423 (30.2)	3,024 (14.3)	312.9*	.12
	Fraud, deception and related offences at onset event	753 (3.8)	182 (13.0)	935 (4.4)	263.0*	.11
	Property damage at onset event	869 (4.4)	121 (8.6)	990 (4.7)	53.4*	.05
	Any property offence at onset event	4,218 (21.3)	628 (44.9)	4,846 (22.8)	413.0*	.14
Drug Offences	Illicit drug offences at onset event	2,363 (11.9)	330 (23.6)	2,693 (12.7)	160.4*	.09
Public Order Offences	Public order offences at onset event	6,745 (34.0)	347 (24.8)	7,092 (33.4)	50.1*	-.05
Other Offences	Offences against justice procedures at onset event	2,821 (14.2)	268 (19.2)	3,089 (14.6)	25.4*	.04
	Weapons and explosives offences at onset event	364 (1.8)	60 (4.3)	424 (2.0)	40.1*	.04
	Miscellaneous offences at onset event	146 (0.7)	17 (1.2)	163 (0.8)	3.9	.01

* p≤.001

a: A series of chi square analyses were conducted. Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association.

Note. Traffic offences (under ANZSOC division 14) and breaches of justice orders were excluded from analyses.

How do High Rate Adult-Onset Offenders differ from High Rate Early-Onset Offenders?

Using the offender trajectories for the 83/84 QLD from Allard and colleagues' (2013) research, 26.7% of early-onset offenders were classified as high rate offenders (n = 5,161). These offenders were compared with the 1,399 high rate adult-onset offenders discussed above. The results revealed no difference between these two groups across sex, whereby males comprised approximately 80% of both high rate groups of offenders (81.1% high rate early-onset offenders and 79.1% of high rate adult-onset offenders, χ^2 (1, N =6,560) = 2.9, p = .09, ϕ = .02). However, high rate early-onset offenders were more likely than high rate adult-onset offenders to be Indigenous Australian (28.3% versus 13.3%, χ^2 (1, N =6,560) = 131.6, p < .001, ϕ = -.14). Additionally, on average, high rate early-onset offenders perpetrated twice as many offences and had twice as many finalisations as high rate adult-onset offenders (Table 8). High rate early-onset offenders were also more likely to have perpetrated at least one serious offence. Furthermore, high rate early-onset offenders were more likely than high rate adult-onset offenders to have been convicted of nearly all individual offence types, particularly for personal offences (especially acts intended to cause injury) and most property offences (Table 9). However, high rate adult-onset offenders had slightly higher rates of ever perpetrating 'fraud, deception and related offences'. High rate early-onset offenders were more likely to have received at least one supervised order than high rate adult-onset offenders (Table 8). Although high rate early-onset offenders were also more likely than high rate adult-onset offenders to have received at least one prison sentence, these rates were more comparable. Given the higher rates of offending and serious offending, high rate early-onset offenders were, on average, individually more costly than high rate adult-onset offenders ($42,522 versus $89,581 for the criminal justice system and $14,047 versus $46,050 total social and economic costs). As nearly 80% of high rate offenders had an early-onset, high rate early-onset offenders were responsible for 90% of the total costs attributable to all high rate offenders (ie criminal justice system costs plus social and economic system costs). This amounted to nearly $700 million between 10 and 25 years of age, compared with $79 million for high rate adult-onset offenders. Most of these differences in the rates, nature and costs of offending may be expected given that high rate early-onset offenders potentially had eight more years to offend than adult-onset offenders (ie potentially 10 to 25 years versus potentially 18 to 25 years).

Table 8 Rate and nature of offending across high rate offenders: Early-onset versus adult-onset offenders

Type of offender	Proportion of high rate offenders across age of onset		Total offences		Number of events[a]		Number of offences[b]		Ever serious offence (NOI 1-30)[c]	Ever Diverted[d]	Ever Non-Supervised order[e]	Ever Supervised order[f]	Ever Suspended Sentence[g]	Ever Adult Imprisonment[h]
	N	%	N	%	M	SD	M	SD	%	%	%	%	%	%
Early-onset high rate	5,161	78.7	120,985	87.7	9.0	6.6	23.4	27.4	54.4	79.6	94.6	65.0	19.2	25.5
Adult-onset high rate	1,399	21.3	16,923	12.3	4.6	3.5	12.1	9.9	38.7	0.0	90.0	49.0	16.8	19.9
Total high rate offenders	6,560	100.0	137,908	100.0	8.1	6.3	21.0	25.2	51.1	62.6	93.6	61.6	18.7	24.3

a: t test conducted: t (4,256.9) = 33.8, p = .001, Cohen's d = 0.83
b: t test conducted: t (6,099.6) = 24.4, p = .001, Cohen's d = 0.55
c: chi square analysis conducted: χ^2 (1, N =6,560) = 109.6, p = .001, ϕ = -.13
d: chi square analysis conducted: χ^2 (1, N =6,560) = 2979.8, p = .001, ϕ = -.67
e: chi square analysis conducted: χ^2 (1, N =6,560) = 39.8, p = .001, ϕ = -.08
f: chi square analysis conducted: χ^2 (1, N =6,560) = 118.1, p = .001, ϕ = -.13
g: chi square analysis conducted: χ^2 (1, N =6,560) = 4.3, p = .038, ϕ = -.03
h: chi square analysis conducted: χ^2 (1, N =6,560) = 18.2, p = .001, ϕ = -.05

Note: Time to offend varied across early-onset (10 to 25 years) and adult-onset offenders (18 to 25 years)

Table 9 High rate offenders who had *ever* perpetrated an offence from each ANZSOC offence type: Early-onset versus adult-onset offenders

Offence Type	ANZSOC Codes	Early onset – high N (%)	Adult onset – high N (%)	Total N (%)	χ^2 (*df = 1*)[a]	ϕ
Personal Offences	Homicide and related offences	20 (0.4)	0 (0.0)	20 (0.3)	5.4	-.03
	Acts intended to cause injury	2,041 (39.5)	325 (23.2)	2,366 (36.1)	127.1*	-.14
	Sexual assault and related offences	200 (3.9)	36 (2.6)	236 (3.6)	5.4	-.03
	Dangerous or negligent acts endangering persons	1,649 (32.0)	341 (24.4)	1,990 (30.3)	29.9*	-.07
	Abduction and related offences	227 (4.4)	24 (1.7)	251 (3.8)	21.5*	-.06
	Robbery, extortion and related offences	422 (8.2)	31 (2.2)	453 (6.9)	60.8*	-.10
	Any personal offence	3,167 (61.4)	597 (42.7)	3,764 (57.4)	157.2*	-.16
Property Offences	Unlawful entry with intent/burglary, break and enter	2,689 (52.1)	275 (19.7)	2,964 (45.2)	467.8*	-.27
	Theft and related offences	4,376 (84.8)	807 (57.7)	5,183 (79.0)	487.6*	-.27
	Fraud, deception and related offences	1,054 (20.4)	344 (24.6)	1,398 (21.3)	11.4*	.04
	Property damage	2,993 (58.0)	389 (27.8)	3,382 (51.6)	401.6*	-.25
	Any property offence	4,887 (94.7)	1,073 (76.7)	5,960 (90.9)	428.8*	-.26
Drug Offences	Illicit drug offences	3,331 (64.5)	708 (50.6)	4,039 (61.6)	90.3*	-.12
Public Order Offences	Public order offences	3,523 (68.3)	733 (52.4)	4,256 (64.9)	121.6*	-.14
Other Offences	Offences against justice procedures	3,337 (64.7)	748 (53.5)	4,085 (62.3)	58.7*	-.10
	Weapons and explosives offences	1,022 (19.8)	205 (14.7)	1,227 (18.7)	19.2*	-.05
	Miscellaneous offences	494 (9.6)	79 (5.6)	573 (8.7)	21.3*	-.06

* p≤.001

a: A series of chi square analyses were conducted. Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association.

Note. Traffic offences (under ANZSOC division 14) and breaches of justice orders were excluded from analyses.

An additional series of analyses were conducted to determine the differences between early-onset and adult-onset high rate offenders in adulthood (ie offences processed in the adult court system that were perpetrated at 18 years or older). Just over 10% of high rate early-onset offenders (n = 570) were not convicted of an offence that was perpetrated after 18 years of age. Therefore, comparisons were made using the 4,591 high rate early-onset offenders that were responsible for offences after 18 years of age. As could be expected, the differences between the two groups were markedly reduced (Table 10). In fact, in adulthood, there was no difference between the number of offences perpetrated by high rate early-onset and adult-onset offenders, t (3,034.5) = -.89, p = .376, Cohen's d = -.03. Additionally, high rate early-onset and adult-onset offenders were equally likely to have been convicted of at least one serious offence in adulthood, χ^2 (1, N =5,990) = 1.3, p = .246, ϕ = -.02. There

were also fewer differences across individual offence types (Table 11). However, adult-onset offenders were even more likely to be convicted of 'fraud, deception and related offences' in adulthood and early-onset offenders were still more likely to be convicted of 'personal offences' (primarily 'acts intended to cause injury' and 'dangerous or negligent acts endangering persons'), 'public order offences' and 'offences against justice procedures'. More high rate early-onset offenders than high rate adult-onset offenders had been sentenced to prison at least once in adulthood (Table 10). Conversely, more high rate adult-onset offenders than high rate early-onset offenders had been sentenced to community supervision at least once in adulthood.

Table 10 Rate and nature of offending in adulthood: High rate early-onset versus high rate adult-onset offenders

Type of offender	Proportion high rate offenders across age of onset (adulthood only)		Total offences		Number of offences[a]		Ever serious offence (NOI 1-30)[b]	Ever Non-Supervised order[c]	Ever Supervised order[d]	Ever Suspended Sentence[e]	Ever Adult Imprisonment[f]
	N	%	N	%	M	SD	%	%	%	%	%
Early-onset - high in adulthood	4,591	76.6	54,200	76.2	11.8	13.1	40.4	96.3	42.8	20.6	28.0
Adult-onset - high	1,399	23.4	16,923	23.8	12.1	9.9	38.7	90.0	49.0	16.8	19.9
Total high rate offenders (in adulthood)	5,990	100.0	71,123	100.0	11.9	12.5	40.0	94.8	44.3	19.7	26.1

a: t test conducted: t (3,034.5) = -.89, p = .376, Cohen's d = -.03
b: chi square analysis conducted: χ^2 (1, N =5,990) = 1.3, p = .246, ϕ = -.02
c: chi square analysis conducted: χ^2 (1, N =5,990) = 86.0, p = .001, ϕ = -.12
d: chi square analysis conducted: χ^2 (1, N =5,990) = 16.9, p = .001, ϕ = .05
e: chi square analysis conducted: χ^2 (1, N =5,990) = 9.6, p = .002, ϕ = -.04
f: chi square analysis conducted: χ^2 (1, N =5,990) = 36.2, p = .001, ϕ = -.08

Table 11 High rate offenders who had *ever* perpetrated each ANZSOC offence type in adulthood: Early-onset versus adult-onset offenders

Offence Type	ANZSOC Codes	Early onset – high	Adult onset – high	Total		
		N (%)	N (%)	N (%)	χ^2 (*df* = 1)[a]	ϕ
Personal Offences	Homicide and related offences in adulthood	16 (0.3)	0 (0.0)	16 (0.3)	4.9	-.03
	Acts intended to cause injury in adulthood	1,314 (28.6)	325 (23.2)	1,639 (27.4)	15.7*	-.05
	Sexual assault and related offences in adulthood	98 (2.1)	36 (2.6)	134 (2.2)	0.9	.01
	Dangerous or negligent acts endangering persons in adulthood	1,363 (29.7)	341 (24.4)	1,704 (28.4)	14.9*	-.05
	Abduction and related offences in adulthood	106 (2.3)	24 (1.7)	130 (2.2)	1.8	-.02
	Robbery, extortion and related offences in adulthood	186 (4.1)	31 (2.2)	217 (3.6)	10.3	-.04
	Any personal offence in adulthood	2,375 (51.7)	597 (42.7)	2,972 (49.6)	35.2*	-.08
Property Offences	Unlawful entry with intent/burglary, break and enter in adulthood	1,152 (25.1)	275 (19.7)	1,427 (23.8)	17.5*	-.05
	Theft and related offences in adulthood	2,512 (54.7)	807 (57.7)	3,319 (55.4)	3.8	.03
	Fraud, deception and related offences in adulthood	708 (15.4)	344 (24.6)	1,052 (17.6)	62.2*	.10
	Property damage in adulthood	1,550 (33.8)	389 (27.8)	1,939 (32.4)	17.4*	-.05
	Any property offence in adulthood	3,218 (70.1)	1,073 (76.7)	4,291 (71.6)	23.0*	.06
Drug Offences	Illicit drug offences in adulthood	2,549 (55.5)	708 (50.6)	3,257 (54.4)	10.4	-.04
Public Order Offences	Public order offences in adulthood	2,814 (61.3)	733 (52.4)	3,547 (59.2)	35.2*	-.08
Other Offences	Offences against justice procedures in adulthood	2,799 (61.0)	748 (53.5)	3,547 (59.2)	25.0*	-.07
	Weapons and explosives offences in adulthood	633 (13.8)	205 (14.7)	838 (14.0)	0.7	.01
	Miscellaneous offences in adulthood	211 (4.6)	79 (5.6)	290 (4.8)	2.6	.02

* $p \leq .001$

a: A series of chi square analyses were conducted. Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association.

Note. Traffic offences (under ANZSOC division 14) and breaches of justice orders were excluded from analyses.

How do Low Rate Adult-Onset Offenders differ from Low Rate Early-Onset Offenders?

Using the offender trajectories for the 83/84 QLD from Allard and colleagues' (2013) research, 73.3% of early-onset offenders were classified as low rate offenders (n = 14,149). These offenders were compared with the 19,814 low rate adult-onset offenders identified previously. The results indicated that while Indigenous status did not vary across the offender groups (χ^2 [1, N =33,963] = 0.8, p = .778, ϕ = .00), females were significantly more likely to be early-onset low rate offenders than adult-onset low rate offenders (χ^2 [1, N =33,871] = 659.3, p < .001, ϕ = -.14). On average, adult-onset offenders perpetrated slightly fewer offences and were responsible for slightly fewer finalisations than early-

onset offenders (Table 12). This may be because adult-onset offenders had less time to reoffend due to a later onset of offending. Nevertheless, adult-onset offenders were responsible for more offences *in total* than early-onset offenders as there were more adult-onset offenders in the dataset.

The nature of offending differed between low rate early-onset and low rate adult-onset offenders. Although serious offences were infrequent in both groups of offenders, early-onset low rate offenders were more likely than their adult-onset counterparts to have perpetrated at least one serious offence, χ^2 (1, N =33,963) = 287.4, p = .001, ϕ = -.09 (Table 12). Additionally, early-onset offenders were much more likely than adult-onset offenders to have perpetrated property offences (Table 13), with nearly 70% of the early-onset offenders having at least one property offence (predominantly theft from retail premises but also unlawful entry and property damage and excluding fraud, deception and related offences) compared with one quarter of adult-onset offenders. Early-onset low rate offenders were also more likely than adult-onset low rate offenders to have perpetrated acts intended to cause injury (although these crimes were fairly infrequent in both groups) and illicit drug offences. In contrast, adult-onset offenders were more likely than early-onset offenders to have perpetrated public order offences (primarily offensive behavior and disorderly conduct), dangerous or negligent acts endangering persons (principally dangerous or negligent operation of a vehicle [14.5% of low rate adult-onset offenders] and dangerous/negligent driving under the influence of alcohol or other substances [10% of low rate adult-onset offenders] – which differs to driving while exceeding the prescribed content of alcohol under ANZSOC division 14) and offences against justice procedures (predominantly resist or hinder a police officer or justice official). Early-onset and adult-onset low rate offenders had similarly low rates of ever being sentenced to prison/detention and ever receiving supervised orders (Table 12). Not surprisingly, given the differences in criminal justice system responses available in the juvenile and adult justice systems, early-onset offenders were much more likely to have been diverted at least once and adult-onset offenders were much more likely to have received at least one non-supervised order.

Table 12 Offending profiles of low rate offenders: Early-onset versus adult-onset offenders

Type of offender	Proportion of low rate offenders across age of onset		Male[a]	Indigenous Australian[b]	Age of onset		Total offences		Number of events[c]		Number of offences[d]		Ever serious offence (NOI 1-30)[e]	Ever Diverted	Ever Non-Supervised order[f]	Ever Supervised order[g]	Ever Suspended Sentence[h]	Ever detention	Ever Adult Imprisonment[i]
	N	%	%	%	M	SD	N	%	M	SD	M	SD	%	%	%	%	%	%	%
Low rate early-onset	14,149	41.7	65.4	5.8	15.3	1.8	33,454	48.5	1.8	1.3	2.4	1.7	14.0	74.8	50.5	7.0	0.8	0.0	0.7
Low rate adult-onset	19,814	58.3	77.7	5.9	21.5	2.2	35,495	51.5	1.4	0.9	1.8	1.3	8.3	0.0	95.9	6.1	1.7	0.0	1.5
Total low rate	33,963	100.0	72.6	5.8	18.9	3.7	68,949	100.0	1.6	1.1	2.0	1.5	10.6	31.2	77.0	6.5	1.3	0.0	1.2

a: chi square analysis conducted: χ^2 (1, N =33,871) = 659.3, p < .001, ϕ = -.14; missing N = 92
b: chi square analysis conducted: χ^2 (1, N =33,963) = 0.8, p = .778, ϕ = .00
c: t test conducted: t (23,588.1) = 33.7, p = .001, Cohen's d= 0.36
d: t test conducted: t (25,229.1) = 33.5, p = .001, Cohen's d= 0.40
e: chi square analysis conducted: χ^2 (1, N =33,963) = 287.4, p = .001, ϕ = -.09
f: chi square analysis conducted: χ^2 (1, N =33,963) = 9,622, p = .001, ϕ = .53
g: chi square analysis conducted: χ^2 (1, N =33,963) = 12.0, p = .001, ϕ = -.02
h: chi square analysis conducted: χ^2 (1, N =33,963) = 57.1, p = .001, ϕ = .04
i: chi square analysis conducted: χ^2 (1, N =33,963) = 51.9, p = .001, ϕ = .04

Note 1: Diversions were primarily cautions. Conferencing was available in limited jurisdictions in Queensland when the offenders in this cohort were youth because conferencing was only operating in pilot mode until 2003.
Note 2: Time to offend varied across early-onset (10 to 25 years) and adult-onset offenders (18 to 25 years)
Note 3: Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association.

Table 13 Low rate offenders who had *ever* perpetrated each ANZSOC offence type: Early-onset versus adult-onset offenders

Offence Type	ANZSOC Codes	Early onset – low rate N (%)	Adult onset – low rate N (%)	Total low rate offenders N (%)	χ^2 (*df = 1*)[a]	ϕ
Personal Offences	Homicide and related offences	9 (0.1)	13 (0.1)	22 (0.1)	0.0	.00
	Acts intended to cause injury	1,412 (10.0)	1,173 (5.9)	2,585 (7.6)	193.4*	-.08
	Sexual assault and related offences	134 (0.9)	98 (0.5)	232 (0.7)	24.9*	-.03
	Dangerous or negligent acts endangering persons	1,699 (12.0)	4,807 (24.3)	6,506 (19.2)	800.2*	.15
	Abduction and related offences	39 (0.3)	59 (0.3)	98 (0.3)	0.1	.00
	Robbery, extortion and related offences	97 (0.7)	47 (0.2)	144 (0.4)	39.3*	-.03
	Any personal offence	3,157 (22.3)	5,984 (30.2)	9,141 (26.9)	261.1*	.09
Property Offences	Unlawful entry with intent/burglary, break and enter	1,588 (11.2)	361 (1.8)	1,949 (5.7)	1,348.8*	-.20
	Theft and related offences	7,543 (53.3)	3,064 (15.5)	10,607 (31.2)	5,505.3*	-.40
	Fraud, deception and related offences	525 (3.7)	959 (4.8)	1,484 (4.4)	25.2*	.03
	Property damage and environmental pollution	2,137 (15.1)	1,216 (6.1)	3,353 (9.9)	745.8*	-.15
	Any property offence	9,745 (68.9)	4,985 (25.2)	14,730 (43.4)	6,422.7*	-.44
Drug Offences	Illicit drug offences	2,996 (21.2)	3,098 (15.6)	6,094 (17.9)	172.0*	-.07
Public Order Offences	Public order offences	3,468 (24.5)	7,995 (40.4)	11,463 (33.8)	926.2*	.17
Other Offences	Offences against justice procedures	1,820 (12.9)	3,997 (20.2)	5,817 (17.1)	310.7*	.10
	Weapons and explosives offences	500 (3.5)	495 (2.5)	995 (2.9)	31.1*	-.03
	Miscellaneous offences	435 (3.1)	194 (1.0)	629 (1.9)	199.4*	-.08

* p≤.001

a: A series of chi square analyses were conducted. Given high power for analyses, readers should interpret the results in conjunction with the effect sizes that measure the strength of the association

Note. Traffic offences (under ANZSOC division 14) and breaches of justice orders were excluded from analyses.

Table 14 shows comparisons for the average cost of individuals in the two low rate offender groups for criminal justice processing costs, wider social and economic costs and overall costs. Overall, each early-onset offender cost more ($10,449) than each adult-onset offender ($9,621). However, this was because of higher social and economic costs of early-onset offenders than adult-onset offenders, reflecting the more serious and costly offence types committed by early-onset offenders. Early-onset offenders also had slightly higher rates of offending, potentially because they had more time to offend than adult-onset offenders (potentially 10 to 25 years versus 18 to 25 years). In terms of criminal justice system costs, each early-onset offender cost less ($5,808) than each adult-onset offender ($6,993). Given that it generally costs more to process youth through to court than adults, and that youth supervision costs are substantially more than adult supervision costs, this reflects the fact that most youth are diverted to police cautioning which has much lower cost implications for the criminal justice system.

Table 14 Costs of low rate offenders: Early-onset versus adult-onset offenders

Type of offender	Proportion of low rate offenders across age of onset		Justice System Costs				Economic & Social Costs				Total Costs			
	N	%	M	Mdn	Group Costs ($MIL)	Group Costs %	M	Mdn	Group Costs ($MIL)	Group Costs %	M	Mdn	Group Costs ($MIL)	Group Costs %
Low rate early-onset	14,149	41.7	5,808	3,090[a]	82.2	37.2	4,642	1,760	65.7	55.8	10,449	5,359	147.8	43.7
Low rate adult-onset	19,814	58.3	6,993	3,090[a]	138.6	62.8	2,628	500	52.1	44.2	9,621	3,590	190.6	56.3
Total low rate offenders	33,963	100.0	6,499	3,090[a]	220.7	100.0	3,467	1,250	117.8	100.0	9,966	4,600	338.4	100.0

a: 41% of low rate early-onset incurred the minimum criminal justice system cost for youth offenders of $1250 (ie cost of a caution). $3090 was the minimum criminal justice system cost for adult-onset offenders

What are the Cost Implications Associated with Cautioning Low Rate Adult-Onset Offenders?

Given the extent and nature of low rate adult-onset offending identified, the cost savings that could have accrued if formal police cautioning had been an available criminal justice system response for adult-onset offenders in Queensland were assessed. The cautioning estimates were calculated in three steps. First, given that cautions are typically reserved for first-time offenders and less serious offences (Allard et al. 2010; England and Wales. Ministry of Justice 2013), the costs of cautions were only estimated for low rate adult-onset offenders' first events (ie first court finalisation) that were processed in the Magistrates Court and resulted in non-supervised orders (eg convicted but not punished, fine, good behaviour bond, restitution). Using these criteria, 18,646 of the low rate adult-onset offenders (94.1%) could have been candidates for cautioning at their onset event. Second, the estimated cost of a caution (ie $1103; Allard et al. 2013) was compared with the justice system costs ($3,090) that were actually incurred for these cases. The results indicated that formally cautioning these adult-onset offenders for their first event, rather than processing them through the adult courts, would have resulted in a cost-saving of $37 million for the criminal justice system.

Third, we took into account potential lost revenue from court ordered fines. That is, if these offenders been cautioned, rather than processed in court, the revenue from fines would not have been received. Of the 18,646 low rate adult-onset offenders, 15,286 offenders (82.0%) had approximately $7.6 million worth of fines for their first finalised Magistrates Court appearance (*M*= $498, *Mdn* = $300, *SD*= $686). As approximately 25% of fines are typically unpaid (Lewis 1988; Queensland Department of Justice and Attorney-General 2011; Queensland Treasury and Trade 2013; Ruback & Bergstrom), estimated revenue from court ordered fines was reduced to approximately $5.7 million. The cost of administering and enforcing fines was also taken into account based on information about how much the State Penalties Enforcement Registry (SPER) charges councils and civilians for each fine that is referred (State Penalties Enforcement Registry 2013). While the actual cost of administering and enforcing fines may be substantially higher (eg between 55% and 60% of the SPER debt pool is under compliance, State Penalties Enforcement Registry 2013; Chapman et al. 2004; Lewis 1988; Moffatt & Poynton 2007; Ross & Pritikin 2011; Ruback & Bergstrom 2006), the administration cost was conservatively estimated as $58.85 per fine (totalling approximately $1.1 million - which was deducted from the amount of revenue that would have otherwise been gained from fines). Therefore, after adjusting for lost revenue from fines and reduced administration costs, the cost-savings of cautioning for the CJS were conservatively estimated as approximately $32.5 million.

Discussion

This research examined the extent and nature of adult-onset offending and investigated whether formal police cautioning could be a viable and cost-effective alternative to current court processing for adult-onset offenders. The research generated six key findings. First, adult-onset offenders were prevalent, constituting half of all offenders in the cohort. Second, the vast majority of adult-onset

offenders were low rate, less serious offenders. Third, high rate adult-onset offenders and low rate adult-onset offenders could be distinguished at their onset event according to the rate, type and severity of offending. Fourth, high rate early-onset offenders perpetrated significantly more offences and more serious offences than high rate adult-onset offenders overall. However, the frequency and severity of offences perpetrated by high rate early-onset offenders and high rate adult-onset offenders was comparable in adulthood. Fifth, low rate adult-onset offenders and low rate early-onset offenders had similarly low rates and less serious patterns of offending, even though they perpetrated different types of offences. Sixth, cautioning first-time, low rate, less serious adult-onset offenders would produce substantial cost-savings. Each of these findings will be discussed in more detail.

Rate and Nature of Adult-Onset Offending

Just over half of all offenders in the cohort initiated (official) offending at 18 years of age or older. These findings are analogous with previous research using comparable methodologies (eg 43% Carrington et al. 2005; a mean of 50% of adult offenders across 12 longitudinal cohorts Eggleston & Laub 2002; 41% of offenders Kratzer & Hodgins 1999; 38% of offenders McGee & Farrington 2010). The sheer magnitude of offenders who first come to the attention of the criminal justice system after 18 years of age provides a compelling argument for investigating the nature of this phenomenon and the appropriateness of current criminal justice responses for these offenders. Of course it is always possible that adult-onset offenders defined using official records had undetected offending prior to 18 years of age. Nevertheless, from a practical and policy perspective, it is important to understand if and how offenders who officially onset in adulthood differ from earlier onset offenders.

To the authors' knowledge, this study is the first to disaggregate adult-onset offenders by the chronicity of offending. However, consistent with much previous research, adult-onset offenders were predominantly less serious, low rate offenders (Carrington et al. 2005; Farrington et al. 2006; Farrington et al. 2009; Harris 2011; Kratzer & Hodgins 1999; van Koppen et al. 2009). In most cases, adult-onset offenders perpetrated just one or two offences that were minor or moderate in nature, and resulted in non-supervised orders. Just 6.6% had a moderate or chronic pattern of offending that was more serious in nature. These latter offenders were responsible for a disproportionate amount of offences in general and serious offences in particular. The finding that a small proportion of high-rate offenders were responsible for a disproportionate amount of crime is consistent with criminal career research more broadly (Jones et al. 2001; McGloin & Stickle 2011; Wolfgang et al. 1972). Whether high-rate adult-onset offenders were actually early-onset persistent offenders whose earlier offending had not been officially detected, or who offended outside Queensland, could not be determined. However, our analyses did show some differences between this group and those with official early-onset trajectories. Future research should supplement official data with self-report data to provide a better understanding of high rate adult-onset offenders.

Differentiating Low Rate and High Rate Adult-Onset Offenders at their Onset Event

From a policy and practice perspective, it is important to investigate if and how high rate and low rate adult-onset offenders differ at their onset event. Being able to identify factors associated with an increased risk of high rate offending may enable important criminal justice system resources to be targeted towards those offenders who pose the greatest risk of reoffending. This is consistent with best practice principles of offender rehabilitation (Andrews et al. 1990). Limited factors could be compared between high and low rate adult-onset offenders in this study. Despite this, there were several factors that distinguished high and low rate adult-onset offenders at their onset event. Low rate adult-onset offenders tended to perpetrate one or two offences that were commonly public order offences (34%; primarily offensive behavior and disorderly conduct) or offences endangering persons (20.3%; 13% dangerous or negligent operation of a vehicle and 7% dangerous/negligent driving under the influence of alcohol or other substances – which differs to driving while exceeding the prescribed content of alcohol under ANZSOC division 14). More than half of all low-rate adult-onset offenders were convicted of at least one of these offences at their onset event. Property and drug offences were less frequent, but still 13% perpetrated at least one theft or related offence and 11.9% perpetrated at least one illicit drug offence. In contrast, high rate adult-onset offenders tended to perpetrate more offences, far more property offences and more drug offences. High rate adult-onset offenders were also more likely to perpetrate serious offences, although serious offences were infrequent in both groups of offenders at their onset event. In terms of individual-level differences, high rate adult-onset offenders were more likely to be Indigenous Australian and were more likely to have a younger age of onset. There was no difference in sex. Although there were several differences between the offending profiles of low and high rate adult-onset offenders at their onset event, the majority of high rate offenders would have still been candidates for adult cautioning at their onset event using the criteria applied in this research (approximately 75%; to be discussed in more detail in the *Limitations* section). Future research should continue to examine those factors associated with higher and lower rates of offending among adult-onset offenders to drive the appropriate targeting of scarce criminal justice resources towards those at the highest risk of serious and chronic offending.

Comparing High Rate Adult-Onset Offenders with High Rate Early-Onset Offenders

Understanding the similarities and differences in risks and needs across different high rate groups is important as, according to the risk-needs-responsivity principles, the majority of criminal justice system resources should be targeted towards these high rate offenders (Andrews et al. 1990). However, to be effective, these intervention and prevention strategies must be tailored towards their risk and needs. In the current study, we did not have the relevant data to evaluate and compare the risk and needs of high rate adult-onset and early-onset offenders. However, we did compare their offending profiles. These comparisons indicated that high rate early-onset offenders had a higher frequency and severity of offending than high rate adult-onset offenders. However, this was due to the

additional time these offenders had to offend post-onset offence (eg potentially another eight years or more). During adulthood, high rate early-onset offenders and high rate adult-onset offenders had a similar frequency and severity of offending.

The identification of a high rate group of offenders that do not onset until adulthood is inconsistent with many criminological theories (or at least very unlikely; Sohoni et al. 2013) (eg Moffitt's (1993) taxonomic theory of criminal behaviour and Gottfredson and Hirschi's (1990) general theory of crime). Given the similarities between high rate early-onset and adult-onset offenders in adulthood, it is always possible that high rate adult-onset offenders are merely high rate early-onset offenders that were not caught until adulthood. However, there were some differences in the offending profiles of these groups. For example, high rate adult-onset offenders were more likely than high rate early-onset offenders to have perpetrated fraud, deception and related offences. In contrast, high rate early-onset offenders were more likely than high rate adult-onset offenders to have perpetrated personal offences' (primarily acts intended to cause injury and 'dangerous or negligent acts endangering persons'), 'public order offences' and 'offences against justice procedures'. Similar differences in some of these offence types have been reported in previous research (Carrington et al. 2005; McGee & Farrington 2010). Whether these differences in the nature of offences are due to differences in the etiology of early-onset and adult-onset offending could not be examined in this study. Nor could we examine whether the differences in offence types was the reason why adult-onset offenders came into contact with the criminal justice system later than early-onset offenders. This may be because these offences have lower detection rates (and therefore these offenders may have been perpetrating these offences at younger ages). Alternatively, factors associated with adulthood may result in individuals commencing these sorts of offences when they had previously not offended. All of these possibilities need to be examined in future research. Future research should also examine the criminogenic risks and needs of high rate adult-onset offenders to determine whether these differ from the risks and needs of high rate early-onset offenders.

Comparing Low Rate Adult-Onset Offenders with Low Rate Early-Onset Offenders

Given that the vast majority of adult-onset offenders were low rate offenders, these offenders (who are currently processed in the adult court system) were compared with low rate early-onset offenders (who are typically diverted from the criminal justice system). The results indicated that low rate adult-onset offenders and low rate early-onset offenders had similarly low rates of (predominantly less serious) offending. While there were differences in the types of crimes commonly perpetrated by adult-onset and early-onset low rate offenders, these differences seem to reflect the social behaviour, culture and developmental 'struggles' associated with each developmental period. For the younger low rate offenders, their offences mirrored those typically reported for 'adolescent-limited offenders', including shoplifting and other property offences, drug offences and public order offences (offensive behaviour, disorderly conduct, offensive language, liquor and tobacco offences and trespass). For the adult-onset low rate offenders, their offences tended to be associated with fairly common social

behaviour in young adulthood, including offences related to drinking and other substances and disturbances to public order, as well as resisting/hindering arrest and dangerous/negligent driving. Many of these offences are not surprising in a culture among a lot of young adults of binge drinking, nightclubbing and generally 'partying' (Druginfo, 2009).

Some research suggests that this sort of social environment among young adults is due to delays in long term adult roles often experienced by young adults in contemporary industrialised societies (eg extended periods of study and delays in leaving home, marrying and having children; Arnett 2007; Mata & van Dulmen 2012). Therefore some conceptualise offending related to this period in young adulthood as another sort of (somewhat normative) adolescent-limited offending (Moffitt, 2006) due to an 'extended maturity gap' (Stewart et al. under review). Others propose that, although onset in emerging adulthood may bear some similarity to adolescent-limited offending, there are a number of important and unique social dynamics at play in emerging adulthood. While adolescents long for more independence than adults are willing to extend to them, emerging adulthood is characterised by an expectation of independence that individuals may struggle to meet (Mata & van Dulmen 2012). Often, they are collecting education, work and relationship experiences to prepare them for later success, while experiencing immediate pressures to "grow up" and be independent. However, like adolescents, these emerging adults may lack the cognitive development, socio-emotional maturity and associated coping skills to navigate the expectations placed on them and the various stressors they encounter as they transition into adult roles (Farrington et al. 2012; Mata & van Dulmen 2012). As adult-onset offenders have been demonstrated to exhibit greater parental closeness and poorer social skills (Mata & van Dulmen 2012; Zara & Farrington 2012; 2010), these individuals may experience greater difficulty transitioning into adulthood and the expectation of independence that accompanies it. It is important that the social factors associated with offending in emerging adulthood are examined further. It is possible that, similar to adolescent-limited offenders, many adult-onset offenders may 'mature out of' the offences that predominate emerging adulthood (Farrington et al. 2012). The sex differences observed among adult-onset and early-onset low rate offenders may reflect sex differences in social maturity, social dynamics and/or a susceptibility to different types of offending. These sex differences also need to be examined further in future research.

The Cost of Low Rate Adult-Onset Offenders: A Case for Cautioning First-Time Adult-Onset Offenders

Despite having slightly lower individual rates of offending and perpetrating somewhat less serious offences, each adult-onset offender cost more to the criminal justice system, on average, than each early-onset offender. This is primarily due to the frequent use of cautioning with low rate early-onset offenders which is not available to adult offenders in Queensland (except for minor offences perpetrated by individuals over 65 years of age or with intellectual disabilities, whereby it is infrequently applied). If first-time low rate, less serious adult-onset offenders were formally cautioned, it would result in considerable cost-savings for the criminal justice system. Findings indicated that formally cautioning all first-time low rate adult-onset offenders in this cohort who were dealt with in the

Magistrates Court and received non-supervised orders would have saved $32.5 million in police and court costs (once revenue from fines was deducted). This represents a 23.4% cost reduction in processing this group through the criminal justice system and a 4.3% reduction in the cost of processing all members of the cohort through the criminal justice system (Allard et al. 2013).

Based on estimates about the length of time that police spend on each caution (4.5 hours) compared with preparing for each court appearance (11 hours), cautioning the 18,646 adult-onset low-rate members of the cohort over the eight year period would have saved police 121,199 hours or approximately eight full-time policing positions. In addition, reducing the number of Magistrates Court appearances by 18,646 would have reduced the annual workload of the Magistrates Court by approximately 1.2% (Magistrates Court of Queensland Annual Report 2011-2012). However, these figures only represent the reduced workloads associated with diverting less serious, first-time offences by low-rate adult-onset offenders *in this single cohort*. The workload reductions would be substantially more if considered on a cross-sectional basis. While it is questionable whether police cautioning could be used to respond to all of these first-time adult-onset offenders, evidence does indicate that 85% of youth are cautioned the first time they have contact with the system (Allard et al. 2009; Little & Allard 2011). Therefore, considerable cost savings would result even if similar cautioning rates could be achieved for first-time adult-onset offenders.

In addition, cautioning first-time low-rate adult-onset offenders is consistent with the dominant model of offender rehabilitation and is likely to reduce recidivism, thereby further reducing costs. Given the brief and less serious nature of most adult-onset offending, and since CJS intervention may actually increase the likelihood of low risk offenders reoffending (Andrews & Dowden, 2006; Lowenkamp et al. 2006; Taxman & Thanner 2006), formal cautioning may be more commensurate with the risks and needs of the vast majority of adult-onset offenders. The use of formal cautioning may be particularly relevant, or arguably necessary, for young adult offenders. Farrington, Loeber and Howell (2012) have recently advocated for alternative processing for young adult offenders (ie under 25 years of age) in the United States of America, as is the case for 18 to 20 year olds in some jurisdictions (eg Sweden, Austria and Germany; Farrington et al. 2012). These researchers argue that processing young offenders in the adult courts, which is more punitive than the youth justice system, increases their likelihood of reoffending. They assert that young adults should be dealt with by extending the youth justice system. In Queensland and other jurisdictions in Australia, this would entail extending formal police cautioning to young adult offenders. Such diversion of young adult-onset offenders would also be consistent with the recommendations of the United Kingdom's Commission on Young Adults and the Criminal Justice System (Barrow Cadbury Trust, 2005).

While limited research has examined the impact of cautioning for adults, there is some evidence that adult cautioning may be associated with lower rates of reoffending (United Kingdom. Office for Criminal Justice Reform 2010; Payne et al. 2008; The Audit office of New South Wales 2011). To illustrate, findings from England and Wales indicate that 18.6% of adults who received a reprimand, warning or caution reoffended, compared with 25.2% of offenders who received a penalty notice and 39.0% of offenders who were sentenced to prison or received a court order (United Kingdom. Office

for Criminal Justice Reform 2010). In New South Wales, 5% of adults cautioned under the Cannabis Cautioning Scheme reoffended over a two year period, compared with 14% who were initially processed in the adult court system (The Audit office of New South Wales 2011). However, these studies were unable to control for potential differences between the cautioning and comparison groups.

More research has been conducted on the effectiveness of youth cautioning than adult cautioning. For youth offenders, evidence indicates that diverting first-time youthful offenders reduces recidivism. Findings indicate that 19-42% of youth who are cautioned have re-contact with the system, compared with 39-61% of youth who appear in court (Allard et al. 2009; Cunningham 2007; Dennison et al. 2006; Vignaendra & Fitzgerald 2006). While many of these studies were unable to control for potential differences between the cautioning and court appearance groups, the large proportion of young offenders who are cautioned and who do not have recontact suggests that it is an effective response. One study that did control for potential demographic and offence differences found that young people who were cautioned for their first offence were 1.7 times less likely to have re-contact than young people who appeared in court (Allard et al. 2009). If cautioning proved to be similarly effective for reducing recidivism among first-time adult-onset offenders, there would be significant additional cost-savings as well as social benefits. For all of these reasons, broader adult cautioning schemes, or other adult diversion schemes, have been introduced in some countries overseas for less serious first offences (eg Ireland, Citizens Information Board 2010; England and Wales, Ministry of Justice 2013; New Zealand, New Zealand Police 2013). In addition, drug diversion schemes have been implemented across Australia (eg Payne et al. 2008; NCPIC 2013) as well as other targeted diversion schemes (eg South Australia's Magistrates Court Diversion program; Forum Sentencing in New South Wales).

Limitations and Directions for Future Research

Importantly, the findings from this study must be interpreted according to the limitations of this research. First, if formal police cautioning for adults had been available to adult-onset offenders in this cohort, the majority of high rate adult-onset offenders would have been cautioned for their first event (ie approximately 75% were finalised in the Magistrates Court and received a non-supervised order for their first event). This currently occurs with early-onset offenders in practice, whereby approximately 80% of high rate *early-onset* offenders in this cohort had received at least one formal police caution (youth). Given the difficulties determining offenders' criminal trajectories a priori, this is unavoidable with the introduction of formal adult cautioning. However, there is no reason to believe that processing these high rate adult-onset offenders through the Magistrates Courts and giving them a non-supervised order (ie current practice) would be any more effective than formal police cautioning. In addition, given evidence that formal police cautioning is associated with lower rates of reoffending, it is possible that there may also be benefits for recidivism for these high rate adult-onset offenders. Of course, there would also be cost-savings if these high rate offenders were cautioned as an alternative to court processing. Ideally, as more research is conducted on the risks and needs of high rate adult-onset offenders, early intervention and prevention programs would target these risks

and needs in an attempt to prevent the onset of more chronic adult-onset offending patterns. In addition, as adult-onset offenders re-enter the system, intervention strategies could attempt to address the risks and needs of those adult-onset offenders at risk of a high rate offending trajectory. Thankfully, high rate adult-onset offenders were infrequent in the sample.

Second, as this study relied on officially recorded offending, it is possible that adult-onset offenders had offended prior to 18 years of age. Therefore some adult-onset offenders may actually be early-onset offenders. While this is a major limitation to this study, research suggests that most individuals (including those who are non-offenders according to official records) self-report some (primarily less serious) offending in adolescence and therefore "it would not be useful to label every person as a delinquent" (McGee & Farrington 2010: 16). In addition, research indicates that (a) there are still clear differences between adult-onset offenders with prior self-reported adolescent delinquency and early-onset offenders with both self reported delinquency and criminal justice contacts prior to 18 years of age and (b) there are marked differences between the nature and extent of *adult* offending self-reported by adult-onset offenders and those with no convictions in youth or adulthood, yet the self-reported offending of these groups looks similar prior to age 18 (Zara & Farrington 2010). In addition, differences in risk factors have been reported across those with no criminal justice system contacts, early-onset offenders with juvenile system contacts and adult-onset offenders whose first criminal justice system contact is in adulthood (Zara & Farrington 2012; 2010). This is despite self-reported offending by the majority of individuals in all three groups prior to 18 years of age (Zara & Farrington 2013; 2010). Due to these findings, Zara and Farrington (2013) have omitted self-reported offending from their recent analyses of adult-onset offending using data from the Cambridge Study in Delinquent Development, even though it was available. Regardless of the issues associated with official data versus self-report data, official datasets are ideal for assessing system costs and impacts (a central aim of this study).

Third, this paper examined just one diversionary option, formal police cautioning. This is just one potential diversionary scheme that could be used for first-time, less serious adult-onset offenders. Other diversionary schemes that could be used should be explored in future research (eg diversion to alcohol programs, conferencing, New Zealand's Adult Diversion Scheme). One alternative scheme is a conditional caution scheme, whereby cautions include specific conditions which offenders must comply with (eg England and Wales, Part 3 of the Criminal Justice Act 2003). These conditions could be reparative (eg repairing damage, compensation, an apology) and/or rehabilitative (eg alcohol or drug programs, anger management courses, driving programs). If these conditions are not complied with, the caution is revoked and the offender could be prosecuted for the original offence. Given that alcohol and other substances were associated with many crimes commonly perpetrated by low rate adult-onset offenders, conditional cautions could be useful for some of these offenders. Future research should examine the viability and cost implications of conditional cautions.

Fourth, it was only possible to adopt relatively crude eligibility criteria for cautioning in this study. Here, the outcome of a non-supervised order and a finalisation in the Magistrates Court were used as a rough estimate of less serious offending that could potentially be cautioned. In practice, the criteria

for adult cautioning would entail more carefully selected (and complex) criteria. These criteria would likely be associated with the nature and types of offences and contingent on police officer discretion (with clear policy guidelines). Decisions to caution an offender would be made after careful consideration of the circumstances of each individual case.

Fifth, as noted earlier, it is questionable whether police cautioning could be used to respond to all first-time adult-onset offenders who were dealt with in the Magistrates Court and received a non-supervised order. However, evidence does indicate that 85% of youth are cautioned the first time they have contact with the system (Allard et al. 2009; Little & Allard 2011). Therefore, it is possible that high rates of adult-onset offenders could also be cautioned for their first CJS contact. Doing so, would be consistent with the recommendations of the United Kingdom's Commission on Young Adults and the Criminal Justice System (in Barrow Cadbury Trust, 2005) and the United Kingdom's Young Adult Manifesto (see Helyar-Cardwell, 2009).

Sixth, the 83/84 QLD does not control for attrition due to death or moving interstate that may inaccurately resemble desistence. Seventh, the 83/84 QLD does not control for migration into Queensland which may have resulted in individuals with offending histories elsewhere appearing for the first time in the 83/84 QLD as adult-onset offenders. Eighth, data was only available to 25 years of age. There is increasing evidence that the ages between 18 and 25 years represent a unique developmental period, often called 'emerging adulthood' (Arnett 2007; 2000). While this period is separate to earlier adolescent years, it is also thought to be separate to later 'adulthood'. The low rate adult-onset offending in this study appeared to reflect the social factors associated with emerging adulthood. Therefore, research using older adult-onset offenders may produce different results. Ninth, the costs used in this study were based on a bottom-up costing approach and criminal justice system costs were average opportunity costs. The use of average rather than marginal costs means that a particular reduction in crime may not result in the specified cost savings, because many costs are fixed. However, the cost savings are likely to result if there is increasing population and future costs are delayed or avoided. Tenth, the criminal justice system costs were estimated for Queensland. There is some variation between jurisdictions in the costs of criminal justice practices, as well as variations in responses to adult offending (eg differences in the use of infringement notices, cautions, forum sentencing, diversion programs). The cost savings also did not incorporate the $103.50 court administration fee that is now payable in Queensland by defendants in the Magistrates Court because this cost was not applicable for this cohort (Reg 8A, Penalties and Sentences Regulation 2005; Part 10A Penalties and Sentences Act 1992). Eleventh, as offenders are processed in the adult court from 17 years of age in Queensland, if adult cautioning was introduced in Queensland, offenders who onset at 17 years of age would also be cautioned. If low rate offenders who onset at 17 years of age in this cohort were cautioned, this would have resulted in an additional 2,531 offenders being eligible for cautioning using the criteria adopted in this study. This could have yielded additional cost savings to the CJS of $4.5 million. Twelfth, cost savings will vary according to changes in legislative responses to offending over time. For example, recent legislative changes provide Queensland police

officers with the capacity to fine offenders for public nuisance offences (s6 Summary Offences Act 2005).

Conclusion

Despite these limitations, three conclusions can be made from this study. First, a large proportion of offenders do not come into contact with the criminal justice system until 18 years or older. Second, for 95% of these offenders, their offending career is brief and less serious and probably associated with social factors related to emerging adulthood. Third, in line with best practice principles of offender rehabilitation, it may be more appropriate to respond to these offenders using diversionary schemes like formal police cautioning. Doing so would save the criminal justice system considerable resources. These resources could be targeted towards higher risk offenders who pose an ongoing risk and/or used to address the social problems that lead to many of these adult-onset offences.

References

Part 3 Criminal Justice Act 2003 (England and Wales)

Part 10A Penalties and Sentences Act 1992

Reg 8A, Penalties and Sentences Regulation 2005

s93 Commonwealth Electoral Act 1918 (Cth)

s156 Liquor Act 1992 (Qld)

s6 Summary Offences Act 2005

Australian Bureau of Statistics 2011. *Australian and New Zealand Standard Offence Classification (ANZSOC)* (3rd ed). ABS cat. No. 1234.0. Canberra: Australian Bureau of Statistics

Australian Bureau of Statistics 2009. *National Offence Index.* Catalogue no: 1234.0.55.001. Canberra: Australian Bureau of Statistics

Allard T, Stewart A, Chrzanowski A, Ogilvie J, Birks D & Little S 2010. Police diversion of young offenders and Indigenous over-representation. *Trends and Issues in Crime and Criminal Justice* no. 390. http://www.aic.gov.au/documents/0/9/2/%7B092C048E7721-4CD8-99A6-1BC89C47D329%7Dtandi390.pdf

Allard T, Stewart A, Chrzanowski A, Ogilvie J, Birks D & Little S 2009. *The Use and Impact of Police Diversion for Reducing Indigenous Over-Representation.* Report for Criminological Research Council.

Allard T, Chrzanowski A & Stewart A 2012. Targeting crime prevention to reduce offending: Identifying communities that generate chronic and costly offenders. *Trends & Issues in Crime and Criminal Justice* no. 445. http://www.aic.gov.au/media_library/publications/tandi_pdf/tandi445.pdf .

Allard T, Stewart A, Smith C, Dennison S, Chrzanowski C & Thompson C 2013, online. The monetary cost of offender trajectories: Findings from Queensland (Australia). *Australian and New Zealand Journal of Criminology*

Andersson F, Levander S, Svensson R & Levander MT 2012. Sex differences in offending trajectories in a Swedish cohort. *Criminal Behaviour and Mental Health, 22*(2): 108-121

Andrews D & Dowden C 2006. Risk principle of case classification in correctional treatment : A meta-analytic investigation. *International Journal of Offender Therapy and Comparative Criminology, 50*(1): 88-100

Andrews D, Zinger I, Hoge RD, Bonta J, Gendreau P & Cullen FT 1990. Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology, 28*: 369-404

Armour S & Haynie DL 2006. Adolescent sexual debut and later delinquency. *Journal of Youth and Adolescence, 36*(2): 141-152

Arnett JJ 2007. Emerging adulthood: What is it, and what is it good for? *Society for Research in Child Development, 1*: 68-73

Arnett JJ 2000. Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*: 469-480

Baker J & Goh D 2004. *The Cannabis Cautioning Scheme three years on: An implementation and outcome evaluation.* Sydney: NSW Bureau of Crime Statistics and Research

Barrow Cadbury Trust. 2005. Lost in Transition: A Report of the Barrow Cadbury Commission on Young Adults and the Criminal Justice System. London, U.K.: Barrow Cadbury Trust.

Bartels L 2009. The weight of the Sword of Damocles: a reconviction analysis of suspended sentences in Tasmania. *Australian & New Zealand Journal of Criminology, 42*(1): 72-100

Bergman LR & Andershed AK 2009. Predictors and outcomes of persistent or age-limited registered criminal behavior: A 30-year longitudinal study of a Swedish urban population. *Aggressive Behavior, 35*(2): 164-178

Block CR, Blokland AA, van der Werff C, van Os R & Nieuwbeerta P 2010. Long-term patterns of offending in women. *Feminist Criminology, 5*(1): 73-107

Buck N, Verhulst F, van Marle H & van der Ende J 2013. Childhood psychopathology predicts adolescence-onset offending: A longitudinal study. *Crime and Delinquency*. *59*: 718-737

Carrington PJ, Matarazzo A & deSouza P 2005. Court careers of a Canadian birth cohort. *Crime and Justice Research Paper Series*. Ottawa, Ontario: Canadian Centre for Justice Statistics, Statistics Canada.

Cauffman E 2012. Aligning justice system processing with developmental science. *Criminology and Public Policy, 11*: 751 – 758

Chapman B, Freiberg A, Quiggin J & Tait D 2004. Using the tax system to collect fines. *Australian Journal of Public Administration, 63*(3): 20-32

Chrzanowski A & Wallis R 2011. Understanding the juvenile justice system, in Stewart A, Allard T & Dennison S (eds), *Evidence based policy and practice in Youth Justice.* NSW: Federation Press: 7-27

Citizens Information Board 2010. Adult Cautioning Scheme. http://www.citizensinformation.ie/en/justice/law_enforcement/adult_cautioning_scheme.html

Criminal Justice Commission 1999. *Police Cautioning of Adults: Drug and other offences.* Toowong: Criminal Justice Commission. http://www.cmc.qld.gov.au

Cunningham T 2007. Pre-court diversion in the Northern Territory: Impact on juvenile reoffending. *Trends & Issues in Crime and Criminal Justice* no. 339. Canberra: Australian Institute of Criminology. http://www.aic.gov.au/publications/current series/ tandi/321-340/tandi339.aspx

DeLisi M & Piquero AR 2011. New frontiers in criminal careers research, 2000-2011: A state-of-the-art review. *Journal of Criminal Justice, 39*: 289-301

Dennison S, Stewart A & Hurren E 2006. Police cautioning in Queensland: The impact of juvenile offending pathways. *Trends and Issues in Crime and Criminal Justice* no. 306. http://www.aic.gov.au/documents/B/4/E/%7BB4E2379D-3557-4252-8C5D-CAC44459D97E%7Dtandi306.pdf

Donnellan MB, Ge X & Wenk E 2002. Personality characteristics of juvenile offenders: Differences in the CPI by age at first arrest and frequency of offending. *Personality and Individual Differences, 33*: 727-740

DrugInfo 2009. *Binge Drinking'* Fact Sheet Number 1.10, revised June 2009, http://au.reachout.com/find/articles/binge-drinking

Eggleston EP & Laub JH 2002. The onset of adult offending: A neglected dimension of the criminal career. *Journal of Criminal Justice, 30*: 603-622

Farrington DP 2001. *What has been learned from self-reports about criminal careers and the causes of offending.* Home Office Online Report. London: Home Office. http://www.crim.cam.ac.uk/people/academic_research/david_farrington/srdrep.pdf

Farrington DP, Coid JW, Harnett L, Jolliffe D, Soteriou N, Turner R & West DJ 2006. Criminal careers and life success: New findings from the Cambridge Study in Delinquent Development. Home Office Online Report 281. London: Home Office. http://www.crim.cam.ac.uk/people/academic_research/david_farrington/hofind281.pdf

Farrington DP, Loeber R & Howell JC 2012. Young adult offenders: The need for more effective legislative options and justice processing. *Criminology and Public Policy, 11*: 729 - 750

Farrington DP, Ttofi MM & Coid JW 2009. Development of adolescence-limited, late-onset, and persistent offenders from age 8 to age 48. *Aggressive Behavior, 35*(2): 150-163

Gibson CL & Krohn MD 2012. Raising the age: Issues in emerging adulthood and adult court referral of youthful offenders. *Criminology and Public Policy, 11*: 759 - 768

Gomez-Smith Z & Piquero AR 2005. An examination of adult onset offending. *Journal of Criminal Justice, 33*(6): 515-525

Gottfredson M & Hirschi T 1990. *A general theory of crime*. Stanford, CA: Stanford University Press

Gunnison E & McCartan LM 2010. Persistent versus late onset among female offenders: A test of state dependent and population heterogeneity interpretations. *Journal of the Western Society of Criminology, 11*: 45 - 62

Harris PM 2011. The first-time adult-onset offender: Findings from a community corrections cohort. *International Journal of Offender Therapy and Comparitive Criminology, 55*(6): 949-981

Helyar-Cardwell, V 2009. *Young Adult Manifesto*. London, U.K.: Transition to Adulthood Alliance

Jones PR, Harris PW, Fader J & Grubstein L 2001. Identifying chronic juvenile offenders. *Justice Quarterly, 18*(3): 479-507

Kratzer L & Hodgins S 1999. A typology of offenders: A test of Moffit's theory among makes and females from childhood to age 30. *Criminal Behaviour and Mental Health, 9*: 57-73

Lewis DE 1988. A linear model of fine enforcement with application to England and Wales. *Journal of quantitative criminology*, *4*(1): 19-37

Little S & Allard T 2011. Responding to offending – Youth Justice System responses, in Stewart A, Allard T & Dennison S (eds), *Evidence based policy and practice in Youth Justice.* NSW: Federation Press: 152-168

Lowenkamp CT, Latessa E & Holsinger AM 2006. The risk principle in action: What have we learned from 13,676 offenders and 97 correctional programs? *Crime and Delinquency, 52*(1): 77-93

Lussier P, Tzoumakis S, Cale J & Amirault J 2010. Criminal trajectories of adult sex offenders and the age effect: Examining the dynamic aspect of offending in adulthood. *International Criminal Justice Review, 20*(2): 147-168

Magistrates Court of Queensland 2012. *Magistrates Court of Queensland: Annual Report 2011-2012*. Queensland: Queensland Courts.

Mata AD & van Dulmen MHM 2012. Adult-onset antisocial behavior trajectories: Associations with adolescent family processes and emerging adulthood functioning. *Journal of Interpersonal Violence, 27*: 177 - 192

McGee TR & Farrington DP 2010. Are there any true adult-onset offenders? *British Journal of Criminology, 50*: 530 – 549

McGloin JM & Stickle WP 2011. Influence or Convenience? Disentangling Peer Influence and Co-offending for Chronic offenders. *Journal of Research in Crime and Delinquency, 48*(3): 419-447

Ministry of Justice 2013. *Simple cautions for adult offenders.* UK: Ministry of Justice. http://www.justice.gov.uk/downloads/oocd/adult-simple-caution-guidance-oocd.pdf

Moffatt S & Poynton S 2007. The deterrent effect of higher fines on recidivism: Driving offences. *Crime and Justice Bulletin*, no. 106.

Moffitt TE 2006. Life-course-persistent versus adolescence-limited antisocial behavior. In Cicchetti D & Cohen D (eds), *Developmental psychopathology, Vol 3: Risk, disorder, and adaptation* 2nd ed. Hoboken, NJ, US: John Wiley & Sons Inc: 570-598

Moffitt TE 1993. Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*: 674-701

Moffitt TE, Caspi A, Rutter M & Silva PA 2001. *Sex Differences in Antisocial Behaviour: Conduct Disorder, Delinquency, and Violence in the Dunedin Longitudinal Study.* Cambridge: Cambridge University Press

Nagin D & Land L 1993. Age, Criminal Careers, and Population Heterogeneity: Specification and Estimation of a Nonparametric, mixed Poisson model. *Criminology*, *31*(3): 327-362

NCPIC, 2013. Cannabis and the law.Fact Sheet Number 2, revised February 2013, http://ncpic.org.au/ncpic/publications/factsheets/pdf/cannabis-and-the-law

New Zealand Police Service 2013. *About the adult diversion scheme.* http://www.police.govt.nz/about-us/programmes-initiatives/adult-diversion-scheme/about

Nilsson A & Estrada F 2011. Established or excluded? A longitudinal study of criminality, work and family formation. *European Journal of Criminology, 8*(3): 229-245

Office for Criminal Justice Reform 2010. Initial findings from a review of the use of out-of-court disposals. London: Ministry of Justice

Payne J, Kwiatkowski M & Wundersitz J 2008. Police drug diversion: A study of criminal offending outcomes. *Research and Public Policy Series*. No. 97. Canberra: Australian Institute of Criminology

Queensland Department of Justice and Attorney-General 2011. Annual report 2010-2011. Brisbane: Queensland Government. http://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2011/5311T5334.pdf

Queensland Police Service 2012. *2011-2012 Annual statistical review.* Brisbane: QPS. http://www.police.qld.gov.au/services/reportsPublications/statisticalReview/1112/

Queensland Treasury and Trade 2013. *Service delivery statement: State budget 2013-14.* Brisbane: Queensland Government. http://www.budget.qld.gov.au/budget-papers/2013-14/bp5-qtt-2013-14.pdf

Rollings M 2008. Counting the Costs of Crime in Australia: A 2005 Update. *Research and Public Policy Series* no. 91. Canberra: Australian Institute of Criminology.

Ruback RB & Bergstrom MH 2006. Economic Sanctions in Criminal Justice Purposes, Effects, and Implications. *Criminal Justice and Behavior, 33*(2): 242-273

Sampson RJ & Laub JH 1992. Crime and deviance in the life course. *Annual Review of Sociology, 18*: 63-84

Sohoni T, Paternoster R, McGloin JM & Bachman R 2013. 'Hen's teeth and horse's toes': the adult onset offender in criminology. *Journal of Crime and Justice*, (ahead-of-print), 1-18 doi 10.1080/0735648X.2012.759884

State Penalties Enforcement Registry 2013. Fees and charges. Queensland: Queensland Treasury and Trade. https://www.sper.qld.gov.au/about-my-debt/fees-and-charges.php

Stewart A, Thompson C, Chrzanowski A, Allard T & Dennison S under review. Gender, race and offending trajectories: Examining and extending Moffitt's (1994) hypotheses. Submitted to *Journal of Research in Crime and Delinquency* (available upon request from the authors)

Taxman FS & Thanner M 2006. Risk, needs, and responsivity (RNR): It all depends. *Crime & Delinquency, 52*(1): 28-51

The Audit Office for New South Wales 2011. *The effectiveness of cautioning for minor cannabis offences.* New South Wales: The Audit Office

Thompson CM & Stewart A 2011. Assessing risk of reoffending. In Stewart A, Allard T & Dennison S (eds), *Evidence Based Policy and Practice in Juvenile Justice*. Australia: The Federation Press: 116- 133

Thornberry TP 2005. Explaining multiple patterns of offending across the life course and across generations. *The ANNALS of the American Academy of Political and Social Science, 602*(1): 156-195

van der Geest V, Blokland A, & Bijleveld C 2009. Delinquent development in a sample of high-risk youth: Shape, content, and predictors of delinquent trajectories from age 12 to 32. *Journal of Research in Crime and Delinquency, 46*(2): 111-143

van Koppen MV & de Poot CJ 2013. The truck driver who bought a cafe: Offenders on their involvement mechanisms for organized crime. *European Journal of Criminology, 10*(1): 74-88

van Koppen MV, de Poot CJ, Kleemans ER & Nieuwbeerta P 2009. Criminal trajectories in organized crime. *British Journal of Criminology, 50*(1): 102-123

Victoria Police Service 2012. *Crime statistics 2011/2012.* Victoria: Victoria Police.

Vieira TA, Skilling TA & Peterson-Badali M 2009. Matching court-ordered services with treatment needs: Predicting treatment success with young offenders. *Criminal Justice and Behavior*, *36*(4): 385-401

Vignaendra S & Fitzgerald J 2006. Reoffending among people cautioned by police or who participated in a youth justice conference. *Contemporary Issues in Crime and Justice* no. 103. Sydney: NSW Bureau of Crime Statistics and Research

Wolfgang M, Figlio RM & Sellin T 1972. *Delinquency in a Birth Cohort.* Chicago, IL: University of Chicago Press

Zara G & Farrington DP 2009. Childhood and adolescent predictors of late onset criminal careers. *Journal of Youth and Adolescence, 38*: 287 - 300

Zara G & Farrington DP 2010. A longitudinal analysis of early risk factors for adult onset offending: What predicts a delayed criminal career? *Criminal Behaviour and Mental Health, 20*: 257-273

Zara G & Farrington DP 2013. Assessment of risk for juvenile compared with adult criminal onset: Implications for policy, prevention, and intervention. *Psychology, Public Policy, and Law*, *19*(2): 235-24