

ATTACHMENT TV-2

This is the attachment marked "**TV-2**" referred to in the witness statement of Tony Vinson dated 4 August 2015.

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2015

**Persistent
communal
disadvantage
in Australia**

Tony Vinson and
Margot Rawsthorne

*With Adrian Beavis
and Matthew Ericson*



DROPPING OFF THE EDGE 2015

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A contact person was nominated within each jurisdiction and that person either rendered direct assistance or brought others who were better placed to assist into contact with the researchers. It is not possible here to acknowledge all of the individuals or agencies to whom we are indebted but there are officers and services whose patient and sustained help require special acknowledgement:

New South Wales: Kent Broadhead, Sector Performance and Coordination Group, NSW Department of Premier and Cabinet, and senior officers and research staff of the Bureau of Crime Statistics and Research, and the Departments of Community Services and Corrective Services.

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Western Australia: Jane Larke, A/ Assistant Commissioner Policy and Strategy, Department of Corrective Services, Julie Dixon, Department for Child Protection and Family Support, Tim Reid, Department of Health.

Northern Territory: Senior Officers of the Department of the Chief Minister.

FOREWORD

In 2007, Jesuit Social Services and Catholic Social Services Australia commissioned ground-breaking research into place-based disadvantage across the nation. The resulting report, *Dropping off the edge*, built on previous work that Jesuit Social Services had engaged Professor Tony Vinson to undertake on its behalf and quickly became a critical resource for governments, service providers and communities attempting to address the challenge of entrenched and often complex geographical disadvantage.

That report received over 284 scholarly citations and supported the establishment of the Australian Social Inclusion Board – a body charged with identifying long-term strategies to end poverty in Australia.

Since the publication of *Dropping off the edge*, our organisations have received many requests to update the findings and produce a new report tracking the wellbeing of communities in Australia over the intervening time.

Sadly, the current report drives home the enormous challenge that lies in front of our policy makers and service providers, as many communities identified as disadvantaged in 2007 once again head the list in each state and territory.

As a society we cannot, and should not, turn away from the challenge of persistent and entrenched locational disadvantage, no matter how difficult it may be to solve the problem.

We call on government, community and business to come together to work

alongside these communities to ensure long term sustainable change.

We hold hope that the young people and future generations in these communities will have a better outlook and life opportunities than is currently available to them. It is our belief that every Australian should have access to the opportunities in life that will enable them to flourish – to complete their education, to get a job, to access safe and affordable housing, to raise their children in safe communities and to see the next generation thrive.

Jesuit Social Services and Catholic Social Services Australia are indebted to the dedication and perseverance of Professor Tony Vinson in leading this important research and analysis over the past 15 years.

Julie Edwards
Chief Executive Officer
Jesuit Social Services

Marcelle Mogg
Chief Executive Officer
Catholic Social Services Australia

EXECUTIVE SUMMARY

THIS PROJECT IS BUILT ON A FOUNDATION OF NATIONAL AND INTERNATIONAL RESEARCH DOCUMENTING SOCIAL INFLUENCES UPON DISADVANTAGES THAT LIMIT PEOPLE'S LIFE OPPORTUNITIES.

Particular acknowledgement is made of the World Health Organisation's documentation of the social determinants of health but the findings of numerous researches spanning fields as diverse as health, education, employment and criminology, have converged upon a set of general insights into the onset and sustainment of disadvantage. Poor social and economic circumstances affect people's prospects of fulfilment throughout life. Disadvantages tend to concentrate among the same people and their effects on health and life opportunities are cumulative. That Australian children do not escape the social influences upon their wellbeing is reflected in findings of the Growing Up in Australia longitudinal study.

While there has been a particular research emphasis on the interplay of social and biological factors, three earlier publications in the present series, *Unequal in Life* (1999), *Community Adversity and Resilience* (2004), and *Dropping Off the Edge* (2007), have charted the vulnerability of Australian neighbourhoods to a range of material, behavioural, and educational forms of disadvantage as well as those related to 'health.' The present project,

conducted throughout 2014, has used a total of 22 indicators to study the geographic distribution of disadvantage throughout six Australian States and two Territories. Some data has been derived from sources like the Australian Bureau of Statistics, NAPLAN, and the Australian Early Development Index, but considerable trouble has been taken to systematically secure additional information about important aspects of social disadvantage (like confirmed child maltreatment and psychiatric admissions) from state and territory government human service agencies.

The rationale for choosing particular indicators is presented in some detail in the text but two criteria have especially been emphasised, namely, that the indicator has an established research provenance, and that it has a bearing on the limiting of life opportunities. For example, low family income is a central factor in shaping individual and family life opportunities. The research evidence is that family income is interwoven with the influence of other forms of disadvantage represented by the range of indicators included in the present study. With regard to disability support, there is frequently pre-existing disadvantage

among people who become disabled. In addition, there is the impact of disability onset itself, and the consequences of remaining disabled. Child maltreatment can have grave short, medium and long-term consequences for individual life opportunities.

Police and prison statistics indicate that the bulk of crimes are committed by people from low socioeconomic backgrounds with limited formal education. Extended education is negatively associated with early family formation, child abuse and neglect, and unemployment. Similar rationales lie behind the selection of the project's 22 indicators which have been given the following operational definitions:

Variable name	Description
Internet access	proportion of households without access to the internet in each counting area
Housing stress	proportion of households allocating 30% or more of income to housing costs in each counting area
Low family income	proportion of households with an income less than \$600 per week in each counting area
Overall education	proportion of the population in a counting area aged 16-65 years who left school before 15 years of age
Post-schooling qualifications	proportion of population aged 18-64 years not possessing degree/diploma/grad diploma/grad certificate/postgraduate degree/certificate in each counting area
Unskilled workers	proportion of the workforce (ABS definition) classified as lowest skill (ABS definition) in each counting area
Young adults not engaged	proportion of 17-24 year olds neither engaged in full-time study or work in each counting area
Readiness for schooling	proportion of all children tested for language and cognitive skills (school-based) and assessed as being 'developmentally vulnerable' in each counting area
Disability Support	proportion of people aged 18-64 years in receipt of the Disability Support Pension in each counting area
Long-term unemployment	proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart for one year or more in each counting area
Rent assistance	proportion of people aged 18 and over in receipt of rental assistance in each counting area

Unemployment	proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart in each counting area
Y3 numeracy	proportion of year 3 students not "At or Above National Minimum Standard Percentage" on the numeracy assessment scales in each counting area
Y3 reading	proportion of year 3 students not "At or Above National Minimum Standard Percentage" on the reading assessment scales in each counting area
Y9 numeracy	proportion of year 9 students not "At or Above National Minimum Standard Percentage" on the numeracy assessment scales in each counting area
Y9 reading	proportion of year 9 students not "At or Above National Minimum Standard Percentage" on the reading assessment scales in each counting area
Child maltreatment	rate of confirmed maltreatment of a child per 1,000 of children and young people under 15 years of age living in each counting area
Criminal convictions	rate per 1,000 of people aged 18-49 years convicted of crime in each counting area
Juvenile convictions	rate per 1,000 of people 10-17 years convicted or found guilty of crime in each counting area
Domestic violence	rate of domestic/family violence orders per 1,000 population aged 18-64 years in each counting area
Prison admissions	rate per 1,000 of people aged 18-49 years admitted to prison in each counting area
Psychiatric admissions	rate of psychiatric hospital admissions per 1,000 of the population over 18 years of age in each counting area

The counting units employed to capture the spatial distribution of the aforementioned indicators, vary according to the circumstances of different jurisdictions. Postcodes are used in Victoria, New South Wales and the ACT; Statistical Local Areas (SLAs) in Queensland, South Australia and the Northern Territory; Local Government Areas (LGAs) in Western Australia and Tasmania.

SUMMARY OF FINDINGS

In every jurisdiction there is a marked degree of spatial concentration of disadvantage:

- In Queensland, 6% of statistical local areas (SLAs) accounted for half of the top 5% ranks on the indicators;
- In South Australia, 5.5% of SLAs accounted for 57% of the top 5% ranks on the indicators; and
- In NSW, Victoria and Western Australia, 1.5% of postcodes accounted for 12-14% of the top 5% ranks on the indicators.

In smaller jurisdictions using the top three ranks as the criterion:

- In Tasmania, the five most disadvantaged local government areas accounted for 64% of the top three ranks on the indicators; and
- In the Northern Territory, 6% of the SLAs accounted for 50% of the top three ranks on the indicators.

In each jurisdiction, the profiles of localities identified by the number of their top rank positions as *Most or Next Most* disadvantaged were examined to discern whether there were recurring

characteristics. Some variations were found, such as the relative importance of rent assistance in Victoria and this indicator's virtual absence in New South Wales. However, the latter state's profile serves as a useful template for identifying core characteristics of Australia's disadvantaged communities. In two-thirds of those localities in New South Wales *criminal convictions* were a dominant characteristic, and *adult imprisonment* and *juvenile offending* were at significantly high rates within communities additionally burdened by *long and short unemployment*, *disabilities*, *lack of formal qualifications*, *deficient education generally*, *low family incomes*, *domestic violence* and *mental health problems*. With one exception, criminal justice indicators were also prominent in the profile of Victoria's disadvantaged areas, the exception being the lower frequency with which juvenile offending was to the fore. '*Young adults, no full-time work, or education/training*', was also less prominent. The overall level of education and deficiencies with respect to post-school qualifications were elements of the Victorian profile but NAPLAN results were less of a distinguishing characteristic.

In South Australia unemployment, overall level of education, *criminal convictions* and *unengaged young adults* were the prominent features, a pattern similar to that of Queensland, South Australia, and Northern Territory and with a small number of LGAs involved, Tasmania. The high frequency indicators in Western Australia's disadvantaged areas placed more emphasis on NAPLAN *deficiencies*, *internet access*, *unengaged young adults*, *overall education*, *prison* and *psychiatric admissions*.

INTERCONNECTIONS BETWEEN INDICATORS

It is one thing to note the manifestations of disadvantage that recurrently feature in the profiles of many vulnerable communities, and another to consider the interconnections between the attributes in question. In earlier reports in this series we have invoked the image of a *web of disadvantage* to capture the way in which the opportunity constraining effect of one form of disadvantage can reinforce the impact of one or more other forms of disadvantage. That pattern can be discerned by simple reflection but rendered more tangible by quantifying the extent to which areas' scores on pairs of indicators wax or wane together. Within each of the jurisdictions we have attempted to identify those variables that by the sheer number and scope of their connections with other measures of deprivation appear to be elements of the structure of localised disadvantage. To pursue this issue we have employed a statistic known as the correlation coefficient or *r*. The practical challenge comes down to this: to what extent do areas with 'high', 'middling', or 'low' scores on one indicator tend to have similar patterns of scores on the other indicators used in the study?

Detailed analyses of interconnections between the indicators are presented in chapters dealing with each jurisdiction. What those analyses show is that the restraints on the attainment of life opportunities can be more than the sum of separately operating influences. In both Victoria and New South Wales 13 indicators correlate with at least nine others at the $+ .50$ level. The group of

Victorian indicators fulfilling the above-stated requirements only differed from the New South Wales equivalent by the absence of *unengaged young adults* and *Year 9 reading* which were less prominent as connecting threads of localised manifestations of disadvantage. A more prominent role was played by long and short term unemployment, disability support, child maltreatment and prison admissions. In New South Wales, internet access, long and short term unemployment, low family income, unengaged young adults, disability, lack of qualifications, and overall limited community education were among the strong interconnecting variables. The pattern in South Australia, Western Australia and Tasmania resembled that in New South Wales but was a little more compressed in Queensland where internet access, low family income, overall education, post-school qualifications and young people not engaged in work or study, were the major connecting threads.

MOST DISADVANTAGED LOCALITIES

Using two methods to rank the relative degree of disadvantage, and taking account of positions on the full range of indicators, clear evidence emerged of the consistent identification of the most disadvantaged localities. For example, in Victoria, 25 of the 2014 'top 40' locations coincided with their 2007 counterparts. However, the critically important outcomes concern places occupying the 12 highest overall rank positions that we refer to as bands 1 and 2. Consistencies within these top 12 places were striking: in 1999 eight of the 12 names in the top two bands were the same as for 2014;

the same was true midway through this period (2007). A similar set of results occurred with New South Wales. One common feature across the jurisdictions was the prominence of disadvantaged localities in rural areas and on the fringes of metropolitan areas.

The consistency of the results when different methods of ranking were employed was striking (see Chapter 3). Particularly telling was the finding that 15 years ago nine of the 12 names in the top two bands for New South Wales were the same as in the present listing. In South Australia, all of the SLAs identified by the principal components analysis as being in the two most disadvantaged bands were in the top 10% of places based on extreme rankings on the indicators. Furthermore, there were eight SLAs in the first two bands of the current principal component findings that were reported upon in 2007; all eight were included among the 12 'most' or 'next most' disadvantaged in 2007. The study concludes that "Four waves of research over a 15 year period (1999 – 2014) have served to confirm the enduring cumulative social disadvantage of a relatively small number of localities across Australia." Several recommendations are based on this insight.

While the project has generally enjoyed a high level of cooperation, the research has not benefitted from universal support. Two states in particular claimed that data was not available in the form requested. Had the opportunity been afforded for discussion with staff directly concerned with generating the relevant data, as happened in other jurisdictions, a way around the difficulties may have been found. Greater success may also have attended the data gathering if it had been undertaken by an agency

established on the basis of a national/ state-territory agreement to undertake this work.

RECOMMENDATIONS

1. A driver of strategy

To identify and assist Australian communities with high social needs and concentrated disadvantage, a Centre for Community Strengthening and Program Evaluation be established within the Commonwealth Government. The Centre should be so located as to facilitate its coordination of community service initiatives by government and non-government organisations, and undertake rigorous collaborative evaluations of community strengthening projects. It should be established on a basis that enables it to gather full statistical information on local populations while adhering to existing data confidentiality guidelines, in the manner illustrated by the present project. The Centre should continue to develop and refine the data gathering and dissemination of community wellbeing information pioneered by a number of non-government agencies over recent decades, including the sponsors of the present project.

In recommending a national Centre for Community Strengthening and Program Evaluation we are fully conscious of the responsibility state and territory governments have for strengthening disadvantaged communities within their respective jurisdictions. Community level interventions should be an integral part of their human service functions but they have generally not dealt with this facet of their work in a knowledgeable, focused way. Achieving confidence in community strengthening, and a willingness to

cooperate fully with the proposed Centre, are priority requirements of state and territory governments. The latter need look no further than the summary of the high rates of occurrence within a limited number of highly disadvantaged areas of problems for which states have a primary responsibility – including criminal convictions, imprisonment, child maltreatment, education and mental illness. The establishment of the recommended Commonwealth level centre needs to be matched by the creation of counterpart state and territory units performing linked coordinating, educational and evaluation functions. Their efficient operation would be less dependent on staffing numbers than their strategic location within the structure of government services, their supportive professional mandates and their capacity to draw upon seconded professional personnel for specific tasks and purposes.

2. An instigator of focused, practical change

the proposed Commonwealth Centre, while of modest size and incorporating the seconded services of existing specialist staff of relevant government agencies, should be endowed with the authority necessary to carry out its community strengthening functions and secure the necessary cooperation of Commonwealth and State authorities. That cooperation generally has been extended to projects in the present series but should be even more forthcoming when backed by a degree of official sanction.

The Centre should be staffed by officers who have practical experience of community work and research, and a demonstrated interest in, and capacity

to contribute to, the furtherance of knowledge and approaches that bring practical benefits to cumulatively disadvantaged communities. The selection criteria should include candidates' demonstrated interest in working collaboratively with people engaged in community interventions, as well as possessing the detachment and objectivity needed to distinguish tangible benefits from good intentions. If the present inequalities of opportunity are to be seriously remedied, the Centre must focus on strengthening disadvantaged communities, starting with those identified in the present report, while providing practical feedback to Government on policies and practices that will help close the opportunity gap that persistently separates those communities from mainstream Australian society.

3. Establishing and demonstrating high standards

the Centre for Community Strengthening and Program Evaluation should act as a repository of international and national research and practice insights into the evaluation of community interventions and insights gained, and should undertake interventions in its own right. The Centre should have particular responsibility for auspicing and participating in an exemplary project in each Australian jurisdiction, chosen jointly with the respective governments. The selected project sites should be among the communities nominated as 'most disadvantaged' in the present report and, for the reasons nominated in the report, should in the first instance, have a minimum intervention period of six to eight years, subject to further extension if judged necessary. The cost of exemplary projects should be shared

between the Commonwealth and the relevant State or Territory Government. The methods employed and the outcomes achieved should be widely disseminated if our nation is to achieve the necessary knowledge and means of providing its citizens – especially its young – with life opportunities consistent with our tradition of the ‘fair go.’

Recommended operational principles

A. Perseverance Given the persistence of documented cumulative disadvantage in a number of Australian communities, it is unrealistic to expect rapid short-term improvements following brief community strengthening interventions. What is needed is:

A firm political and administrative commitment to staying the distance with a manageable number of highly disadvantaged communities for the durations previously specified.

B. Knowledge The shaping of community strengthening endeavours is not a knowledge-free area. The choice of objectives and their sequencing, while substantially reflecting the views and aspirations of the communities involved, must also be influenced by knowledge gained from decades of community development practice and research findings. Vital in this regard is an underlying shared conception of the capacities of a well-functioning community.

The adoption of individual community initiatives should be based on appraisals of their contribution to the overall strengthening of the community and its ultimate capacity for strong independent action.

C. Extra-communal resources

The un-negotiated arrival of externally provided resources seldom provides a disadvantaged community with long-term benefits. Yet severely disadvantaged communities cannot attain their goals by ‘spinning thin air’. The capacity to harness the arguments and make the case for external assistance is actually part of the negotiating equipment of strong communities and disadvantaged ones sometimes need assistance simply to attain their fair share of infrastructural and other centrally dispersed resources. However, pragmatism needs to be balanced with community strengthening principles. The gaining of externally sourced assistance can be an important part of a community strengthening project provided, wherever practicable, the opportunity is taken to involve the community in prioritising the resources to be pursued and participating in, and learning from, the negotiations entailed. Both of these activities rehearse skills that are central to effective communal management.

Examples of the afore-mentioned approach include identifying potential local employment opportunities and leveraging government and non-government organisations based outside of the community to employ locals.

Such communal action could address the high unemployment levels which the present research confirms are a recurring feature of multiply disadvantaged communities in Australia. Likewise, pressing for additional skilled support to help ensure the successful launching of children's education and to help maintain their meaningful engagement in school and post-school training and education, would also address another of the recurring features of the most disadvantaged areas. So, too, would problem-solving collaboration between police and social agencies where the detection of early juvenile offending provides opportunities to intercept criminal careers in the making.

Frequently the object of community strengthening is aided by the more effective use of existing resources but that is not always possible. Constructive strategies sometimes come at additional costs. However, in reckoning the scale of those outlays account needs to be taken of the institutional, service and social value costs of tolerating the continuation of the locally concentrated disadvantage that we have documented in this report.

In pursuing additional resources every effort must be made to rehearse skills that are central to effective communal management including the prioritising of objectives and local participation in associated negotiations.

D. Community-level changes.

Community strengthening projects need to maintain a steady focus upon core problem-solving and effort-sustaining capacities of the community *qua community*. In earlier sections we have emphasised the importance in that regard of building organisational competence and realistic confidence in the pursuit of local goals. Key attitudinal requirements are the development of mutual trust and willingness to take action for the common good. The transformative power of these attributes, summarised in the notion of collective efficacy, is now widely recognised and was reflected in Victorian data included in the earlier publication *Dropping off the Edge* (Chapter 6: Assessing the Impact of Social Cohesion).

Without unduly restricting the intellectual framework employed, a focus upon community level change should be a mandatory requirement of projects intended to strengthen multiply disadvantaged communities.

PRELIMINARY INFORMATION ABOUT THIS REPORT AND DATA AVAILABLE ON-LINE

Data supplementary to the information contained in this publication can be accessed online via links at the following web pages:

www.dote.org.au

OR

www.jss.org.au

www.catholicsocialservices.org.au

The information at the website includes maps showing the distribution of disadvantage within the Australian states.

On the website it is possible to compare in some detail the profiles of different locations within the six Australian states. The findings for the comparatively small number of counting units in the Northern Territory are adequately spelt out in Chapter 9 of the project report. The limited data currently available for the Australian Capital Territory do not warrant the generation of detailed ACT postcode findings.

The boundaries of Postcode Areas

It will be clear throughout the report that the boundaries used to examine the geographic distribution of disadvantage vary according to the circumstances of different jurisdictions. Postcodes are used in Victoria, New South Wales and the ACT. Previous publications in this series have employed postcode boundaries as defined by the Australian Bureau of Statistics. These have proved less familiar to readers than Australia Post boundaries. The two sets of borders are similar but postal boundaries have been adopted for the present study.

The identification of disadvantaged areas

When *Unequal in Life*, a previous report in this series, was published in 1999 there were sound reasons for identifying the precise ranking of localities in terms of their comparative social disadvantage. A measure of public attention has now been gained for the needs of areas burdened by cumulative disadvantage and it is possible to use a slightly different approach without obscuring the priority claims of such areas to special assistance. Throughout the report rankings are presented in terms of 'bands' or categories of relative disadvantage and explanations provided as to the nature of the groupings.

The mapping of different degrees of disadvantage

The maps that appear in the publication and on the website, showing the spatial distribution of disadvantage, use four categories of severity. The method used to determine this outcome is one favoured by geographers – the nested mean. The method has the advantage of using the data and their distribution to determine breaks in the distribution of scores. The procedure is simple: the mean of the data is calculated and a two-fold division made at this point. Then the mean for each half is calculated and a further two-fold division made yielding the desired four categories of severity of disadvantage – most disadvantaged, disadvantaged, advantaged, and most advantaged.

Variability of state results

A major theme of this report is the consistency with which localities identified as extremely disadvantaged in 2014 resemble those similarly ranked in earlier studies. That pattern is discussed in the chapters detailing the results for each Australian jurisdiction. Accompanying that consistency is some variability between states with respect to the factors underpinning overall elevated disadvantage rankings. This is to be expected given the variations across jurisdictions with respect to demographics, and diverse political, economic and social landscapes. Nevertheless, the data permits some significant messages to be read on a jurisdiction by jurisdiction basis.

On one level at least, broad comparisons between the jurisdictions are facilitated in the Conclusions and Recommendations Chapter of the report. Some important life implications of living within the 3% most disadvantaged localities in each state and the remaining 97% are illustrated.

The authors

Professor Tony Vinson (University of Sydney) has a background in sociology and social work with extensive involvement in criminology and social statistics. His professional work has involved the headship of national and state level inquiries, and his administrative appointments have included the foundation directorship of the NSW Bureau of Crime Statistics and Research, and headship of the NSW Department of Corrective Services during a period of intense prison reform. He was foundation professor of behavioural science in medicine in the Newcastle Medical School, and Professor of Social Work and Dean of the Faculty of Professional Studies at the University of New South Wales. Since 1999 Tony has been a research consultant to Jesuit Social Services and has authored several reports on the geographic distribution of social disadvantage. He is currently an Honorary Professor in the Faculty of Education and Social Work at Sydney

University and an Emeritus Professor of the University of New South Wales.

Associate Professor Margot Rawsthorne's (University of Sydney) initial qualification was in sociology at Macquarie University. Following her completion of a PhD at Sydney University, Margot worked for state and local governments, as well as the non-government sector. She spent over a decade working in south-western Sydney, a region of both considerable social disadvantage and community dynamism. She has published extensively within the human services sector and academia. In 2013 she collaborated with Tony Vinson in the production of *Lifting Our Gaze: The community appraisal and strengthening framework*. At present Margot teaches in the Social Work and Policy Studies program (Faculty of Education and Social Work) at the University of Sydney.

Dr Adrian Beavis is a social and educational researcher with a particular interest in evaluation and policy development. Vocational choice and inter-generational social mobility have been areas of substantive interest. He is currently working as a consultant contributing to evaluations of various education programs in several African countries. Adrian's professional experience includes a seven-year appointment as Director of the Policy Research and Evaluation program at the Australian Council for Educational Research. He has also held the position of Principal Researcher with the Smith Family.

Dr Matthew Ericson (University of Sydney) has a background in socioeconomic research and has worked in teaching and administrative roles within government, academia and the non-profit sector in Australia and Asia. He spent a period as a staff researcher at Brosnan Youth Service, a Jesuit Social Services program providing support and advocacy services for young people. Matthew made a valuable foundational technical contribution to the present project.

01

CHAPTER 1

SCOPE, NATURE & MATERIALS OF THE PRESENT STUDY

In 2007 Jesuit Social Services and Catholic Social Services Australia sponsored an Australia-wide study of the geographic distribution of social disadvantage throughout our country. Called *Dropping Off the Edge*, the research followed earlier similar projects that focused on Victoria and New South Wales, and employed 25 indicators (or 'signposts') of established relevance to this type of inquiry. The aim was to gauge the extent to which manifestations of social disadvantage were markedly concentrated, thereby constituting a localised environment that limits the beneficial impact of standard social services. At the same time, such an environment invites heightened remedial effort because of the limits imposed on people's life opportunities. Subsidiary aims included gaining an understanding of the pattern of interaction between the aspects of disadvantage captured by the indicators, identifying the indicators or variables that are most predictive of the overall social vulnerability of an area and, to the extent possible using the available

data records, the persistence or alteration of localised disadvantage over time.

The *Dropping off the Edge* findings were widely discussed and many public presentations followed their release, including within the Australian, Victorian and New South Wales Parliaments, and requested briefings were provided to a range of government departments. The findings influenced the shaping, if not the core principles of a range of government policies. Many non-government organisations drew upon the findings in modifying their approach to service provision. The data was readily shared with *bona fide* community service providers in a form that avoided the risk of stigmatising the most disadvantaged localities.

In the light of this response it is not surprising that seven years later many requests have been made for the findings to be updated. The two sponsors, Jesuit Social Services and

Catholic Social Services Australia, decided that a replication of the project could serve to (i) keep the reality of geographic concentrations of disadvantage before the Australian community; (ii) identify any shifts in the relative fortunes of some localities and illuminate the reasons for their occurrence; (iii) by refined analyses of the patterns of interconnections between the indicator variables, contribute to strategic thinking about effective remedial policies; and (iv) furnish community service partners and organisations with up-to-date information to guide and assist their endeavours.

This report updates statistical information about the distribution of social disadvantage across Australia published in 2007. Much has occurred in the various jurisdictions and across Australia between 2007 and 2014.

A comparative study

On this occasion the sponsors attach importance to the second of the four objectives above, essentially the comparison of the overall standing of areas in 2007 and 2014. In the earlier research we used an orthodox statistical procedure to calculate an overall susceptibility score for each location. This procedure, called *Principal Components Analysis (PCA)*, has been repeated along with a simple count of the number of times each locality appears in the top bracket of results on each of the indicators employed. In some instances, for technical reasons related to the appropriate application of Principal Components Analysis, we have substituted *Average Rank* scores for the PCA in calculating the overall susceptibility to disadvantage. Additionally, we have looked at the scale of inter-connectedness between the indicators and their relative prominence

in the profiles of 'top-scoring' localities. Finally, we have considered the capacity of the different jurisdictions to supply the necessary information to undertake the study. After taking these matters into account, we decided, where possible, to retain 12 of the previously used 25 indicators as the basis upon which to calculate the 'susceptibility to disadvantage' scores in 2014 and compare the results in that year with those obtained in 2007. Further details are provided in Chapter 2.

Special analyses

In addition to the comparative study, over a seven year gap, new issues have come to prominence and indicators beyond the 12 involved in the 2007/2014 comparison have been employed in a series of special analyses. The additional variables include mental illness, school readiness (Australian Early Development Index scores), family violence, and school performance results. Because of its pertinence to the sponsor agencies, 'housing stress' has also been included in the non-comparison analyses. How we have operationalised these variables is discussed in Chapter 2.

The study of the geographic distribution of social disadvantage has a rich heritage. As early as the mid-nineteenth century Mayhew (1861) mapped the spatial concentration of crime in London in relation to other facets of *social disadvantage* including illiteracy and the rate of teenage marriage. His work helped to pioneer what became an established method of mapping the spatial concentration of social variables including those linked to the concept of social disadvantage. Today this perspective on society is thought by those who work within the tradition to throw light upon the relationship between issues often characterised as social

problems (mental illness, crime, child maltreatment and the like), and what are called 'ecological' variables, such as poverty and urbanisation.

The concept of 'social disadvantage' that informs the present study refers to a range of difficulties that block life opportunities and which prevent people from participating fully in society. Obviously the difficulties in question include economic poverty but they are wider than deficient financial resources. They include limiting factors in one's life situation such as poor health, disabilities, lack of education and skills, and being subjected to inequitable treatment or discrimination in a variety of forms (Rowntree Foundation, 2003).

The present project, nation-wide in scope, is in the social-ecological tradition of Mayhew and his successors but takes advantage of contemporary data sources and methods. It is the fourth in a series of studies that began in 1999 when Jesuit Social Services published *Unequal in Life* and then published *Community Adversity and Resilience*¹ in 2004. Without over-emphasising the importance of localised causes of social deprivation, the significance of the current project rests on the following assumptions, touched upon in the 1999 report and stated explicitly in *Community Adversity and Resilience*:

... where an accumulation of problems makes a serious impact upon the wellbeing of residents of a disadvantaged area, locality-specific measures may be needed to supplement general social policy. Continuing research also is needed to identify areas of special need and to gain a better understanding of the restorative strategies that may be available (p.15).

The above statement was made in full awareness of research findings that stress the influence of structural macroeconomic factors in creating concentrations of poverty (Atkinson and Kintrea, 2001). Social problems, such as family breakdown, can flow directly from unemployment. Positive changes in the economy can also impact positively on poor areas with many residents benefiting from the upswing. However, even in times of relative prosperity the individuals and families of some neighbourhoods can continue to miss out or 'drop off the edge', with consequences for their wellbeing and particularly that of their children. As Atkinson and Kintrea (2001) also report, there are associations between poor neighbourhoods and other social problems that are more than the consequences of macroeconomic forces and household characteristics. The researchers comment: "The larger and longer-running an area's problems, the stronger the cumulative impact becomes, causing a drain on services with resultant lower-quality 'outputs', such as educational performance or health care."

In earlier publications in this series, considerable attention was given to the role of local social environments in creating and sustaining disadvantage. Research tracing the impact of community level characteristics like the confidence and will to work at local problems – called *collective efficacy* – was outlined. So, on this occasion it has been decided not to repeat the coverage of that material. The present study covering all Australian states and territories is based on indicators or 'signposts' which, taken in combination, help to identify areas of concentrated disadvantage. To avoid confusion it

¹ Vinson, T., (1999) *Unequal In Life*, and Vinson, T., (2004) *Community Adversity and Resilience: The distribution of social disadvantage in Victoria and New South Wales and the mediating role of social cohesion*, published by Jesuit Social Services, Richmond, Victoria.

needs to be emphasised that the primary purpose is not to reveal causal patterns. Instead, by over-laying the spatial distributions of varied but conceptually related characteristics, the intention is to bring into focus areas of concentrated disadvantage. The choice of indicators for this purpose cannot be random: the indicators need to be conceptually related in two senses. First, it needs to have been demonstrated that they are linked to social disadvantage. Chapter 2 presents such a rationale for the substantial array of indicators employed in the study.

The second sense in which indicators need to be conceptually related is that they are consistent with respect to their theoretical assumptions. For example, the Australian Bureau of Statistics' (ABS) *Index of Relative Socioeconomic Disadvantage* (2001) is derived from some attributes that overlap with those used in the present approach, including low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations. However the ABS index also includes, in its own words, "variables that reflect disadvantage rather than measure specific aspects of disadvantage, for example, Indigenous and separated / divorced [variables]". The assessment of disadvantage employed in the three preceding studies in this series, and in the present one, is conceptually distinct from that of the ABS index. The variables that have been used are manifestations of disadvantage entailing a minimum of theoretical supposition, for example, about the disadvantageous consequences of people belonging to particular social /cultural groups or

having a particular marital / family status. In addition to ABS variables that meet the 'manifestation of disadvantage' criterion, others garnered from government departments and agencies include confirmed child maltreatment, prison admissions, criminal court convictions, domestic / family violence, and psychiatric hospital admissions.

At the margin of the distinction between variables that measure *specific aspects* of disadvantage and those that *reflect* disadvantage, are deprivations that arise out of what David Donnison (1969) described as a situation of disadvantage and which compound that situation's ill-effects. Included in the present project is a variable that is of this general nature, namely, access to the internet. The operational definitions given to this and the other variables used are described in Chapter 2. Our actions in this regard are consistent with the belief of two prominent researchers in the field that merely adding census variables to indexes entails conceptual confusion (Carstairs and Morris, 1991). Instead they recommend extracting some of the wealth of relevant information that lies hidden within government departments. Our endeavours in that regard have generally met with success, for which we are most grateful. However, because of the breadth of the present study and the varied experience of Australian governments in collecting and actually making use of social data, it was to be expected that some jurisdictions would be able to cooperate more fully than others in meeting our data requirements.

Many studies in this field are conducted at the Local Government Area (LGA) level and there is a problem of the

populations within these areas being so heterogeneous as to dilute the concentrations of disadvantage in sub-locations. Ideally, the information provided by the authorities should be expressed in terms of geographic units small enough to accurately capture the social character of different localities. It cannot be assumed that every resident of a deprived area is deprived but the use of small spatial areas increases the accuracy of the picture conveyed. However, even with the high level of cooperation that the project has generally received from the relevant authorities, the kind of information that we have sought could not always be rendered in the form requested. This has been especially true of Western Australia and the Australian Capital Territory.

The practical solution adopted in previous work has been to use postcode areas as the principal level of analysis and that approach has been adopted here for New South Wales, Victoria and the Australian Capital Territory. In Queensland, South Australia and the Northern Territory a moderately sized basic counting unit called Statistical Local Areas (SLAs) has been used. In Tasmania and Western Australia it has been necessary to work within the framework of Local Government Areas (LGAs).

Throughout the report reference is made to comparative rankings based on *rates of occurrence* of different indicators, like confirmed child maltreatment and unemployment. This approach is our way of getting around the problem that the sheer number of times an indicator of disadvantage occurs may, as much

as anything, reflect the number of people in the local population exposed to that hazard. Therefore we have been obliged to take into account the relevant population base (for example, the number of children in the area under 15 years of age, or the number of people in the workforce) before calculating comparative rates of, say, confirmed child maltreatment or unemployment.

The other major method of assessing a locality's degree of disadvantage is to use a statistical procedure that looks simultaneously at its ranking on all of the indicators – those which reveal its vulnerability to some forms of disadvantage at the same time that it takes account of other indicators on which it fares comparatively better. This procedure, called *Principal Components Analysis*, or an alternative method called *rank average*, feature, where appropriate, in the Chapters presenting the results for each jurisdiction (Chapters 3-10). This method can be unfamiliar to many readers but it is a way of examining the structures that underlie the patterns of interconnectedness between the indicators within each jurisdiction. If what is called the first component accounts for a sufficiently high percentage of the total variance of the indicators in each instance, the task of arranging localities according to their degree of susceptibility to disadvantage is reduced to examining scores along a single dimension. The first two sets of results for the states of New South Wales and Victoria illustrate the usefulness of the approach, particularly when used jointly with the simple method of considering the number of times a postcode occupies

a 'top' ranking position on particular indicators.

What, then, are the outcomes that can be expected of the present study? These outcomes will unfold in detail in chapters devoted to each State and Territory but in general terms they are intended to:

- *provide a first picture of where disadvantage is concentrated* – by means of simple counts of the number of times localities within each state or territory rated highly on the indicators;
- *present a snapshot of what attributes dispose an area to be highly disadvantaged* – by developing profiles of the highly disadvantaged areas and noting the indicators that appear to be recurring features of markedly depressed localities;
- *look beneath the surface for patterns of connectedness between the indicators* – using correlation analysis to illuminate the ways in which different strands of disadvantage are woven into a web that constrains the life opportunities of residents;
- *use information about what the indicators share in common to devise a single social disadvantage score for each locality within each jurisdiction* – using techniques that enable the localities to be ranked from the most to the least disadvantaged. Where for technical reasons it is necessary, Rank Average is substituted as the measure of overall vulnerability; and

- *combine the rank orders within the states and territories to identify highly disadvantaged localities warranting national as well as state and territory attention.*

Our 2007 report was structured so as to deal with the above-mentioned issues one at a time, referring to the findings for the various jurisdictions before proceeding to the next issue where the procedure was repeated. Since the interest of many readers is focused on a particular state or territory, the chapters of the current report deal *seriatim* with each state's findings before drawing conclusions and presenting a set of recommendations.

02

CHAPTER 2

CHOICE OF INDICATORS

The comparative study

In this first section of Chapter 2, we outline the range of indicators employed in the comparison of the findings in 2007 and 2014. In the second section of this chapter we will present our reasons for examining connections between additional indicators of current social concern and localities of varying degrees of social disadvantage.

Table 2-1 shows the range shows the range of indicators employed in the 2007/2014 comparative study. Their indicative labelling in the overview table is followed later by the presentation of more precise operational definitions. The listed variables are generally available in each of the eight Australian jurisdictions, and our purpose at this

point is to provide a brief reminder of the reasons for their inclusion in a national study of the geographic distribution of disadvantage. Many of the variables are 'classic' in the sense that they have an established history of utility in the identification of disadvantage and to that extent the justifications for their inclusion resemble those provided in the 2007 report.

At the outset we refer to some pivotal references and commentaries published around the turn of the century which tend to focus on aspects of health. Thereafter, we broaden the picture of wellbeing under consideration and include publications forthcoming in the six or seven years that have elapsed since the initial *Dropping off the Edge* report.

Table 2-1: The range of indicators used in the 2007/2014 comparative study

1. Social distress
Low family income
2. Health
Disability
3. Community safety
Confirmed child maltreatment
Criminal convictions
Prison admissions
4. Economic
Limited work skills
Unemployment
Long term unemployment
Access to internet
5. Education
Incomplete education/unengaged young adults
Generalised local level of education
Limited post-school qualifications

A general perspective

Consideration of the separate indicators listed in Table 2-1 needs to be prefaced by mention of the more general perspective on social disadvantage provided by the World Health Organisation's (WHO's) concept of the socioeconomic gradient. WHO's authoritative and now classic 1998 publication *Social Determinants of Health* summarises the evidence for the influence of social factors in the following way: poor social and economic circumstances affect health throughout life. People further down the social ladder usually face at least twice the risk of serious illness and premature death of those near the top. Disadvantages tend to concentrate among the same people and their effects on health are cumulative. Reviewing the continuing

evidence of this relationship, Macdonald (2005) states that the "clustering and accumulation of psychosocial disadvantage is perhaps the most powerful determinant of health status". Not only is this conclusion derived from studies in a variety of cultures but also the insights extend to nonhuman primates who exhibit a similar social gradient with corresponding risks of deteriorated health (Marmot, 2003). Social determinants of health are relevant to communicable and non-communicable disease alike.

Since WHO published *Social Determinants of Health*, the longer-term consequences of early life disadvantage have continued to be researched and documented, and continue to be of strong interest for researchers. For example, a long-term Swedish investigation has shown the accumulation of diverse forms of disadvantages, including neighbourhood deprivation, together play an important role for somatic complaints in adulthood, independently of baseline health. Hertzman, 1999 (cited in Bradley and Corwyn, 2002) describes this process as the "biological embedding" of early experience, a concept that includes the effects of early biological damage and differences in the quality of early environments. There is recent evidence that neighbourhood of residence is associated with health prior to birth. Vrijheid, Dolk, Stone, Abramsky, Alberman and Scott (2000) have found that the risk of non-chromosomal anomalies increases according to the socioeconomic rating of different areas. Research on early life disadvantage is particularly important as it points to opportunities for early intervention and preventative social policy initiatives.

That Australian children do not escape the social influences upon their wellbeing is reflected in findings of the *Growing Up in Australia* longitudinal study of

Australian Children (Edwards, 2012). The plotting of differences between 4-5 year old children in their socio-emotional wellbeing against quintiles of the socioeconomic Index for Areas, an ABS measure of the socioeconomic status of areas, is highly revealing. "There is a clear socioeconomic gradient, with children living in more socioeconomically disadvantaged neighbourhoods having lower socio-emotional wellbeing than children living in more affluent neighbourhoods."

A team of researchers that has examined the life course accumulation of disadvantages has made another recent contribution to the tracing of continuous health difficulties in life. Holland, Berney, Blane, Davey-Smith, Gunnell and Montgomery (2000) have studied the association between physical and social disadvantage during childhood and lifetime exposure to health-damaging environments within and outside of people's homes. Childhood height and the presence or absence of signs and diagnoses of chronic disease were chosen as indicators of childhood health. The hazards varied from residential dampness to air pollutants and occupational fumes and dust. For both males and females age-adjusted height during childhood was found to predict total lifetime exposure to combined hazards. This association was most pronounced among males from manual class backgrounds and the authors conclude that "a series or a chain of problems was experienced because one precipitated another" (pp. 1293-94). The accumulative nature of childhood disadvantages has been revealed in another recent study of child health (Bauman, Silver and Stein, 2006). The findings of this research support the view that social structural factors have a cumulative effect on child health status. "Poverty, low parental education and single parent family structure are not simply proxies for a single underlying

disadvantage but have additive effects on the life chances of children." (Bauman et al., 2006) The findings of a recent study by Hsin (2012), show that families redistribute resources in ways that both compensate for and exacerbate early life disadvantages. In the case of low birth weight babies, less-educated mothers give more total time and more educationally oriented time to heavier-birth weight children, whereas better-educated mothers give more total and educationally oriented time to lower-birth weight children.

While not introducing new empirical evidence, a recent paper by Seabrook and Avison (2012) summarises and analyses the evidence showing that socioeconomic status is one of the most reliable predictors of health disparities. For example, in Canada almost 25% of excessive premature years of life lost (mortality prior to age 75) are associated with income differences. Two common explanations for the association of socioeconomic status and health are (i) greater exposure of those in lower socioeconomic groups to stress, including poor living conditions, job insecurity, and financial difficulties and (ii) people in lower socioeconomic positions tend to engage in more risky health behaviours – they are more likely to smoke, to be overweight and engage in less physical activity. Avison and Seabrook adopt a different position: they argue that the aforementioned approach tends to 'blame the victim' rather than policy interventions aimed less at behavioural change and more at socioeconomic status itself. The existing disparities, they argue, would be reduced by a greater emphasis on factors like knowledge, money, prestige, and beneficial social connections that determine the extent to which people are able to avoid risks and adopt protective strategies so as to reduce mortality and morbidity.

The availability of policy interventions of the proposed kind warrants close consideration. There is evidence of the absence of social disparities in visits to the doctor in Canada but marked differences across the border in the United States, with high income U.S. adults and those with health insurance being much more likely to visit their doctor. However, from the point of view of the present project and its objective of mapping disadvantage, the crucial factor is Avison and Seabrook's (2012) acknowledgement that from mental and emotional health to delinquent behaviour, the evidence shows that social disadvantage in early life can cumulate through the life course and be accompanied by "exposure clustering."

Some studies of the pathway between the experience of disadvantage in early life and the later expression of that disadvantage in the form of health problems have a starting point later than early childhood. For example, a recent study (Gustafsson and Hammerstrom, 2012) of women in a Northern Swedish study (a 27 year prospective Swedish cohort), began with data collection at 16 years. The subjects were followed-up at ages 21, 30 and 43 years. Socioeconomic disadvantage was defined as a parental unskilled occupation when the subjects were 16, and this factor was related to the onset of metabolic syndrome at age 43 years. What the authors term the "social chain of risk" was operationalised as accumulated social and material adversities at the mentioned life stages. After careful statistical analysis, the study findings indicated that women's embodiment of socioeconomic disadvantage in their upbringing is partly explained by adversity over the subsequent life course.

While there has been a particular research emphasis on the interplay of social and biological factors in affecting

health, the web of different strands of disadvantage that can limit life opportunities generally has also attracted attention. Three earlier publications in the present series: *Unequal in Life* (1999), *Community Adversity and Resilience* (2004), and *Dropping Off the Edge* (2007), have charted the vulnerability of Victorian and New South Wales neighbourhoods to a range of material, behavioural, and educational forms of disadvantage as well as those related to 'health.' Some data has been derived from sources like the national census but considerable trouble has been taken to systematically secure additional information about important aspects of social disadvantage (like child maltreatment and psychiatric illness) from state and territory government human service agencies.

A somewhat similar project but with a particular focus on the wellbeing of children has been undertaken within Australia by the National Centre for Social and Economic Modelling (NATSEM). The Centre's report: "Poverty and disadvantage among Australian children: a spatial perspective" (Harding, McNamara, Tanton, Daly and Yap, 2006), aimed to increase knowledge about child disadvantage and the geographical distribution of that disadvantage "by developing a single, child-based indicator of social exclusion risk available at a small area level". Data from the Australian 2001 *Census of Population and Housing* disaggregated to Statistical Local Areas (SLAs) was employed for this purpose. The absence from this source of data pertaining to some aspects of social exclusion was duly acknowledged. The findings show that areas with high child social exclusion are much more likely to be rural than urban. Relatively small proportions of children in state capital cities were found to be at high risk of social exclusion although spatial differences were present. For example, the western and

south-western areas of Sydney have elevated rates of child social exclusion. Similarly, some southern and western suburbs of Melbourne have a relatively high risk of exclusion. Inter-jurisdictional comparisons emphasised the greater risk for children in Tasmania and Queensland and the lesser risk facing children in the ACT and Victoria.

Specific categories of indicators

1. SOCIAL DISTRESS

Low family income

Family income is a central factor in shaping individual and family life opportunities. It can be the consequence of factors like limited education, limited skills and poor health, and these serve to amplify individual and communal problems like mental illness, crime and child maltreatment. A recent study of a birth cohort in Quebec (Sequin et al., 2012) employed family income together with other indicators of poverty occurring in the first ten years of subjects' lives. The researchers concluded that "having a low income is the basis of choice limitations that lead to poverty and social exclusion, thus limiting access to healthy foods, quality clothes, good housing, healthy neighbourhoods, and quality schools." However, regardless of the choice of indicators, similar family characteristics were associated with the varyingly defined 'poor' households. The characteristics included non-European immigrant parents, single parenting, and low levels of maternal education.

In general, the research evidence is that family income is interwoven with the influence of other forms of disadvantage represented by the range of indicators included in the present study. A recent New Zealand study (Sengupta et al., 2012) illustrated the relationship of

household income with varied aspects of subjective wellbeing. Consistent with earlier research including that undertaken in Australia (Jesuit Social Services, 2012), household income has been found to be positively associated with subjective quality of life and happiness, especially the former in circumstances where people earned less than the New Zealand median. The research emphasised the importance of people's perceived ability to meet everyday life necessities.

A contentious issue is whether it is the absolute material standard of living within an area that is the important ingredient for health and wellbeing or is it inequality per se that is bad for the health of an area or nation? There is considerable evidence supporting the latter of these two views with perhaps the best known proponent of the relative inequality position, R. G. Wilkinson (1998, 2000), arguing that the evidence strongly suggests that the health effects of income distribution "involve comparative social cognitive processes, rather than the direct effects of material standards" (Wilkinson, 1998). One of Wilkinson's collaborators (Marmot, 2003) argues that the meaning of a particular socioeconomic position will depend on the society and the social environment in which an individual is located.

Current studies of both objective and subjective measures of poverty experienced by children extend and deepen our understanding of the Wilkinson/Marmot perspective. For example, the work of Main (2014), has examined the relationship between material deprivation, qualification for minimum income benefit and various domains of children's subjective wellbeing (Rees et al., 2013). A child-derived index of material deprivation was much more successful than very low income indicators in explaining variation in overall subjective wellbeing.

Main concludes that “income may be important to subjective wellbeing not in its own right but in its role as facilitating living conditions which are more or less conducive to higher levels of subjective wellbeing in certain areas of children’s lives.”

The ABS defines ‘low household income’ as those in the lowest 20% of the distribution of net worth, based on equivalised disposable household incomes (6523.0 - Household Income and Income Distribution, Australia, 2011-12).

In the present study, the indicator of low family income applied to each locality is the proportion of households with an income less than \$600 per week in each counting area.

2. HEALTH

Disability

An Australian study premised on the multidimensionality of social exclusion, has attempted to produce a single aggregate measure of exclusion experienced by individuals (Scutella et al., 2013). *Health and disability* is one of seven life domain measures used for the assessment of social exclusion. The authors consider that health and disability are important, not only because they can be conceived as representing forms of human capital, but they can contribute to social exclusion in other ways. For example, in addition to adversely impacting on productivity, disability can raise the costs of achieving a given level of inclusion because of the need for aids, equipment, medical services and other items. They add that health and disability can also be products of social exclusion. Scutella et al., conclude on the basis of their findings that while there is considerable overlap between people who are socially excluded and those who are income

poor, the composition of the two groups is far from identical. “Policy targeting those most disadvantaged would be misdirected when based solely on income.” To be eligible for disability support, people have to manifest incapacity to a degree that warrants financial assistance.

In recent times there has been a more flexible perception of the nature of disability. Scholars, including Halfon et al (2012) have found that childhood disability is increasing and that emotional, behavioural and neurological disabilities are now more prevalent than physical impairments. They note the importance of, and lack of progress in, improving socioeconomic disparities in disability prevalence. Halfon et al conclude that “While the upward trend in childhood disabilities has shifted from physical and medical conditions to neurodevelopmental and behavioural conditions, the social gradient in prevalence of childhood disability is little changed.”

Jenkins and Rigg (2004) summarise a threefold linkage between disability and socioeconomic disadvantage. First, there is frequently pre-existing disadvantage among people who become disabled – referred to as a ‘selection effect’. In addition, there is the impact of disability onset itself, and the consequences of remaining disabled. Employment rates fall with disability onset and continue to decline the longer a disability episode lasts. This last-mentioned fact is the focus of a study by Honey et al (2014) who argue that Australia has some way to go to ensure the right to employment is realised by people with disability. “With an overall employment rate of 40 per cent for people with disabilities, Australia ranks 21st out of 29 OECD countries despite above average employment rates for people without disabilities.

Employment for young adults with disability is of particular concern as engagement in employment during this period can establish future work prospects and have considerable social and psychological consequences.” This latter concern is emphasised by Brada, Marelli and Signorelli (2014) who state that the unemployment of young people raises their risk of being excluded from the labour market for the long term.

Boyer et al (2009) have undertaken a community level study which adduced evidence that neighbourhood characteristics need to be considered a risk factor for disability in diabetes.

The relevant indicator is based on the proportion of people aged 18-64 years in receipt of the Disability Support Pension in each counting area.

3. COMMUNITY SAFETY

Confirmed child maltreatment

The Australian Institute of Health and Welfare (2014) reports that the total number of substantiations of notifications received across Australia increased by 10.8% between 2011-12 (48,420) and 2012-13 (53,666), and that the substantiations recorded nationally involved 40,571 children, which was a 29% increase from the 31,527 children found to be harmed or at risk of harm from abuse and/or neglect in 2010-11. Across the jurisdictions, all states and territories had increased substantiations from 2011-12, except for the Australian Capital Territory and the Northern Territory. Nationally, ATSI children were more likely to be the subject of substantiated reports than were other children. Across Australia, ATSI children were eight times more likely to be the subjects of substantiation than non-Aboriginal children in 2012-13 (with rates of 45.3 per 1,000 children compared with 5.7 per 1000).

Abuse experience in childhood can have grave short, medium and long-term consequences for individual life opportunities. Broadley (2014) states that many Australian children are repeatedly reported to statutory child protection services but do not receive the protection they need. Many of these children are suffering chronic maltreatment, including emotional abuse and chronic neglect that is likely to result in cumulative harm resulting in a range of cognitive, emotional and behavioural problems that are more serious than those associated with other types of abuse. Crowne et al (2012) have found an association between short birth intervals in at-risk families and harsh and neglectful parenting behaviours. Eckenrode (2014) has presented evidence of a higher rate of child maltreatment in areas with the starkest income inequality gap. Research continues to stress the association between child maltreatment and neglect and a range of other manifestations of social disadvantage. Cashmore and Shackel (2013) in a review of the Australian and international literature document a broad range of adverse consequences for survivors of child sexual abuse. They report that a now robust body of research evidence clearly demonstrates the link between sexual abuse and mental health, social, sexual, interpersonal and behavioural as well as physical health consequences. In particular, the strongest links have been found between such abuse and depression, alcohol and substance abuse, eating disorders for women survivors, and anxiety-related disorders for male survivors.

More generally, Gore and Janssen (2007) have summarised many of the research findings in this field: children who suffer from abuse and neglect, particularly those requiring foster care, experience significant educational barriers and school failure; there are

frequently cited problems for youth transitioning from the child protection system including lower educational attainment, homelessness, employment difficulties, poor social support, and mental health problems. Disability compounds the vulnerability and risk status of these children. Gore and Janssen state that an alarming percentage of the children who are abused come from the most vulnerable of the population, namely, children with disabilities. In the last two to three decades research has supported the beliefs of many researchers, social workers and educators that disability either leads or contributes to child maltreatment and that the abuse of children can result in physical, sensory, communication, learning and behavioural disabilities.

International and local studies of the distribution of confirmed instances of child abuse have revealed a tendency for such cases to be geographically clustered. A Sydney study highlighted the social detachment from their general neighbourhood of people living in areas with high rates of child abuse (Vinson, Baldry and Hargreaves, 1996, Vinson and Baldry, 1999). Using state-level panel data, Paxon and Waldfogel (2002) have reported that socioeconomic circumstances, including income and employment status, affect the incidence of child maltreatment. Increases in the proportion of children living below 75% of the poverty line are associated with higher rates of child maltreatment. Ernst's (2001) examination of the neighbourhood correlates of child maltreatment indicates that structural factors, including poverty and residential mobility, are related to high rates of child maltreatment. A typical pattern is for unemployment to be one element of a recurring constellation of social factors within low-income urban areas that includes crime, child maltreatment,

single parent households and mobility, as well as limited cohesion and support among neighbours (Roosa, Jones, Jenn-Yun and Cree, 2003).

Instances of confirmed maltreatment are expressed here as a rate per 1,000 of children and young people less than 15 years of age living in each of the counting areas.

Criminal convictions and prison admissions

Following the emergence of new research methods and digital mapping, there has been a resurgence of interest in the distribution of crime and the extent to which that distribution supports or disproves different theories, including the differential effects of social disorganisation on localised crime levels (Beconyte, Eismontaite and Romanov, 2012). Police and prison statistics have long indicated that the bulk of crimes are committed by people from low socioeconomic background with limited formal education, indicating an association between disadvantage and crime (Vinson and Homel, 1975), and that situation has continued to the present (Gutherie, Levy and Fforde, 2013).

There has been an increasing emphasis upon neighbourhood studies of crime rather than larger population groups. The general direction of the findings of this research is that a small proportion of offenders commit a large proportion of crime and that a small proportion of areas (and victims) suffer a large proportion of crime committed. Those charged with perpetrating crime are more often found in a limited number of poorer socioeconomic localities (Hope and Hough, 1998).

Research into the association between crime and social variables has become more sophisticated as attempts have

been made to identify factors that mediate the relationship between socioeconomic deprivation and crime. For example, a study in Christchurch (Fergusson, Swain-Campbell and Horwood, 2004) showed that childhood socioeconomic disadvantage was associated with clear increases in rates of both self-reported crime and officially recorded convictions. However, a range of parental, individual, school and peer factors was identified as intervening between socioeconomic disadvantage and crime, so that when these factors were controlled for, the association between socioeconomic disadvantage and crime was reduced to a negligible level. The problem with this type of analysis is that socioeconomic disadvantage is a composite of opportunity-limiting elements and if controls are introduced for all or many of these components then the influence of a higher order concept – socioeconomic disadvantage – will be nullified. The Fergusson et al findings serve to remind us that *disadvantage* is not a unified, detached entity but is tethered to components of the type specified in the Christchurch study.

Especially significant in advancing our understanding of the role played by neighbourhood characteristics has been the work of Sampson (2012) whose protracted, large scale studies of Chicago neighbourhoods has led to the conclusion that neighbourhood environments – not just the characteristics of people living in them – influence phenomena like crime (Parry, 2012). Sampson asserts that to understand human development, you have to understand the contexts that affect it.

In the present project we are limited to using statistical data reflecting, rather than directly measuring, community level characteristics. The Australian Bureau of Statistics' (2014) review of

prison populations indicates that at 30 June 2013 there were 30,775 prisoners (sentenced and unsentenced) in Australian prisons, an increase of 5% from the previous year. Males comprised 92% of the total prisoner population at the 2013 prison census date. Prisoners aged between 20 and 44 years accounted for 77% of the overall prison population. Unsentenced detainees comprised 24% of that total.

Dodson and Hunter (2006) have used survey data rather than court and correctional statistics to try and gain insights into why Indigenous people appear in court at a rate significantly higher than the rest of the population. The authors highlight many interconnections with other aspects of disadvantage including alcohol consumption and drug use, limited education, being on welfare, financial stress, unemployment, living in a crowded house and social disruption in the early family environment.

An overwhelming proportion of adult crime involves people between 18 and 50 years. Therefore, *the appropriate indicator in the comparative study is the rate per 1,000 of people between 18 and 49 years who are convicted of criminal offences during specified intervals.*

Prison admissions

Imprisonment by its very nature disrupts individuals' and families' life opportunities. It can reflect and help to sustain limited education, unemployment, poverty, homelessness and associated social difficulties.

A long established relationship exists between social disadvantage and high rates of imprisonment. The unskilled occupational background of the majority of prisoners and their poor level of formal education – two-thirds are functionally illiterate in New South Wales – testify to

their markedly depressed economic and social backgrounds (NSW Legislative Council, 2001).

The present comparative project again affords the opportunity to examine the relationships between imprisonment rates within areas and a range of other indicators of disadvantage, as well as the degree of geographic concentration of those imprisoned in terms of where they were living prior to going to gaol. The relevant indicator is: *the rate per 1,000 of people between 18 and 49 years who are admitted to prison during specified intervals.*

4. ECONOMIC

Unskilled workers

Changes in the nature of work in recent decades have underpinned one of the most dramatic social transformations of recent times (Nature, 2013). By the middle of the twentieth century, blue-collar workers comprised the majority of the working population in western industrial societies. However, by the commencement of the present century, notwithstanding the expansion of industrial production, the demand for unskilled labour has shrunk to the point where blue-collar workers account for something like an eighth of the workforce.

The Australian Workforce and Development Agency (2012) acknowledges that the shift to higher work skills necessitated by technology and international competition and economic opportunities, runs the risk of leaving the low skilled and unskilled behind. Young people, older workers, ATSI peoples and people with a disability are identified as being especially exposed to this risk. The Agency links the issue of work skills to other manifestations of disadvantage:

“Gaining employment and access to economic opportunity is particularly difficult for those who experience multiple features of disadvantage such as limited language, literacy and numeracy skills; low income; and disability or mental illness. They may live in remote communities or communities with concentrations of low socioeconomic status groups. They may be Indigenous Australians or new arrivals and refugees.”

The least skilled in our community have become, in Heckman’s (1997) words, “detached from the modern economy”. Drucker (1994) has pointed out, more and more people gain access to work, jobs and social position through formal education. The lack of formal education can play a major role in the onset of unemployment. It has been found that individuals without formal educational or trade qualifications face at least double the risk of unemployment as a consequence. For relatively unskilled young adults to find their way to acquiring work skills and a better competitive employment position can be difficult. Apart from the sacrifices involved, studies have shown that effective career counselling is not easily obtained (Jacobson and Lalonde, 2013). There may be few friends or relatives to turn to who are knowledgeable about training options. This can be true for low income workers, blue collar displaced workers, and children of immigrants. However, there is some evidence that counselling students does help and can be a key element of successful dropout prevention programs (Jacobson and Lalonde).

A Swedish study of young unemployed people indicates a link between the degree of financial hardship, the health and social effects of unemployment and the number of experiences of shame. The young people with the most financial

hardship and the largest number of shameful experiences had the poorest health, lacked confidence and did less in their free time (Rantakeisu, Starrin and Hagquist, 1999).

Finnish research has examined the plight of unskilled young people in the competition for jobs and the results appear equally applicable to Australian society. The consequences of being unemployed can have ‘run on’ effects that progressively erode young people’s adaptive capacities. As their resources and options become narrower, their ability to deal with other problems may be further eroded and their self-confidence suffers: “Such young people become unwilling to test their competence and capacity for fear of losing self-confidence, and the gap between their self-image and actual abilities grows wider and wider” (Johansson, 2003). In the absence of career planning and goal setting, and the sheer unavailability of meaningful employment opportunities, these young people can more readily come under the influence of sub-cultures including crime and substance abuse and are in danger of becoming permanently excluded from society.

The indicator adopted in this instance is the proportion of the workforce (ABS definition) classified as lowest skill (ABS definition) in each counting area.

Unemployment

Scutella, Wilkins and Kostenko (2013) have included employment among seven dimensions or domains that constitute a composite measure of individual social exclusion in Australia. Employment sits alongside material resources, education and skills, health and disability, social, community, and personal safety. There are, of course, inter-connections between many of these variables. Bell

and Hayes (2012) have described the construction of a composite multi-variable index for predicting the localised concentration of health needs, using an approach that fairly closely resembles those used in the present project. Called the Vancouver Area Neighbourhood Deprivation Index (VANDIX), the instrument captures what, through the eyes of local health officials, are the seven most salient social variables associated with elevated health needs in local areas. The two leading indicators were found to be non-completion of high school and incomplete university studies, followed by the rate of unemployment, the proportion of lone-parent families, household income, the proportion of home owners, and the employment ratio. The significance ascribed to unemployment as a predictor of health needs reflects its generally recognised contribution to cumulative disadvantage. Coincidentally, the compressed list of seven indicators employed by Bell and Hayes contains five of those identified by the statistical procedures used in *Dropping off the Edge* (2007) as most predictive of overall cumulative disadvantage scores.

Unemployment has consequences not only for adults but also for their children. Kerr and Carson (2012) refer to a body of evidence over the years that parental unemployment can have profound and long-lasting effects on children and their future life trajectories. The authors express reservations about the continued absence of a basic recognition of the need to treat child wellbeing in the context of family fortunes, most notably the employment status of the adults in the household.

The World Health Organisation states that unemployment puts health at risk and unemployed people and their families suffer a substantially increased risk of premature death. Job uncertainty

and the threat of job loss are related to increased psychological disorder, anxiety, depression, and harmful bodily effects. This reduction in psychological well-being is of approximately the same magnitude as that caused by actual unemployment, and may in part be for the same reason - both unemployment and job insecurity detract from the individual's ability to plan and control her or his own life (Burchell, 1999). Research undertaken by Jesuit Social Services (2014) indicates that a sense of controlling the direction of one's life is an especially important contributor to subjective wellbeing in Australians.

Burchell contends that not only have the less advantaged in our society had to contend with greater polarisation in terms of income, they have had the double blow of being hit the hardest by the rising rate of job insecurity. The differential flows into job insecurity act to polarise further the labour market between the advantaged and disadvantaged. This theme is taken up by Baum and Mitchell who point out that in Australia the recent global economic downturn has been felt in terms that are much broader than just unemployment. Labour underutilisation – embracing unemployment, working involuntarily part-time, and being a discouraged job seeker – has significant impacts on economic efficiency, social isolation and exclusion, and individual wellbeing.

A classic study by Wilson (1987) showed that when joblessness becomes concentrated within particular neighbourhoods, an environment is created that isolates residents from the world of work and promotes a culture of dependency. More recent research (O'Regan and Quigley, 1998) generally confirms Wilson's thesis. Young people living in urban areas in which they have limited residential contact with the non-poor are less likely to be employed.

The European Union's (2013) placement of youth unemployment at the top of its political agenda has been driven, in part, by the finding that young people who begin their working life with a period of unemployment are twice as likely to end up unemployed again at a later point.

The unemployment indicator used in the present project is based on the proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart in each counting area.

Long-term unemployment

Long-term unemployment, as a potentially even more socially harmful contributor to disadvantage, is represented in the comparison study by the following indicator: *the proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart for one year or more in each counting area.*

Access to the internet

The ability to use and access computers and the internet is today vital to schooling and education generally as well as participating effectively in the economy and many aspects of modern society. Yet contemporary empirical investigations such as that conducted by Ritzhaupt et al (2013) continue to show a digital divide between students of low and high socioeconomic backgrounds. Despite government investment in providing school pupils with access to the internet to the point where some educators complain there is an excessive emphasis on computer learning, there is evidence of the 'digital divide' increasing (Marcoux, 2014). Apart from differences in the importance families attach to home computing and learning, and variations in families' financial ability to purchase electronic equipment, it is claimed that too much emphasis is placed on the functioning of the devices themselves.

Some educators who hold this view believe students should be encouraged to view computers as educational tools that play a part in helping to unravel learning challenges. Professionals who can help students to make the desired connection, especially school librarians in their role as facilitators of knowledge integration, are being under-valued at precisely that time when the reverse should apply (DeNisco, 2014).

A somewhat parallel view has emerged from an investigation by Park (2014) of the process that non-internet users undergo from digital readiness to digital engagement – in order to become adept users. The researcher found that intermediaries (such as tele centres) play a crucial role in equipping non-users with digital readiness, which is a precursor to digital media literacy. Park calls for a longer-term investment in appropriate environments, such as sustainable community training centres, that nurture digital readiness.

Those lacking internet access, according to Smith Family researchers, are “those on low incomes, without tertiary education, living in rural/remote areas, of ATSI heritage, with disabilities, with a language background other than English, and aged over 55” (Caslon Analytics, 2006). The inclusion of ‘access to the internet’ in this set of social indicators is warranted because the lack of that opportunity adds to the burden of disadvantage besetting the aforementioned groups.

Findings from research within a large Australian regional community have illustrated the considerable access to computers children enjoy within their homes. However, the data highlighted emerging gender differences favouring boys’ access to computers (Logan and Zevenbergen, 2008). The authors see in this pattern the potential for

digital divides that must be countered in the earliest stages of education. More generally, the research literature cautions against assuming that the simple duration of time spent accessing computers is predictive of educational achievement (Bittman, et al., 2011). Mediating variables such as parental education or socioeconomic status have effects. Moreover, a significant proportion of young people who do not have access or technology skills predicated by proponents of the ‘digital native’ idea, run an additional risk that their teachers may focus their attention on ‘technically adept’ students.

In the present study the relevant indicator is based on the proportion of households without access to the internet in each counting area.

5. EDUCATION

Unengaged young adults

An overall picture of the extent of disengagement is afforded by the Australian Workforce and Productivity Agency (2014). This agency builds on research showing that young people who are not fully engaged in education or employment (or a combination of both) are at greater risk in the longer term of unemployment, cycles of low pay, and employment insecurity (ABS, 2013). To enable the Council of Australian Governments (COAG) to gain an accurate picture of the extent to which young people are not fully engaged, the Council focuses on those aged 17-24 years. The proportion of young people engaged in full time study increased between 2006 and 2011 (from 28.6% to 32%) but the proportion in full time employment declined from 41.2% to 36.3% over the same period. When account is taken of people combining study and employment, a slight increase

in the proportion of young people who are not fully engaged, is apparent (2006: 26.1%; 2011: 27.3%).

Australian jurisdictions have raised the minimum school leaving age because of national and international evidence that people with higher levels of schooling are more likely to make a successful transition to further education, training, or work (NSW Department Education and Communities, 2014).

Extended education is associated with the amount and quality of time parents spend with their children and the number and spacing of births. It is negatively associated with early family formation, child abuse and neglect and with respect to maternal education, severe emotional disturbances in early adolescent children (Mason, Chapman and Scott, 1999). In the sphere of crime prevention, the socialising and supervisory aspects of education appear to play an important role.

Early school departure is enmeshed with other dimensions of disadvantage, as has been illustrated by Carnahan (1994) who showed that it is possible to predict with 80% accuracy, which students will drop out of school. The variables used for this purpose and of relevance to Australia included: low socioeconomic status, urban environment, parent dropped out of school, parent incarcerated, belief that life events are externally determined (*external locus of control*), delinquency, disciplinary problems in school, truancy and pregnancy.

However, educational outcomes are not entirely determined by the presence of such factors. A recently evaluated program shows that school experience can be a positive force in overcoming the negative influences that may come from home and the community (Nowicki, Duke, Sisney, Stricker and Tyler, 2004).

A study by Dunn, Chambers and Rabren (2004) has shown that there is a significant relationship between certain aspects of school programs and student outcomes. Factors that are predictive of whether a student drops out of school include the perception of general preparation received during school for life after high school, identification of a helpful person in the school, and identification of a helpful class while in school. If students think that school is not preparing them for their goals and that classes are not helpful, the holding power of school is diminished.

According to a University of Melbourne survey (Helme and Polesel, 2004), girls who leave school early are three times more likely to end up working in part-time or casual jobs than boys. A third of boys go on to apprenticeships compared to less than 10% of girls. A study in South Australia reached similar findings and concluded that today there are very few unskilled career paths for girls. Many of the girls surveyed indicated that they were contemplating having children early (Allison, 2004). However, disengagement from school is not necessarily the same thing as disengagement from education and training generally. According to a study by the Australian Council for Educational Research, a good proportion of students who do not finish school leave for positive reasons, such as pursuing an apprenticeship or going to TAFE (Colman and Colman, 2003). Without diminishing the importance of early school leaving in generating later problems for the young people involved, it seems that dropouts in Australia are more likely to participate in post-school education and training and more likely to settle into productive employment than is the case with their US counterparts (Rumberger and Lamb, 2003). Hence the value of including an indicator that looks at what young adults are undertaking in the way of education, training and work.

The following indicator is regarded as instructive in that regard, and is at least akin to the one used in 2007:

Indicator: the proportion of 17-24 year olds in an area who are neither engaged in full-time study or work in each counting area.

Overall education of local population

The importance of education and skill acquisition has already been emphasised in several of the preceding discussions of indicators, especially ‘Unskilled workers.’ Getting off to a good start educationally is vital in a society where skills and credentials play a shunting role in career and personal development. Research undertaken by Wong, Harrison, Rivalland and Whiteford (2014) shows that children with multiple indicators of disadvantage are more likely to miss out on the benefits of exposure to early childhood education and care (ECEC) – findings which suggest that there may be barriers to ECEC utilisation for children and families for whom ECEC potentially has the most benefit. Children from lower income families who have not had the benefits of ECEC are more likely to enter primary school well behind their peers. Herman-Smith (2013) points out that such initial educational difficulties are associated with a range of social problems such as failure to complete high school, increased risk of unintended pregnancy, increased criminal activity, and insufficient wages.

Earlier studies of the distribution of social disadvantage throughout Victoria and New South Wales employed an educational attainment indicator in the form of the proportion of postcode area populations that left school before 15 years of age. That variable is repeated on this occasion: *the proportion of an area’s population aged 16 – 65 years who left school before 15 years of age.*

6. ADDITIONAL ANALYSES (2014 INDICATORS)

Housing stress

In practice and policy terms, people allocating 30% or more of income to meet housing needs are viewed as experiencing ‘housing stress.’ This definition, despite some criticisms is in wide usage and has been adopted in the present project.

Rowley and Ong’s (2012) Australian study of the inter-connections between housing stress and several key measures of wellbeing indicate connections between the variables. Both housing stress and wellbeing were measured using the Household Income and Labour Dynamics in Australia (HILDA) survey for years 2001–10. The research findings fell short of revealing a decisive link between housing stress and subjective measures of wellbeing, leaving open the issue of possible connections between a high proportion of income being devoted to housing and more objectively defined wellbeing measures. Nevertheless, the investigation showed households in housing stress were more likely to report that they were ‘just getting along’, ‘poor’ or ‘very poor’ compared to those not in housing stress. The link between housing stress and self-assessed health was found to be weak but it did strengthen after people had spent three or more years in housing stress. Overall, it appeared that householders were content in many instances to trade-off the quality of their housing and neighbourhood with controlled expenditure on accommodation.

Fels contends that: “far more serious housing affordability problems are being experienced by low-income households that rent their residences. Many Australians spend such a high proportion of their income on rent that they are left

without sufficient funds to meet other basic needs such as food, clothing, transport, medical care and education.” (Fels, 2004)

While the 30% benchmark has its practical and policy uses, research shows that it may underestimate the real extent of housing stress in Australia. Taking into account the capacity of people to pay their rent once they have met reasonable costs of living suggests that low income households may be living in housing stress even when the benchmark suggests otherwise. Sizeable numbers of low income public and private tenants living below the described benchmark report experiencing ‘missing out’ on leisure, new clothing, holidays and socialising, as well as ‘cash flow’ problems and hardship in the forms of going without meals, inability to heat homes and needing to sell possessions to make ends meet.

Notwithstanding its limitations there is merit in using the 30% of income measure which is in wide currency: *the proportion of households in a counting area experiencing ‘housing stress’ – that is, allocating 30% or more of income to meet housing needs.*

Domestic and family violence

The Australian Parliamentary Library has produced helpful summaries of the issues surrounding domestic and family violence (Phillips, J., and Vandenbroek, P., 2014; Mitchell, L., 2011). From these resources, domestic violence refers to acts of violence that occur between people who have, or have had, an intimate relationship in domestic settings. These acts include physical, sexual, emotional and psychological abuse. The Australian and New South Wales Law Reform Commission’s review of family violence law in Australia recommended that state and territory legislation ‘should provide that family violence is violent or

threatening behaviour, or any other form of behaviour, that coerces or controls a family member or causes that family member to be fearful’.

Researchers have found that the strongest risk factors for current intimate partner violence were associated with the partners’ behaviour – drinking habits, levels of aggression and controlling behaviours. At the most serious end of the spectrum, many intimate-partner homicides are alcohol related. The overwhelming majority (87%) of ATSI intimate-partner homicides are alcohol related. There is some evidence that women who have lived with a violent partner are more likely than other women to have low levels of education (Women’s Health Australia, 2005). ABS data indicates that unemployed women are more likely to experience both current and previous partner violence over their lifetime than those who are unemployed or not in the labour force. Women reliant on government pensions and allowances as their main source of household income are also at increased risk of violence by a previous partner over their lifetime. Indigenous people experience violence at rates that are typically double or more those experienced by non-Indigenous people, and this can be much higher in some remote communities. Indigenous women in particular are far more likely to experience violence, and to endure more serious violence than non-Indigenous women.

The World Health Organisation has shown that domestic violence is known not only to have short-term adverse effects upon victims’ life opportunities but also in some cases negative consequences for the long term (WHO, 2002). In addition to impacting upon physical and mental health, domestic violence may have negative employment, education and social consequences. Rather than disability affording

protection from domestic violence, research evidence is accumulating that the reverse is the case. Disability introduces additional vulnerability for abuse in women's lives (Nosek, Foley, Hughes and Howland, 2001). Whilst there is considerable research on the individual factors that contribute to domestic violence broader community or neighbourhood factors "remain generally unexplored" (Naved and Lars, 2005).

A Queensland study has mapped the incidence of reported domestic violence in Brisbane (Bartolo, 2001). The study used a measure of multiple disadvantages (*Index of Relative Socioeconomic Disadvantage*, ABS 2001) to provide a statistically significant prediction of reported domestic violence. It found that relatively worse-off families experienced a significantly higher incidence of reported domestic violence.

The present study relies on the quantification of available records within the different Australian jurisdictions and the relevant indicator is: *the rate of domestic/family violence orders per 1,000 population aged 18-64 years in each counting area*.

Psychiatric treatment

The Australian Institute of Health and Welfare (2014) estimates that, on the basis of ABS surveys, 45% of Australians in the age range 16-85 years (7.3 million people) will experience a mental disorder at some time in their life. It is also estimated that 20% of the population (3.2 million people) have experienced a common mental disorder in the previous 12 months. Of these, anxiety disorders (such as social phobia) are the most prevalent, afflicting 14.4% of the population, followed by affective disorders (such as depression, 6.2%) and substance use disorders (such as

alcohol dependence, 5.1%). Mental and behavioural disorders are estimated to be responsible for approximately 13% of the total burden of disease in Australia, placing them third as a broad disease group after cancer and cardiovascular disease. In 2013, 31.2% of people in receipt of the Disability Support Pension had a primary medical condition of 'psychological/psychiatric'.

Mental health-related services are provided in Australia in a variety of ways, including hospitalisation and other residential care, hospital-based outpatient services, community mental health care services, and consultations with both specialists and general practitioners. The indicator used in the present project is based on that segment of total mental health-related services provided to people admitted to specialist hospitals and/or the mental health units of general hospitals. It needs to be remembered that women are more likely than men to use services for mental health problems (Australian Department of Health/Hunter Institute of Health, 2014).

An association between admissions to hospital for mental illness and socioeconomic status (SES) has been acknowledged for more than 50 years. The classical study of Faris and Dunham (1939) has recently been updated with respect to the independent effect of place of residence on mental wellbeing (Silver, Mulvey and Swanson, 2002). The most common explanation for socio-economic disparities in mental health is in terms of individuals in lower socioeconomic groups being more likely to experience both acute and chronic stressful events and lacking material and psychological coping resources (Almeida, Neupert, Banks and Serido, 2005).

While the inverse relationship between socioeconomic background and mental illness has been attested to by a great variety of studies of different designs, the contemporary interest resides more in trying to understand the dynamics involved in the relationship. A recent study of Massachusetts (Hudson, 2005) showed that the correlation of socioeconomic standing (measured in a variety of ways) and mental illness is a non-linear one, mostly affecting middle and low-income groups. The results have been interpreted as showing that the effects of SES are through adverse economic conditions (such as poverty, unemployment, and housing unaffordability) that most dramatically affect those low on the SES scale.

Another aspect of mental health currently receiving attention is whether the endurance of higher levels of psychopathology within lower socioeconomic groups reflects a single set of people who have chronic psychopathology or changing sets of people who have psychopathology of short duration. Miech, Eaton and Brennan (2005) have used two psychological assessments 13 years apart and found that, when education is used as the index of class position, the connection between SES and mental illness is due primarily to a single set of respondents with chronic psychopathology.

It is sometimes assumed that early motherhood leads to psychological distress, welfare dependence and

socioeconomic disadvantage. An Australian study employing sophisticated statistical methods shows that when pre-existing disadvantages are controlled, for, the additional deficits experienced by early mothers are relatively minor (Lee and Gramotnev, 2006). Social disadvantage predisposes women to become mothers early and to adopt unhealthy behaviours but early motherhood does not instigate these consequences.

In this project psychiatric hospital admissions have been calculated as: a rate per 1,000 of the population over 18 years of age in each counting area.

Readiness for schooling

Using an *Index of Concentration at the Extremes* (ICE), Canadian researchers have undertaken a large scale examination of the relationship between neighbourhood level concentrated affluence/disadvantage and children's developmental outcomes in 433 neighbourhoods throughout British Columbia (Carpiano et al., 2009). Their findings show that increases in neighbourhood affluence are associated with increases in children's scores on an Early Development Instrument (EDI), which measures Kindergarteners' readiness for school. That finding accords with conventional wisdom in the field. However, the subtlety in their results is that for four of the five sub-scores (physical, social, emotional, and communication) and the total score, there was a significant curvilinear

relationship whereby the highest average child-level outcomes occurred in locations with relatively equal proportions of affluent and disadvantaged families. The researchers interpret this result as indicating that children residing in mixed income neighbourhoods may benefit from both the presence of affluent residents and from the presence of services aimed at assisting lower income residents. This extremely interesting, albeit somewhat confounding result, bears consideration within the Australian context.

The Australian Early Development Index (AEDI), an adaptation of the Canadian Early Development Instrument (EDI), is collected at age five years as a developmental census. A study by Brinkman et al., (2013) evaluated how well the EDI predicts a child's later literacy and numeracy outcomes, as assessed by the national Assessment Program Literacy and Numeracy (NAPLAN) standardised testing in primary schools in Australia. It was concluded that the EDI does predict those outcomes: "A child's skills, development and attributes at school entry predict their later literacy and numeracy skills (as measured by NAPLAN) throughout primary school."

Indicator: *the proportion of all children tested for language and cognitive skills (school-based) and assessed as being 'developmentally vulnerable' in each counting area.*

NAPLAN performance

The bearing that education has on life opportunities has already been discussed but across the western world there has been a strengthening of the view that standardised student testing is a means of improving educational standards and learning outcomes (Dreher, 2012). Educators and researchers in the US, UK and Australia have challenged standardised testing "on the grounds of democracy, equity, identity and diversity" and the impact of standardised testing on educational processes continues to be a controversial issue. However, even as an incomplete measure of students' educational achievements, the test results can, in the light of the foregoing evidence of links between educational attainments and disadvantage, reasonably be expected to contribute to the identification of localities burdened by cumulative disadvantage.

Indicator(s): *proportion(s) of students from each locality failing to attain the 'minimum standard' on the literacy and numeracy assessment scales for Year 3 and Year 9.*

The specific criteria employed throughout the project are summarised in the following table:

Variable name	Description
Internet access	proportion of households without access to the internet in each counting area
Housing stress	proportion of households allocating 30% or more of income to housing costs in each counting area
Low family income	proportion of households with an income less than \$600 per week in each counting area
Overall education	proportion of the population in a counting area aged 16-65 years who left school before 15 years of age.
Post-schooling qualifications	proportion of population aged 18-64 years not possessing degree/diploma/grad diploma/grad certificate/postgraduate degree/certificate in each counting area
Unemployment	proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart in each counting area
Y3 numeracy	proportion of year 3 students not "At or Above National Minimum Standard Percentage" on the numeracy assessment scales in each counting area
Y3 reading	proportion of year 3 students not "At or Above National Minimum Standard Percentage" on the reading assessment scales
Y9 numeracy	proportion of year 9 students not "At or Above National Minimum Standard Percentage" on the numeracy assessment scales in each counting area
Y9 reading	proportion of year 9 students not "At or Above National Minimum Standard Percentage" on the reading assessment scales in each counting area
Child maltreatment	rate of confirmed maltreatment of a child per 1,000 of children and young people under 15 years of age living in each counting area

Variable name	Description
Unskilled workers	proportion of the workforce (ABS definition) classified as lowest skill (ABS definition) in each counting area
Young adults not engaged	proportion of 17-24 year olds neither engaged in full-time study or work in each counting area
Readiness for schooling	proportion of all children tested for language and cognitive skills (school-based) and assessed as being 'developmentally vulnerable' in each counting area
Disability Support	proportion of people aged 18-64 years in receipt of the Disability Support Pension in each counting area
Long-term unemployment	proportion of the workforce (ABS definition) aged 18-64 years in receipt of Newstart for one year or more in each counting area
Rent assistance	proportion of people aged 18 and over in receipt of rental assistance in each counting area
Criminal convictions	rate per 1,000 of people aged 18-49 years convicted of crime in each counting area
Juvenile convictions	rate per 1,000 of people 10-17 years convicted or found guilty of crime in each counting area
Family violence	rate of domestic/family violence orders per 1,000 population aged 18-64 years in each counting area
Prison admissions	rate per 1,000 of people aged 18-49 years admitted to prison in each counting area
Psychiatric admissions	rate of psychiatric hospital admissions per 1,000 of the population over 18 years of age in each counting area

03

CHAPTER 3

NEW SOUTH WALES

Given the focus of the present project upon the geographic distribution of social disadvantage, it is appropriate to begin our analysis of the situation in New South Wales by asking three questions:

- 1. To what extent is that distribution concentrated in particular localities?**
- 2. What, if any, are the recurring features of the profiles of areas that figure most prominently on the indicators of disadvantage we employ?**
- 3. Can counts of the number of times localities rank highly on the indicators used, contribute to a priority listing of areas warranting remedial measures?**

There is nothing especially technical about these questions and the evidence required for their resolution. Essentially, they involve simple counts of the attributes of 621 postcode areas in New South Wales using 21 indicators, the rationale for which, and their precise method of calculation, were outlined in Chapter 2.

*Data available for New South Wales**

Internet access	Housing stress	Family income	Overall education	Post-school qualifications	Psych. Admissions
Unskilled workers	Unengaged young adults	School readiness	Disability support	Long-term unemployment	
Rent assistance	Unemployment	Year 3 numeracy	Year 3 reading	Year 9 numeracy	
Year 9 reading	Criminal convictions	Juvenile offending	Domestic violence	Prison admissions	

**Data on child maltreatment arrived too late for inclusion in general analyses but is the subject of a separate analysis.*

The third question speaks of contributing to a priority listing because the approach described to this point emphasises those variables or indicators which reveal an area's problematic features. There is a second, somewhat more technical approach called Principal Components Analysis (PCA) which simultaneously takes into account a locality's rankings – high and low - on all of the indicators, thereby providing a second perspective on the issue of priority claims for special support. We focus on that second approach after first dealing with the three above-listed questions.

Concentration of disadvantage

The extent to which social disadvantage in New South Wales is geographically concentrated is shown by the fact that a limited number of postcodes occupy a disproportionate number of the 'top' – that is, most disadvantaged – rank positions on each of the 21 indicators. Pragmatically, we have defined top as the 5% (or 31/621) most disadvantaged rank positions, the same approach as the one used in our 2007 research. Given that there were 31 'top' positions across 21 indicators, this meant that there were 651 rank places to be filled. When postcodes that accounted for five or more top rank positions are combined (see Table 3-1) it can be seen that 37 postcodes (6% of the total) yielded just under half (49.5%) of the most disadvantaged rank positions – an eight-fold over-representation compared with an even distribution across all 621 areas.

Table 3-1: Postcodes accounting for 5+ of highest rankings on NSW indicators

No. of postcodes	No. top ranks	Total top positions
3	5	15
6	6	36
7	7	49
7	8	56
3	9	27
1	10	10
3	11	33
-	12	-
4	13	52
1	14	14
2	15	30
37		322

Obviously, the more tightly the boundary is set of the 'top ranking' category, the more dramatic is the yield of a comparatively small number of places. For example, 11 places (just 1.8% of the 621 postcodes) that accounted for ten or more of the top rank positions, filled 139 or 21.4% of the possible top rank positions – an eleven-fold increase over what would result from an even distribution. The equivalent findings in 2007 are available for comparison:

- In Victoria (2007), 1.5% of the postcodes accounted for 13.7% of the top rankings (see the details in the next chapter); and
- In New South Wales (2007), 1.7% of the postcodes accounted for 12.5% of the top rankings.

These findings suggest either an increasing concentration of disadvantage within a smaller number of localities since 2007 and/or the effects of differences in the characteristics of the areas studied in the two projects.

The next section affords an opportunity to reflect upon the second of these possibilities but for the moment the overall concentration of disadvantage is underlined by the fact that 70% of the 621 New South Wales postcodes were entirely absent from the top ranks, as we have defined them, across all 21 indicators of disadvantage employed in 2014. A further 83 (13%) appeared just once.

To restate the main finding, it fell to just 37 (6%) of New South Wales postcodes to account for a fraction under half of the available top ranking places on the indicators.

Disadvantage profiles of top ranking areas

As was the case in 2007, some variables more than others were characteristic of the 37 postcodes that accounted for between five and 15 top ranking positions (see Table 3-2, below). This is the group of localities upon which we focus in this section. In a limited number of localities the indicators were notable for their absence. Only one of the postcodes involved had a top ranking on *housing stress*; four had a similar result on *rental stress*; and eight on *unskilled workers*.

At the other extreme is a group of criminal justice-related indicators which emphasise the location of officially processed crime within socially disadvantaged circumstances. An indicator study does not afford opportunities for apportioning the relative contributions of behaviour patterns, social-environmental factors, greater surveillance, deficiencies in education, the absence of pro-social role models, and a host of other factors which have been found to contribute in some degree to unlawful conduct.

On the asset side is the fact that the indicators in the present study mirror the prevailing situation as captured by official statistics and, therefore, as presented to decision makers. In the absence of 'final answers' they raise questions about the approaches to be used in ameliorating the problem of criminal convictions in more than two-thirds of the multiply-disadvantaged locations, where adult imprisonment and juvenile offending are also at significantly high rates – in areas additionally burdened by long and shorter term unemployment, disabilities, lack of formal qualifications, deficient education generally, low family incomes, domestic violence and mental health problems. If education and training are to play an ameliorative role then the NAPLAN test results indicate the scope of the challenge; upwards of a third of the multiply-disadvantaged localities occupied the high (negative) ranks on the Year 3 reading, Year 9 numeracy and Year 9 reading tests.

When we come to look at the progress or otherwise of individual postcodes, there are some examples of modest educational achievement that may warrant further detailed study and emulation. More worrying is the fact that, at least in New South Wales, approximately half of the multiply-disadvantaged areas had high rankings on 'young adults not fully engaged in work or study.' Again, this needs to be interpreted against the background of other manifestations of disadvantage outlined in the following table. Note the consistency of the high frequency characteristics in 2014 with those of 2007; nine of the 11 most frequently occurring characteristics in 2014 for which counterpart measures were taken in the earlier project, were the most frequently occurring in 2007.

Table 3-2: 37 postcodes with 5-15 'Top rankings' on 2014 indicators - comparisons with 2007 results#.

No. of postcodes (2014) with 5-15 'Top rankings'	Indicator	Profile of multiply disadvantaged areas (2007)- 36 most disadvantaged postcodes
25	Criminal convictions	
23	Access to internet	
23	Unemployment	
22	Domestic violence	Not prominent
19	Prison admissions	
19	Lack of qualifications	
19	Long-term unemployment	
18	Juvenile offending	Not assessed
18	Young adults no full-time work, education/training	✓*
17	Overall level education	✓*
16	Year 3 reading deficit	Not assessed
16	Disability support	Not prominent
14	Low family income	
14	Year 9 numeracy	Not assessed
13	Year 9 reading	Not assessed
12	Readiness for schooling	Not assessed
11	Psychiatric admissions	Not prominent
11	Year 3 numeracy deficit	Not assessed
8	Unskilled workers	Not prominent
4	Rental assistance	Not prominent
1	Housing stress	Not prominent

#See *Dropping off the Edge* (2007) p. 35; *Approximation to 2014 indicator

Interconnections between the NSW indicators

It is one thing to note the manifestations of disadvantage that recurrently feature in the profiles of many vulnerable communities, and another to consider the interconnections between the attributes in question. In earlier reports in this series we have invoked the image of a *web of disadvantage* to capture the way in which the opportunity constraining effect of one

form of disadvantage can reinforce the impact of one or more other forms of disadvantage. That pattern can be discerned by simple reflection but rendered more tangible by quantifying the extent to which areas' scores on pairs of indicators wax or wane together. Our intention in this section is to identify those variables that by the sheer number and scope of their connections with other measures of deprivation appear to be elements of the structure of localised disadvantage.

To pursue this issue in each of the jurisdictions, starting with New South Wales, we employ a statistic known as the correlation coefficient or r . The concept as introduced here will be applied with less fanfare to the findings in the other jurisdictions. The practical challenge comes down to this: to what extent do areas with 'high', 'middling', or 'low' scores on one indicator tend to have similar scores on the other indicators used in the study? To answer this question we employ an index of co-variation, the correlation coefficient – more specifically, the Pearson Product-moment Correlation Coefficient. This coefficient places the degree of association between variables between +1 and -1, where the first-mentioned figure indicates total positive correlation; 0 is no correlation, and -1 is total negative correlation. Complete details of the NSW correlation matrix can be consulted at the project website. However, Table 3-3 (below) amply demonstrates a very substantial degree of tightness in the 'webbing' linking 13 (or three-fifths) of the NSW indicators that correlated with at least nine others at a level of +.50 - not only a statistically but practically significant figure.² The 13 indicators involved and the number of their +.50 correlations were as follows: long-term unemployment (17), unemployment (16), criminal convictions and unengaged young adults (each 13), Year 9 reading (12), internet access (11), low family income, local overall education, disability support (each 10), and post-schooling qualifications, Year 3 reading, prison admissions and domestic violence (each 9).

Taken as a whole, the 13 inter-connected variables that had correlations of +.50 or higher with nine other indicators,

bore a strong resemblance to the earlier presented profile of multiply disadvantaged areas. Indeed, the 13 most recurring characteristics (see Table 3-2) and the 13 highly inter-connected indicators (Table 3-3) are the same but for juvenile offending. This is not to say that juvenile offending was an isolated factor: it correlated with six other indicators at the stipulated level of +0.50 (the two employment indicators, criminal convictions, prison admissions, domestic violence and Year 9 reading). Within that circle of multiply correlating indicators, the degree of association between them generally hovers between .50 and .85.³ In order to identify the more powerful strands of the localised disadvantage web, we instituted a threshold of +0.70 as a guide. This suggested that the two unemployment indicators had a slightly elevated scale and scope of inter-connectedness over the substantial scope but lesser scale of 'unengaged young adults.' Reduced internet access continues to be a marker of the presence of other manifestations of disadvantage with comparatively high (0.70+) correlations in the present instance with the unemployment indicators, low family income, disability, lack of qualifications, and overall limited community education. Low family income had an almost identical pattern of inter-connections.

In general, there was a discernible but less than complete similarity between the order of prominence of the characteristics of multiply disadvantaged areas (Table 3-2), and the prominence of the correlational patterns of the 13 indicators in Table 3-3. Eight of the ten highest ranking characteristics of multiply disadvantaged areas – criminal convictions, access to the internet, unemployment and the like - had direct

² Cohen, J., (1988) *Statistical Power Analysis for the Behavioural Sciences*, (2nd ed), NJ, Erlbaum

³ This is unusually high for the social sciences and may reflect the use of aggregated locational scores rather than individual-based data.

counterparts among the 11 indicators with correlations above 0.70. The first of the two exceptions was juvenile offending which, as already mentioned, did correlate with six other indicators at the +.50 level. The second was prison admissions which also correlated with six other variables at the 0.50 level (the two unemployment variables, unengaged young adults, criminal convictions, Year 9 reading, Year 3 reading). So, the two lists, area characteristics and elevated correlations, are not too far apart.

Priority listing of areas

Table 3-3: Pearson correlations between NSW indicators (including 13 which correlated +.50 with at least nine other indicators)

Some correlations among the 22 indicators are not included because of their comparatively low coefficient scores and limited range of inter-connectedness (see the text).

	Long-term unemployment LTU	Unemployment Un	Un-engaged Young Un-eng	Criminal Convict Cc	Disability Dis	Yr 9 Read 9 R	Internet Int	Family income Inc	Overall educated Over	Yr 3 Read 3 R	Qualifications Qu	Domestic Violence DV	Prison admission Pris
LTU		.99	.84	.82	.87	.59	.78	.86	.70	.53	.66	.53	.65
Un	.99		.73	.79	.85	.53	.74	.82	.69	.50	.64	.51	.60
Un-eng	.84	.73		.64	.60	.59	.59	.56	.56	.55	.50	.53	.61
Cc	.82	.79	.64		.70	.63	.66	.58	.62	.56	.67	.71	.82
Dis	.87	.85	.60	.70			.80	.84	.66	.52	.53	.58	.60
9 R	.59	.53	.59	.63			.56	.82	.76	.77			
Int	.78	.74	.59	.66	.80	.56		.72			.74		
Inc	.86	.82	.56	.58	.84		.82	.72			.71		
Over	.70	.69	.56	.62	.66	.56						.58	.52
3R	.53	.51	.55	.56		.52							
Qu	.66	.64	.50		.67	.53	.77	.74	.71				
DV	.53	.51	.53	.71		.58				.58			.83
Pris	.65	.60	.61	.82		.60				.52			

The frequency with which a place enters the top 5% rankings on individual indicators provides one perspective on the relative disadvantage of localities. A second more technical approach is considered in the following section, but for the moment we rely on a simple count of the number of times a postcode ranked at the extreme disadvantage end (5%) of scores on individual indicators.

We have already seen that 37 postcodes accounted for between five and 15 top ranking positions (see Table 3-2). This is the group of localities upon which we again focus in this section and we can determine how consistent the findings are with respect to the most disadvantaged localities, compared with the results of previous projects, especially *Dropping off the Edge* in 2007. To avoid focusing public attention upon just the most extreme cases, the localities are listed alphabetically. Following the approach used in 2007, the current identification of the 11 most disadvantaged postcodes in New South Wales was based on top 5% rankings

on the indicators (see Table 3-4, below). It was found that all 11 of these localities had previously appeared on the list of NSW's most disadvantaged postcodes in 2007. And the linkage to earlier similar projects continued: the places on our contemporary 'most disadvantaged' list were all among the 6% most disadvantaged places in New South Wales in 2004 (see *Community Adversity and Resilience*, p. 58). A similar picture emerged in 1999 when just eight indicators were used to chart the distribution of social disadvantage in NSW and Victoria. With the exception of two localities (Bourke, postcode 2840, and Mendooran, postcode 2842) which have become more prominent over the intervening 15 years, a similar pattern applied (see *Unequal in Life*, p. 34). Nine of today's 11 most disadvantaged places were among the 10% of localities identified in 1999 as being multiply-disadvantaged.

Table 3-4: Comparison of the most disadvantaged postcodes in New South Wales (based on top rankings)

2014 (Total =37)	Estimated population ⁴	2007 (Disadvantaged total=36)	2004 (Disadvantaged total =36)
Most disadvantaged		Most disadvantaged	Most disadvantaged
2409 Boggabilla	647	✓	✓
2840 Bourke	2,047	✓	✓
2839 Brewarrina	1,254	✓	✓
2559 Claymore	3,308	✓	✓
2833 Collarenebri	386	✓	✓
2717 Dareton	567	✓	✓
2842 Mendooran	302	✓	✓
2369 Tingha	1,175	✓	✓
2832 Walgett	2,300	✓	✓
2836 Wilcannia	604	✓	✓
2306 Windale	3,095	✓	✓
Next most disadvantaged			
2395 Binnaway	500		
2449 Bowraville	1,208		
2294 Carrington	1,874		
2829 Coonamble	2,998		
2403 Delungra	554		
2165 Fairfield	17,032		
2828 Gulargambone	500		
2466 Iluka	1,739		
2878 Ivanhoe	200		
2848 Kandos	1,284		
2440 Kempsey	28,134		
2807 Koorawatha	260		
2672 Lake Cargelligo	1,380		
2834 Lightning Ridge	4,500		
2346 Manilla	2,500		
2400 Moree	9,346		
2406 Mungindi	700		
2448 Nambucca Heads	6,137		
2469 Northern Rivers MSC	n.a		
2645 Urana	300		
2163 Villawood	5,304		
2502 Warrawong	4,770		
2824 Warren	1,523		
2341 Werris Creek	1,437		
2476 Woodenbong	477		
2703 Yanco	572		

⁴ ABS 2011 Census of Population and Housing

While the broad picture is one of the marked constancy of localised disadvantage, the findings contain some evidence of positive changes in the rankings on particular indicators. This is an issue which to some extent is considered in the next section and subsequent chapters but a full exploration of the dynamics involved in such changes is beyond the scope of the present project. However, the 2004 report *Community Adversity and Resilience* included an account by the Strengthening Communities Unit of the NSW Premier's Department of Governmental and Local Initiatives to particular social challenges within the suburb of Windale. Those challenges were of long standing and continued to be reflected in the 2014 findings with top 5% rankings on 15 of the indicators. The two notable exceptions concerned the NAPLAN results for Year 3 reading (rank 521 – or 84% of the way down the list) and Year 3 numeracy (rank 179 – almost 30% of the way).

Given the official and community-based responses to earlier indicator findings, and what even in the absence of past comparable educational data appear to be signs of early education progress, to ignore the measures associated with the Year 3 results would be a lost opportunity to profit from Windale's experience. Following the earlier reports in the present series, the NSW Government established a 'School as Community' Centre in Windale which included the following programs: parenting classes; the staged introduction of pre-school aged children to school; the creation of a pre-school; exercise-cum-sociability groups for some isolated mothers; the identification of talented youngsters and provision of academic extension opportunities; locally created scholarships; a generally

increased involvement by parents in school-based committees, and a nutrition program. These activities and programs were vigorously promoted to the local community, resulting in parent/carer participation in the development of children's early education, particularly reading, but also contributing in a variety of ways according to their needs and capacities. Fathers, for example, in some cases helped to improve the school grounds and performed other practical duties. While the identification of promising 'green shoots' was not a primary objective of the present project, in the light of the NAPLAN results, there appears to be a tangible pay-off for the efforts expended, with the prospect of increased life opportunities for the upcoming generation and possibly reduced social expenditures for the wider community.

Another locality in the Sydney Metropolitan Area ranked highly on a range of indicators of disadvantage in 2007 and maintained top 5% rankings on 11 indicators in 2014, covering the education/training, employment and juvenile and adult criminal justice spheres. The picture had been similarly troubling in 2004 and 1999. Today there are several preschools located in the community, or servicing the area from nearby bases. The NAPLAN results – Year 3 reading, ranked 184th, and 75th on numeracy – are not quite the equal of the previously mentioned example, but all things considered, they represent a move in the right direction.

What factors have contributed to the just mentioned positive test results, especially with regard to reading? It is outside the scope of the present study to evaluate the benefits of the local programs but we note, in passing, the beliefs of local community workers.

There appears in recent times to have been a combination of measures (i) specifically directed to promoting the educational and social development of children of the area, and (ii) other measures more directed at general community-level wellbeing. The first category includes *The Home Interaction Program for Parents and Youngsters* (HIPPY), and other interventions including the Books in Homes scheme.

Less success has attended the early education endeavours of schools in remote areas of New South Wales with significant ATSI populations. In 2007, one locality ranked in the top 5% on ten indicators and that pattern was repeated in 2014 with top 5% rankings on 12 indicators, including ranks of 7th and 4th respectively, on Year 3 numeracy and reading. An identical 2014 result occurred in another remote area with a significant ATSI population. Housing stress and rent assistance were comparatively low but the education/training, employment and criminal justice indicator results were troubling. More specifically, the NAPLAN results were as follows:

Year 3 numeracy	Rank 20 th
Year 3 reading	Rank 8 th
Year 9 numeracy	Rank 10 th
Year 9 reading	Rank 2 nd

These two examples underline the hurdles facing ATSI students in the early years of their formal education but the challenge is broader than that: every one of the postcodes listed as 'most disadvantaged' in New South Wales is home to a significant number of ATSI people, with percentages ranging from approximately double the ATSI share of the NSW population to more than 50% in several non-metropolitan areas.

To be listed as 'most disadvantaged' reflects a top 5% ranking across at least ten of the indicators used – a substantial degree of cumulative disadvantage. We have drawn attention to energetic and creative efforts to offset the educational consequences of such a background in two of the 11 'most disadvantaged' localities. A simple litmus test of how education is faring in the other nine places is to look at the Year 3 reading test results. The average rank position is 12th, equivalent to being in the lowest 2% of areas across the state.

In some instances the relative prominence of a locality, such as Fairfield in Sydney (postcode 2165) may seem like the unheralded emergence of a new entry in the list of disadvantaged postcodes. It is true that Fairfield did not appear among the 'most' or 'next most disadvantaged' places in 2004 or 2007 but on three of the nine variables used to plot disadvantage in 1999 it ranked in the top 9% on long term unemployment and the unskilled worker indicators, and in the top 10% on unemployment. In 2007 Fairfield was in the top 5% on a single ('unskilled') indicator, top 7% on lack of qualifications and home purchase stress, and approximately the top 10% on computer access, general level of education of the population and long term unemployment. So, the absence of an area from lists intended to highlight localities burdened by cumulative disadvantage, still leaves open the possibility of specific vulnerabilities that need to be taken into account as part of community planning and development. The detailed community profiles which form the basis of the present project are one source of such information and the details are available at the project website.

Comprehensive overview of rankings

In the concluding section of Chapter 2 we introduced the notion of simultaneously taking account of an area's rankings on all of the indicators employed. Involved is a statistical procedure known as *principal components analysis* – explained near the end of Chapter 1 (page 21). This method, as previously discussed and subject to some technical requirements, can assist us to arrange the New South Wales postcodes in an array, like beads on a string, ranging from the area that is most generally vulnerable to the problems represented by our indicators, to the one that is least vulnerable.

In adopting the use of this procedure in relation to New South Wales our intention is to take into account each postcode's rank position on a common set of indicators which generally match the same set of variables employed in 2007 (see Chapter 2). In taking this course it is intended to assist appraisal of how localities have 'travelled' over the past seven years. However, we caution that direct comparison of the vulnerability rankings in 2007 and the present results, can only be an indicative guide and not the whole answer. First, the outcome on either or both occasions can be influenced by the availability of matching data, with government agencies feeling bound to withhold counts or frequencies in those cases where the smallness of the numbers might enable the identification of individuals. At least in the public realm, this concern is actually unwarranted since the report is based on

rank positions rather than raw numbers, but the supplying agencies have interpreted their ethical responsibilities as requiring the action described. In the recommendations section of this report we suggest a means by which this difficulty can be overcome. Other complicating factors include some boundary adjustments and some definitional modifications.

For the afore-mentioned reasons, readers should look to a combination of the earlier provided lists of *most* and *next most* disadvantaged localities and the general vulnerability rankings. Following precedent, the 40 most vulnerable New South Wales localities identified by the principal components analysis (PCA) are identified below (Table 3-5), listed alphabetically within bands of relative severity.

In the case of New South Wales, the PCA resulted in the extraction of a major factor that accounted for 75% of the total variance of 11 comparative indicators across 427 postcode areas. As described in Chapter 2, we are justified in treating this first component as a 'general disadvantage' factor that captures along a single dimension many aspects of disadvantage previously reflected in separate indicator scores. This does not mean that all of the indicators are reflected to an equal extent by the New South Wales 'disadvantage' factor. A postcode's position along the disadvantaged continuum is determined by weighting each of its indicator scores by a value that reflects each particular indicator's loading on the general disadvantage factor for its state.

The relative weights assigned to the NSW indicators are shown in the Technical Appendix. The final score for each locality then becomes the weighted sum of scores on the indicators.

The outcome of this analysis is the listing of the 40 highest-ranking places. In the case of New South Wales, 63% of these localities (25/40) were among the state's 40 highest ranking postcode areas on the 2007 disadvantage factor (signified by a ✓ symbol in Table 3-5, on the following page). Given the previous comments about procedural modifications and, of course, the possibility of changes in the structures of local disadvantage, it is more appropriate to set the comparison at a slightly less stringent level, e.g., whether the 2014 top 40 locations on the disadvantage factor occupied top 10% positions (ranks 1-67/667) in 2007 (signified by either a ✓ symbol or an asterisk in Table 3-5). Viewed in this way, the fact that 29 of the 40 2014 high ranking places met this criterion encourages the view that the results are credible. Furthermore, the current order of places in terms of disadvantage factor scores correlates +.90 with a separately calculated ordering on the basis of rank averages across the indicators.

So far as the first two bands are concerned, the postcodes involved in these two extreme categories have been very consistent over the past 15 years. In 1999, nine of the 12 names in the top two bands were the same as for 2014; in 2004 eight of the names were the same as the present list, and Table 3-5 (below) shows that ten of the present 12 were

in the top two bands based on top 5% rankings on the indicators.

Moreover, a backward glance to Table 3-4 shows that the postcodes constituting the first three bands of disadvantaged places ranked highest by the principal components procedure (tabulated below) were, with just two exceptions, included on the most and next most disadvantaged postcodes lists based on the 'top 5%' method. The reasons for Cabramatta (2166) having different rankings are easily determined: only five of its indicators were in the top 5% category but another three were within four rank positions of qualifying. Furthermore, of those indicators that met the top 5% criterion, two were in the top 1% and another within the top 3% - all of which warranted the high disadvantage ranking that the PCA procedure is designed to recognise. Something similar can be seen in the case of 2770 Mount Druitt with six of its indicators meeting the top 5% criterion. However, in addition to the mentioned six indicators, eight others were in the top 10% and there were few results indicative of low rankings. So, again the PCA method of analysis more readily recognises consistent indications of disadvantage that fall a little short of an extreme disadvantage threshold.

All things considered, Table 3-5 reflects a high degree of consistency in the exposure of a relatively small number of communities to severe manifestations of disadvantage.

Table 3–5: NSW’s 40 highest-ranking postcode areas on the ‘disadvantage’ factor (listed alphabetically in bands)

Band	Localities arranged alphabetically	Estimated population	Top 5% (✓) / Top 10% (*) in 2007
	2839 Brewarrina	1,254	✓
	2559 Claymore	3,308	✓
1	2834 Lightning Ridge	4,500	✓
	2832 Walgett	2,300	✓
	2836 Wilcannia	604	✓
	2306 Windale	3,095	✓
	2840 Bourke	2,047	✓
	2449 Bowraville	1,208	✓
2	2717 Dareton	567	*
	2466 Iluka	1,739	✓
	2469 Northern Rivers MSC	n.a	✓
	2163 Villawood	5,304	*
	2166 Cabramatta	20,780	-
	2829 Coonamble	2,998	*
3	2440 Kempsey	28,134	✓
	2346 Manilla	2,550	-
	2502 Warrawong	4,770	✓
	2341 Werris Creek	1,437	-

Band	Localities arranged alphabetically	Estimated population	Top 5% (✓) / Top 10% (*) in 2007
	2471 Coraki	1,478	✓
	2165 Fairfield	17,032	-
4	2443 Laurieton	1,931	✓
	2770 Mount Druitt	15,794	✓
	2448 Nambucca Heads	6,137	✓
	2462 Ulmarra	446	*
	2470 Casino	11,000	✓
	2551 Eden	3,043	-
5	2827 Gilgandra	2,700	*
	2427 Harrington	2,259	✓
	2505 Port Kembla	4,400	*
	2824 Warren	1,523	-
	2506 Berkeley	7,427	-
	2880 Broken Hill	18,517	✓
	2453 Dorrigo	1,072	-
	2473 Evans Head	2,722	-
6	2428 Forster	13,116	✓
	2360 Inverell	9,347	✓
	2400 Moree	9,346	-
	2430 Taree	20,000	✓
	2455 Urunga	3,020	✓
	2829 Wellington	4,540	✓

04

CHAPTER 4

VICTORIA

As was the case in the previous chapter concerning New South Wales, the analysis of our Victorian data begins with some fairly straight forward questions about the way selected forms of disadvantage are geographically distributed across the state. Later, more technically sophisticated means will be employed but in the first instance, we use simple social arithmetic to answer three strategically important questions:

- 1. To what extent is that distribution concentrated in particular localities?**
- 2. What, if any, are the recurring features of the profiles of areas that figure most prominently on the indicators of disadvantage we employ?**
- 3. Can counts of the number of times localities rank highly on the indicators used, contribute to a priority listing of areas warranting remedial measures?**

Again we have benefitted from a generally high level of cooperation from state authorities and agencies involved in compiling social statistics, thereby enabling the cross-referencing of data that more frequently receive separate consideration. Essentially, involved in this first phase are simple counts of the attributes of 667 Victorian postcode areas, using 22 indicators, the rationale for which, and their precise method of calculation, were outlined in Chapter 2.

Data available for Victoria

Internet access	Housing Stress	Family income	Overall education	Post-school qualifications	Psychiatric admissions
Unskilled workers	Unengaged young adults	School readiness	Disability support	Long-term unemployment	Confirmed child Maltreatment
Rent assistance	Unemployment	Year 3 numeracy	Year 3 reading	Year 9 Numeracy	
Year 9 reading	Criminal convictions	Juvenile offending	Domestic violence	Prison Admissions	

The reference in the third question to this section *contributing* to a priority listing is an acknowledgement of the fact that focusing on areas which rank highly on a substantial number of indicators, provides an important but incomplete perspective on the distribution of disadvantage. There is a second complementary and somewhat more technical approach called *Principal Components Analysis* which simultaneously takes into account a locality's rankings – high and low - on all of the indicators. This provides us with a second way of gauging an area's claims for special support. We focus on that second approach after first dealing with the three above-listed questions.

Concentration of disadvantage

In three previous reports similar to the present one – 1999, 2004 and 2007 - we have assessed the extent to which social disadvantage in Victoria is geographically concentrated. We have done that by examining the number of times the same postcode areas occupy the 'top' (that is, most disadvantaged 5%) rank positions on each of the available indicators. We have repeated the same procedure on the present occasion. Not only is the extreme 5% category intuitively meaningful but its repeated use affords an opportunity to compare the present and past findings.

Given that there were 33 'top 5%' positions across 22 indicators, this meant that there were 726 rank places to be filled. When postcodes that accounted for five or more top rank positions are combined (see the following table) it can be seen that 27 postcodes (4% of the total) yielded 188

(28.2%) of the top rank positions – a seven-fold over-representation compared with an even distribution across all 667 areas.

Table 4-1: Postcodes accounting for 5-13 of highest (disadvantaged) rankings on Victoria indicators

Number of postcodes	No. top ranks	Total top positions
9	5	45
5	6	30
2	7	14
6	8	48
3	9	27
1	11	11
1	13	13
27		188

Comparisons with the findings in 2007 continue to support the idea of a marked degree of concentration of the state's social disadvantage within a limited number of Victorian localities:

- 1.6% (11) of the postcode areas accounted for 13.7% of the top 5% positions - almost a ninefold over-representation, a result virtually identical with that in 2007; and
- 44 postcode areas (6.6% of the total) accounted for 256 (35.3%) of the top 5% positions – a fivefold over-representation matching the 2007 result.⁵

The current 2014 findings regarding the geographic concentration of social disadvantage in Victoria resonate strongly with the findings of other research conducted by Jesuit Social Services over the past decade,

⁵ In 2007, 6.2% (45 localities) accounted for 30.3% of the top 5% positions.

particularly in relation to adult and juvenile offending. For example, salient features of the spatial concentration of offenders were summarised in a table included in a report, *Young People on Remand in Victoria* (2010) ⁶ and as shown in Table 4-2.

Table 4-2: Concentration of juvenile remandees and adult prison admissions within a limited number of Victorian postcodes

Remandees 2008-2010

2.2% of 726 postcodes accounted for 25.4% of remandees

Prison admissions 2003

2.1% of 647 postcodes accounted for 25% of prison admissions

A further study titled *Thinking Outside: Alternatives to remand for children* (2013),⁷ showed that 25 per cent of children on youth justice orders in Victoria in 2010 came from just 2.6% of postcodes.

Disadvantage profiles of top ranking areas

Having noted the persistent geographic concentration of social disadvantage in Victoria, we turn now to the consideration of the hallmarks of that localised disadvantage. Of the 22 indicators applied to postcodes across the State, which are most characteristic of the top

ranking areas? Certainly, as was found to be the case with New South Wales, there are some indicators that are conspicuous by their absence. In Victoria, one such infrequent characteristic of the top ranking areas was juvenile offending, which appeared just three times. This was surprising given its prominence among the counterpart profiles in New South Wales and the concentrated presence of aspects of the adult criminal justice system in the Victorian profiles (see below). It is tempting to attribute part of the difference between the two states in this regard to a difference in the way the juvenile offending statistics are compiled. However, why such a difference should diminish the proportion of the police actions within our top ranking localities is not clear. Perhaps the social geography of juvenile offending in Victoria is, in fact, different from that in New South Wales. As we cautioned in our previous (2007) report, there is no reason why the profiles of areas that rank highly on disadvantage should be identical across the states. Some overlaps are to be expected as well as some distinguishing features.

Among the low frequency characteristics of the 'top ranking' Victorian localities were Year 9 NAPLAN reading results and 'housing stress', both of which appeared three times. The latter characteristic was equally absent from the New South Wales profiles but Year 9 reading was a middle-order characteristic of the top ranking disadvantage postcodes in New South Wales.

⁶ Ericson, M., Vinson, T., (2010) *Young People on Remand in Victoria*, Richmond, Jesuit Social Services.

⁷ Jesuit Social Services, *Effective Change Pty Ltd.*, (2013), *Thinking Outside: Alternatives to remand for children*, Richmond, Jesuit Social Services.

In terms of the indicators we have employed, what were the dominant characteristics of the 27 Victorian postcodes that appeared in the top 5% rankings at least five times? *Unemployment* (19 'top 5%' appearances or seven-tenths of the localities in question), and *long-term unemployment* (12 'top 5%' appearances) were among the dominant characteristics. Of the same general order of importance was a cluster of adult criminal justice characteristics – *criminal convictions* (16 appearances or three-fifths of the localities in question), *prison admissions* (12 appearances), and *domestic violence* (10 appearances). *Confirmed child maltreatment and low family income* (each 11 appearances) and *psychiatric hospital admissions* (10 appearances) were also relatively prominent characteristics. *Rental assistance* was one feature which was more prominent in the Victorian profiles than was the case in New South Wales (11 appearances compared with just four). Another substantial difference between top ranking areas of the two states concerned the relative frequency

of the characteristic 'Young adults, no full-time work, or education/training.' This was a relatively prominent feature (20 appearances) of the NSW areas in question, but was less characteristic of counterpart localities in Victoria (six appearances).

Of the several educational indicators employed, the *overall level of education* of an area (12) and the possession of *post-school qualifications* (10) were among the distinguishing characteristics but that was less the case with the NAPLAN test results (see Table 4-3, below). Even after allowing for the fact that Chapter 3 presented the profiles of 37 top ranking areas in New South Wales, compared with the present 27 Victorian areas, lower performances in Years 3 and 9 numeracy and literacy tests appear less closely connected with overall social disadvantage in Victorian communities. However, 'school readiness' and 'access to the internet' retain a middling status among the disadvantage profiles.

Table 4-3: 27 postcodes with between 5-13 'Top Rankings' on 2014 indicators - comparison with 2007 results*

No. of postcodes (2014)	Indicator	Profile of multiply disadvantaged areas (2007) – 36 most disadvantaged postcodes
19	Unemployment	✓
16	Criminal convictions	✓
13	Disability	✓
12	Long-term unemployment	Not prominent
12	Prison admissions	Not prominent
12	Overall education	✓
11	Child maltreatment	✓
11	Low family income	✓
11	Rent assistance	Not assessed
10	Lack of qualifications	✓
10	Domestic violence	✓
10	Psychiatric admissions	Not prominent
8	School readiness	Not assessed
7	Access to internet	✓
7	Year 3 reading	Not assessed
7	Unskilled workers	✓*
6	Young adults no full-time work, education/training	✓*
6	Year 3 numeracy	Not assessed
5	Year 9 numeracy	Not assessed
3	Year 9 reading	Not assessed
3	Juvenile offending	Not assessed
3	Housing stress	Not prominent

**Similar but not identically defined*

Interconnections between the Victorian indicators

It adds to our understanding of localised disadvantage to identify the recurring characteristics of areas that have more than their share of the things that compromise life opportunities. However, as we saw in Chapter 3 when considering New South Wales, those restraints can be more than the sum of separately operating influences.

That the web analogy is apposite also in the case of Victoria is borne out strongly by the Victorian correlation matrix, the complete details of which can be consulted at the project website. We again resort to that standard measure of *correlation* which was described in Chapter 3 and which captures the degree of co-variation with an index score between +1 (a high degree of interconnection) and -1 marking a strong counter-move in the opposite

direction. Table 4-4 reveals a number of comparatively highly inter-woven strands linking the indicators of localised disadvantage in Victoria. Again we have adopted the strategy of focusing upon those indicators that correlate with at least nine others at the relatively high correlational level of $+ .50$ and the number – 13 – is the same as in New South Wales. Prominent among these variables are unemployment of short and longer duration (17 and 18 instances, respectively), disability support, child maltreatment and prison admissions (each 15 instances), rent assistance (12 instances), low family income, local overall education, and juvenile offending (11 instances), and post-school qualifications, unskilled workers, criminal convictions and domestic violence making up the remainder of the category. The composition of the group of Victorian indicators only differs from the NSW equivalent by the non-presence of *unengaged young adults* and *Year 9 reading* which were less prominent

as connecting threads of localised manifestations of disadvantage. On the other hand, *rent assistance* and *prison admissions* were more inter-connecting variables in Victoria.

A look back at the characteristics of the areas which scored highly on top 5% rankings on the indicators (Table 4-3) shows that the list of most inter-correlating indicators is very similar to the list of the most frequently featured community characteristics. Indeed, of the 12 characteristics that appeared ten times or more on community profiles, 11 correlated nine times or more with other indicators. The exception was Victorian *psychiatric admissions* which was not a highly inter-correlating variable.

Table 4-4: Victorian indicator correlations with nine other variables at +.50

	Internet access	Low family income	Overall education	Post school qualifications	Unskilled workers	Disability support	Long-term unemployment
Internet access	1						
Low family income	.781	1					
Overall education	.659	.655	1				
Post-schooling qualifications	.631	.563	.677	1			
Unskilled workers	.475	.525	.568	.561	1		
Readiness for schooling	.375	.471	.481	.441	.474		
Disability Support	.863	.853	.751	.687	.627	1	
Long-term unemployment	.795	.847	.789	.633	.728	.909	1
Rent assistance	.570	.586	.570	.395	.537	.687	.835
Unemployment	.768	.835	.769	.632	.689	.887	.990
Y9 reading	.287	.364	.474	.397	.417	.363	.467
Child maltreatment	.642	.676	.641	.631	.594	.735	.787
Juvenile convictions	.733	.664	.483	.372	.496	.737	.659
Domestic violence	.469	.465	.486	.435	.498	.686	.791
Prison admissions	.644	.668	.665	.553	.579	.764	.820

Rent Assistance	Unemployed	Y9 reading	Child maltreatment	Juvenile convictions	Domestic violence	Prison admissions
1						
.774	1					
.339	.439	1				
.609	.754	.429	1			
.571	.633	.160	.631	1		
.661	.708	.415	.668	.555	1	
.669	.807	.435	.755	.597	.746	1

Priority listing of areas

The results to this point indicate a degree of compression in the spatial distribution of the problems captured by our indicators that resembles patterns uncovered by earlier similar projects. There are, of course, some newly introduced indicators that might be expected to influence, at least to some degree, the list of places representing Victoria's most disadvantaged postcodes. That possibility is our focus in this section, but it bears emphasising that this method of simply counting the number of times a place enters the top 5% rankings provides only the first of two perspectives on the relative disadvantage of localities. A second more technical approach is covered in the following section.

Table 4-1 summarised the fact that 27 Victorian postcodes accounted for between five and 13 top ranking positions. This is the group of localities upon which we again focus in this section. The available information enables us to determine how consistent the findings are with respect to the earlier identified most disadvantaged localities, especially with reference to *Dropping off the Edge*, published in 2007. Our philosophy in the handling of this sensitive information is that residents of the areas in question are entitled to be appraised of their collective position as a basis for remedial action; at the

same time, the state needs to be in possession of the facts if its policies are to be equitable and efficient. However, a dilemma arises if a frank listing of localities provides an opportunity to publicly scapegoat residents of extremely disadvantaged localities and possibly worsen their plight. Our solution is to list the localities alphabetically within strata of relative disadvantage.

In 2007, on the basis of top 5% rankings, 27 localities were identified as having appeared six or more times thereby providing one perspective on Victoria's most disadvantaged postcode areas. Ten were designated 'most disadvantaged' and 17 were described as 'next most disadvantaged.' As can be seen from Table 4-1, the use of the same approach in 2014 has produced an equal number of disadvantaged places in Victoria.

How stable is this list of high-ranking localities? To equate the present findings with those of 2007, the line demarcating the 'most disadvantaged' localities will be placed at six or more 'top 5%' rankings. Because only nine indicators were employed in 2004, places found to be multiply disadvantaged in that year have been combined with the 2007 'most disadvantaged' postcodes to constitute a single comparison group. In Table 4-5 which follows, a tick in the right hand column signifies most disadvantaged status in one or both of the predecessor studies.

Table 4-5: Victoria's most disadvantaged postcodes (top 5% rankings)

2014	Estimated population	2004/2007
Most disadvantaged		
3022 Ardeer	2,823	✓
3475 Bealiba	301	✓
3047 Broadmeadow	10,578	✓
3061 Campbellfield	5,467	✓
3890 Cann River	169	
3048 Coolaroo	3,261	✓
3214 Corio	15,072	✓
3177 Doveton	8,404	✓
3472 Dunolly	700	✓
3746 Eldorado	287	
3200 Frankston North	5,626	✓
3520 Korong Vale	248	✓
3026 Laverton North	91	
3840 Morwell	13,691	✓
3494 Nangiloc	400	
3887 Nowa Nowa	144	✓
3639 Picola	334	
3518 Wedderburn	680	✓

Thirteen of the 18 most disadvantaged postcodes in 2014 had previously been so-designated, and had the count continued for a further three places Churchill (3842) and Braybrook (3019) would have added to the list of repeated elevated rankings. Of the postcode areas newly added to the above list:

Cann River (3890) had no top 5% rankings in 2004, but in 2007 was so placed on psychiatric admissions, Year 12 incomplete and purchase stress. Further evidence of a developing trend was the fact that 3890 appeared in the top 10% on six indicators. In 2014 postcode 3890 was located in the first 1% on a number of rankings (internet access, low family income, disability support, and Year 3 reading), and was also in the top 5% on three other indicators (post-school qualifications, domestic violence and child maltreatment).

Eldorado (3746) also had no top 5% rankings in 2004, but its results in 2007 were a mixture of top 1% and 3% rankings (childhood accidents, domestic violence and long-term unemployment) as well as results at the extreme other end of the disadvantage scale. In the current assessment, the postcode area was in the top 5% on low family income, disability support, limited community education, psychiatric admissions, rent assistance, and two criminal-justice related variables (criminal convictions and domestic violence).

Laverton North (3026) had six indicators within the top 10% in 2007 four of them (domestic violence, low birth weight, long-term unemployment and psychiatric admissions) were in top 5% rank positions. On this occasion (2014) education-related variables (overall level of education and access to the internet)

contributed to the ‘most disadvantaged’ status, accompanied by rent assistance and three criminal justice indicators (criminal convictions, domestic violence and prison admissions).

Nangiloc (3494) is one place on this ‘newly added’ list for which there were few warning signs in previous research. Apart from top 6% places on childhood accidents and low birth weight, rank positions were generally at the positive end of the scale in 2007. The two mentioned variables were not included in the present project but 3494 was in the first 1% on the unskilled workers, Year 3 reading, post-school qualifications, and top 5% on overall education, as well as a prominent ranking on the child maltreatment scale.

Picola (3639) generally held moderate rank positions on the 2007 indicators, the exceptions being top 5% results on local community overall level of education, and domestic violence. In the latter case 3639 was in the top 1%. The area also ranked in the top 6% on childhood accidents. In 2014 the postcode area was in the top 1% on post-school qualifications and unemployment, and top 5% on low family income, overall education, internet access, unskilled workers, disability support, rent assistance and unemployment.

While the ranking consistency reflected in Table 4-5 is not quite as tight as was reported for New South Wales in Chapter 3, it still illustrates the continuing difficulty of increasing the life opportunities of people living in Victoria’s most disadvantaged communities, and the cost to the society generally of sustained social deprivation.

The present data affords an opportunity to consider places that have moved in a positive direction in the sense of experiencing less social disadvantage than has previously been recorded.

Helpful insights may be gained that can benefit the efforts of less favourably placed localities. This issue is pursued in the next section.

Comprehensive overview of rankings

In Chapters 2 we introduced the notion of simultaneously taking account of an area’s rankings on all of the indicators employed. Involved is a statistical procedure known as *principal components analysis*. This method, when used in appropriate circumstances, can assist us to arrange the Victorian postcodes in an array, ranging from the areas that are most generally vulnerable to the problems represented by our indicators, to the ones that are least vulnerable. Part of our mission is to take into account each location’s rank position on the 12 indicators we have identified as suitable for comparisons to be made between the findings in 2007 and 2014 – as discussed in Chapter 2.

Rather than needlessly repeating technical details about the nature of Principal Components Analysis we refer readers to the description near the end of Chapter 1 (page 21) and the section headed *Comprehensive Overview of Rankings* in Chapter 3. However, we caution that direct comparison of the overall vulnerability rankings in 2007 and now, can only be a convenient indicative guide and not the whole answer to the question of an area’s relative standing. First, the outcome on either or both occasions can be influenced by the availability of data, with government agencies feeling bound to withhold counts or frequencies in those cases where it is feared the smallness of the numbers might enable the identification of individuals. At least in the public realm, this concern is unwarranted since the present report is based on rank positions rather than raw numbers, but the supplying agencies have interpreted their ethical responsibilities as requiring

the action described. As will be seen from the consistency of the results using different methods, the outcomes of the principal components analyses have a high degree of credibility.

However, one consequence of the confidentiality policies of the agencies that generated the statistics is that there are sometimes gaps in the data available for particular postcodes. As a precaution against overlooking the disadvantage claims of postcodes that fall outside the 'top 40' category, but which previously have been so placed, we have individually scrutinised the detailed 2014 performance of such localities on the indicators. Wherever the available data indicates a level of disadvantage consistent with one or another of the six bands compiled on the basis of the principal components analysis, then we have located the postcode concerned as a supplementary special case within the appropriate band. Fortunately, in the case of Victoria, that action was only considered necessary in four instances and the reasons for taking that action are provided in footnotes to Table 4-6 (below). Cases considered but assessed as not having a claim to top 40 disadvantage status on the available evidence are listed and briefly discussed.

Other complicating factors include some boundary adjustments and some definitional modifications. For these reasons, the reader should look to a combination of the earlier provided lists of *most* and *next most* disadvantaged localities and the general vulnerability rankings. Following precedent, the 40 most vulnerable Victorian localities identified by the principal components analysis (PCA) are identified below, listed alphabetically within bands of relative severity. It is reassuring, albeit a reason for social concern, that the indicators

or 'signposts' used in a succession of projects of the present kind, generally point consistently to a group of localities as being areas of primary concern.

In the case of Victoria, the PCA resulted in the extraction of a major factor that accounted for 78% of the total variance of the 12 matching indicators across 250 postcode areas. We are justified in treating this first component as a 'general disadvantage' factor that captures along a single dimension many aspects of disadvantage previously reflected in 12 indicator scores.

The outcome of these procedures is the listing of the 40 highest-ranking places. In the case of Victoria, just under half of these localities (18/40) were among Victoria's 40 highest ranking postcode areas on the 2007 disadvantage factor (signified by a ✓ symbol in Table 4-6, below). Given the previous comments about procedural modifications and, of course, the possibility of changes in the structures of local disadvantage, it is more appropriate to set the comparison at a slightly less stringent level, namely, whether the 2014 top 40 locations on the disadvantage factor occupied, say, top 10% positions (ranks 1-72/726) in 2007 (signified by either a ✓ symbol or an asterisk in Table 4-6). Viewed in this way, the fact that 25 of the 40 2014 high ranking places met this criterion encourages the view that the results are credible. So far as the first two bands are concerned, the postcodes involved in these two extreme categories have been quite consistent over the past 15 years. In 1999, eight of the 12 names in the top two bands were the same as for 2014; the same was true in 2004. Moreover, Table 4-6 (below) shows that ten of the present 12 highest ranking places according to the PCA were in the top 10% rankings on the 2007 indicators.

Table 4 – 6: Victoria's 40 highest-ranking postcode areas on the 'disadvantage' factor (listed alphabetically within bands)

Band	Localities arranged alphabetically	Estimated population	Top 5% (✓)/ top 10% (*) in 2007
	3047 Broadmeadows	10,578	✓
	3214 Corio	15,072	✓
1	3177 Doveton	8,404	✓
	3200 Frankston North	5,626	*
	3465 Maryborough	7,630	✓
	3840 Morwell	13,691	-
Supplementary: Special case	3520# Korong Vale	248	✓
	3022 Ardeer	2,823	-
	3019 Braybrook	8,180	✓
2	3048 Coolaroo	3,261	*
	3061 Campbellfield	5,467	✓
	3940 Rosebud West	4,579	✓
	3355 Wendouree	9,766	*
	3523 Heathcote	2,776	✓
	3825 Moe	15,292	-
3	3556 Eaglehawk	4,811	✓
	3075 Lalor	19,873	-
	3021 St Albans	35,091	-
	3478 St Arnaud	2,619	*
	3175 Dandenong	24,919	-
	3505 Merbein	2,671	*
4	3500 Mildura	30,650	-
	3549 Robinvale	2,134	✓
	3660 Seymour	6,360	-
	3074 Thomastown	20,331	-
Supplementary: Special case	3594## Nyah	483	✓

Band	Localities arranged alphabetically	Estimated population	Top 5% (✓)/ top 10% (*) in 2007
	3915 Hastings	8,685	✓
	3909 Lakes Entrance	5,250	✓
5	3629 Mooroopna	7,813	-
	3335 Rockbank	1,349	-
	3630 Shepparton	29,553	-
	3995 Wonthaggi	4,354	✓
	3020 Albion	4,337	*
	3377 Ararat	8,076	-
	3672 Benalla	9,328	✓
	3888 Orbost	2,900	✓
6	3842 Churchill	5,000	-
	3984 Corinella	630	✓
	3356 Delacombe	4,932	*
	3496 Red Cliffs	4,600	-
	3939 Rosebud	12,502	✓
	3380 Stawell	6,150	✓
Supplementary: Special case	3081### Heidelberg West	5,327	✓
	3373#### Beaufort	1,004	✓

Notes on special cases

#3520 Korong Vale – this postcode has featured in all previous studies of the present series undertaken since 1999. It has a small population of just a few hundred residents and its absence from the top 40 most disadvantaged Victorian postcodes (generated by principal components analysis) seems largely attributable to the withholding of statistical data and the consequences of that situation for our technical ranking procedures. However, it would be misleading to overlook the fact that the postcode was in the top 5% on five of the nine indicators for which information was available.

3594 Nyah - four of the 12 indicators for which information is available place Nyah in top 5% positions. Moreover, only one of the remaining eight indicators had an extremely low ranking – housing stress 512th rank – and all but one of the remainder were clustered around the 10% level. The latter was reflected in the comparatively low rank average of 100. In all three previous studies in the present series, 3594 was placed within middle to high bands based on the principal components analyses.

Its placement, as a Special Case, in the same band as in 2007 (band 4) is warranted. 3595 Nyah West- again a case of missing values and a small population. In opposition to the treatment of this postcode as a Special Case is the following evidence: a high rank average of 183; three top 5% places on indicators compared with nine in 2007.

###3081 Heidelberg West – the rank average is 145, and there are four indicators in the top 5% (criminal convictions, juvenile offending, prison admissions and long-term unemployment). On the other hand, four indicators (post-schooling qualifications, unskilled workers, Year 3 numeracy and reading) are approximately 60% of the way down the list, thereby diluting the severity of this postcode's overall vulnerability score. 3081 was relatively highly ranked within the top 30/top 40 Victorian postcodes on disadvantage in 1999, 2004 and 2007. On this occasion, in addition to the above-mentioned results, it is also in the top 10% with four others (housing stress, readiness for schooling, unemployment and child maltreatment), resulting in a rank average of 145.

3373 Beaufort - occupied a position in band 6 results for 2007. This time a rank average (116) based on available data for 20 variables, is suggestive of vulnerability, an impression supported by fact that the postcode is in the top 5% on five indicators, with an additional three indicators in the top 6%. On two indicators (Year 3 reading and prison admissions) it had extremely negative rankings (7th and 6th respectively).

Notes on places considered but not recommended for inclusion as special cases

3250 Colac – just one top 5% ranking in this case – unskilled workers - compared with four in 2007. Of those four, life expectancy is no longer included; computer usage has moved now to top 15%, criminal convictions to 11%, and Year 12 incomplete to 19% on the proxy measure. This locality is not suitable for inclusion as a special case.

3950 Korumburra – with a rank average of 176 and no top 5% indicator rankings the results for this postcode are far removed from constituting a Special Case. With a rank average in 2007 of 194, there has simply been a diffuse reduction in rank positions on the indicators.

3392 Minyip – this is another case marked by inadequate data but with a rank average of 218 and only one of ten indicators – disability support - being ranked in the top 5%, the grounds do not exist for placing the postcode among the top 40 most disadvantaged areas in Victoria.

3450 Castlemaine – there is a full complement of data for this postcode but the indicator rankings are not those of a highly disadvantaged area. The average ranking is high (155) and on 11 indicators Castlemaine's rankings are 20% or further down the list of postcode results. There are just two top 5% indicator scores (juvenile offending and prison admissions).

3219 East Geelong – with a rank average of 109, one indicator in the top 5% (juvenile offending) and two others (long-term unemployment and rent assistance) just outside that bracket, 3219 is not, on this occasion, suitable for inclusion in the top 40 most disadvantaged Victorian postcodes.

3584 Lake Boga – 'Low' rank average (194) based on just 17/22 variables. No instances of top 5% this time compared with three in 2007, but in two cases (domestic violence and low birth weight) the earlier pattern was not repeated. The same is true of the third variable, the proxy measure 'unengaged young adults', on which Lake Boga ranked 330th.

3608 Nagambie – 'Low' rank average (191) based on 19/22 variables. No top 5% rankings. Generally low disadvantage rankings across the board, the highest being on the two indicators internet access and long-term unemployment (each making the top 14%). No case for special mention.

05

CHAPTER 5

QUEENSLAND

Queensland has been one of the fastest growing economies in Australia for the past two decades, although recently growth has been hampered by natural disasters as well as the global financial crisis. Tourism, agriculture and mining all make important contributions to the Queensland economy. In this section we explore how this economic growth has been shared across the vast State, the second largest in Australia covering some 1,727,000 square kilometres.

In 2007 we noted difficulties with the Queensland data arising from varied geographic frameworks used by different authorities and inconsistencies in their integration within a common framework. To a great extent these problems have been addressed. 2014 data is based on the 475 Statistical Local Areas in Queensland, not postcodes.

SLAs are Local Government Areas (LGAs), or parts thereof. Where there is no incorporated body of local government, SLAs are defined to cover the unincorporated areas (ABS, 2901.0 - Census Dictionary, 2006). In this chapter the following 21 indicators are analysed in terms of Queensland's SLAs:

Data available for Queensland

Family income	Y3 numeracy	Disability
Housing stress	Y3 reading	Long term unemployment*
Rental assistance	Y9 numeracy	Juvenile convictions
Access to internet at home	Y9 reading	Prison admissions
Overall education of local population	Unemployment*	Child maltreatment
Post schooling qualifications	Unskilled workers	Criminal convictions
Readiness for schooling	Young adults not engaged in work or study	

**Data for these indicators were not available for all locations in Queensland due to the ABS protocols in relation to releasing small area data.*

Data in relation to psychiatric hospital admissions is not available across the whole State.

Disadvantage across Queensland

In this section we aim to identify which communities are experiencing social disadvantage, relative to other communities within the State. Our approach is to place all 475 SLAs in rank order, from the 1st (most disadvantaged) to 475th (least disadvantaged) on each of the 21 indicators. By this means we are able, for example, to identify which SLAs have the highest level of post-school qualifications, as well as those with the lowest. As argued earlier, whilst the performance on individual indicators is of interest, we are primarily concerned with those communities that experience cumulative disadvantage. In order to identify the latter we focus upon those locations that appear in the top 5% (24/475) for each of the 21 indicators. This approach also attempts to avoid the siloed policy response, which we were critical of in earlier chapters. Research and practice experience supports our contention of the inter-connectedness of experiences of disadvantage and their cumulative impact.

The data suggests that extreme cumulative social disadvantage is experienced by 11 SLAs across Queensland. Each of these appears at least 10 times in the most disadvantaged 5% on the indicators employed, with three appearing 15 times. The 11 SLAs (in alphabetical order) are shown in Table 5-1.

Table 5-1: SLAs ranked in top 5% at least 10 times

	Estimated population
Aurukun (Shire)	1,200
Cherbourg (Shire)	1,241
Doomadgee (Shire)	1,404
Kowanyama (Shire)	1,198
Mornington (Shire)	1,100
Northern Peninsula Area (R) – Injinoo	521
Northern Peninsula Area (R) – Umagico	301
Palm Island (Shire)	5,000
Pormpuraaw (Shire)	698
Woorabinda (Shire)	970
Yarrabah (Shire)	3,000

Consistent with the terminology used throughout this report we refer to the above as Queensland's 'most disadvantaged communities' – at least by this first of two complementary methods that we employ. The majority of these communities are located in remote areas of far North Queensland on the Cape York Peninsula. In fact, only three of these SLAs fall outside the areas defined by the ABS as 'very remote' (Cherbourg, Woorabinda and Yarrabah). Some indicators of disadvantage were less prevalent among these 11 SLAs including: housing stress (range in rank from 384th to 450th); rental assistance (range in rank from 70th to 341st); disability support (range in rank from 7th to 186th); and unskilled workers (range in rank from 3rd to 134th). Two other key indicators of community safety varied across the most disadvantaged SLAs. In relation to child maltreatment the 11 most disadvantaged SLAs ranged from 2nd to 126th (median=9). A similar range was evident on the juvenile convictions indicator, with these SLAs ranging from 1st to 94th (median=20).

Some modestly hopeful signs are also contained in the data in relation to Year 3 reading levels within these highly disadvantaged communities, with only five of the 11 in the most disadvantaged 5% of SLAs on this particular indicator. The six 'most disadvantaged' SLAs that were more favourably placed on this indicator ranked between 26th and 52nd (n=475). One community, Cherbourg, appears to have had some success in relation to all school educational indicators (Year 3 numeracy 71st, Year 3 reading 35th, Year 9 numeracy 36th and Year 9 reading 43rd) although at the moment this has not flowed on to post-school qualifications (ranked 4th). Despite the low levels of formal post-school qualifications among the most disadvantage communities, they had fewer unskilled workers than many other communities, with only three in the most disadvantaged 5% of SLAs on this indicator. The other eight SLAs ranked between 27th and 134th (median=58.5). The Cape York Institute, however, has been critical of what it calls 'too much training' and the lack of employment generation in remote communities.⁸

The data also revealed a second group of SLAs experiencing significant but lesser degrees of social disadvantage, and we apply the label *next most disadvantaged* to this group. These SLAs appear five to nine times in the top 5% on the indicators. Whilst there are 19 SLAs on this list seven are in the Torres Strait Islands and three are on the Northern Peninsula Area in Far North Queensland. This highlights again the challenges facing remote communities in Queensland. The Next Most Disadvantaged SLAs in Queensland (in alphabetical order) are shown in Table 5-2.

Table 5-2: SLAs ranked in top 5% at least five times

Burke (Shire)
Carpentaria
Etheridge
Hope Vale
Inala
Lockhart River
Mapoon
Napranum
Northern Peninsula Area (R) – Bamaga
Northern Peninsula Area (R) – New Mapoon
Torres Strait Island (R) – Badu
Torres Strait Island (R) – Boigu
Torres Strait Island (R) – Erub
Torres Strait Island (R) - St Pauls
Torres Strait Island (R) – Warraber
Torres Strait Island (R) – Mabuigag
Torres Strait Island (R) – Mer
Northern Peninsula Area (R) – Seisia
Wujal Wujal

Whilst these SLAs share many of the challenges identified among the 'most disadvantaged' SLAs band they have markedly different experiences of public safety. Only three 'next most disadvantaged' SLAs (n=19) appear in the most disadvantaged 5% for criminal convictions (range in rank 9th to 146th; median=33) and juvenile convictions (range in rank from 3rd to 259th; median=113), seven in relation to prison admissions (range in rank from 3rd to 71st; median=40) and six in relation to child maltreatment (range in rank from 1st to 144th; median=36). Poor numeracy performance at Year 3 and Year 9 was marked among the SLAs in both bands of disadvantage.

⁸ Cape York Institute (2013) *Getting real: Enabling Indigenous engagement in the real economy: Cape York Welfare Reform and RJCP*.

Concentration of disadvantage

Another way of exploring the geographic spread of disadvantage in Queensland is to calculate the proportion of the SLAs accounting for top 5% ranks across the 21 indicators ($23 \times 21 = 483$). As Table 5-3 (below) reveals, disadvantage in Queensland is concentrated in a small proportion of SLAs. In fact, 30 SLAs (or approximately 6% of the number in the State) accounted for nearly 50% of the top rankings on the indicators (238/483).

Table 5-3: SLAs accounting for highest 5% rankings on Queensland indicators (n=483)

Number of SLAs	No. top 5%	Total
3	15	45
3	14	42
2	13	26
1	12	12
2	10	20
5	9	45
1	8	8
4	7	28
7	6	42
2	5	10
30		238

Further, the vulnerability of the most disadvantaged 11 communities (2.3% of the total and listed in Table 5-1) is evidenced by the fact that they account for 26% of the top 5% ranked places on the indicators (127/483). The concentration of disadvantage here needs to be viewed in the context of remoteness, with the most disadvantaged SLAs being distant from urban centres.

Major characteristics

Among the most disadvantaged communities in Queensland (n=11) a number of indicators were consistently to the fore. Table 5-4 below highlights the importance of unemployment to the structure of disadvantage in Queensland's communities. This aspect will be discussed further in the next section in relation to the inter-connections between indicators of disadvantage.

Table 5-4: Number of Most Disadvantaged Communities (n=11) listed in the top 5% by indicator

Young adults not engaged in employment or study	All locations
Long term unemployment	All locations
Unemployment	All locations
Prison admissions	All locations
Internet access in the home	10/11 locations
Low family income	10/11 locations
Criminal convictions	10/11 locations

Table 5-5: Queensland's most disadvantaged SLAs (in alphabetical order) 2007-2014 (based on top 5% rankings). Note: population estimates shown in brackets.

2014 ⁹	2007 ¹⁰
<p>Most disadvantaged</p> <p>Aurukun (Shire) [1,200] Cherbourg (Shire) [1,241] Doomadgee (Shire) 1,404 Kowanyama (Shire) [1,198] Mornington (Shire) [1,100] Northern Peninsula Area (R) – Injinoo [521] Northern Peninsula Area (R) – Umagico [301] Palm Island (Shire) [5,000] Pormpuraaw (Shire) [698] Woorabinda (Shire) [970] Yarrabah (Shire) [3,000]</p>	<p>Most disadvantaged</p> <p>Biggenden (Shire) [1,506] Burke (Shire) [550] Hervey Bay (Council) [76,400] Murgon (Shire) [2,092] Mount Morgan (Shire) [2,447] Spring Hill [98,600] Wacol [2,957]</p>
<p>Next most disadvantaged</p> <p>Burke (Shire) [550] Carpentaria [2,200] Etheridge [925] Hope Vale [914] Inala [13,796] Lockhart River [642] Mapoon [263] Napranum [900] Northern Peninsula Area (R) – Bamaga [920] Northern Peninsula Area (R) – New [420] Torres Strait Island (R) – Boigu [300] Torres Strait Island (R) – Badu [900] Torres Strait Island (R) – Erub [400] Torres Strait Island (R) - St Pauls [240] Torres Strait Island (R) – Warraber [250] Torres Strait Island (R) – Mabuiag [260] Torres Strait Island (R) – Mer [450] Northern Peninsula Area (R) – Seisia [260] Wujal Wujal [350]</p>	<p>Next most disadvantaged</p> <p>Aurukun (Shire) [1,200] Bendemere (Shire) [985] Boulia (Shire) [205] Carpentaria (Shire) [2,200] City (Brisbane) [1,052,450] Cook (Shire) [3,976] Doomadgee (Shire) [1,404] Eidsvold (Shire) [460] Isisford (Shire) [262] Kingston [10,184] Kolan (Shire) [4,563] Mornington (Shire) [1,100] Paroo (Shire) [1,951] Perry (Shire) 431 Redland (Shire) Balance [8,360] Torres (Shire) [3,700] Wondai (Shire) [4,375] Woodridge [12,787]</p>

⁹ Occurs at least 10 times in the lowest 5% (range 10-15 times); Next most disadvantaged (range 5-9 times).

¹⁰ Top 20 rankings. Most disadvantaged (8-11 times in top 20). Next most disadvantaged (6-7 times in top 20).

At least in terms of our indicators, a number of locations have experienced marked improvements with respect to overall social disadvantage. The six SLAs in Table 5-6 (below) were identified as among the most disadvantaged locations in Queensland in 2007. By 2014 none of these appear in the lists of either the most or next most

disadvantaged communities in the State.

Encouragingly, the other locations identified in 2007 as being among the most disadvantaged locations in Queensland (Murgon and Mount Morgan) had also enjoyed improvements although not to the same extent.

Table 5-6: SLAs which experienced improvements by indicators

Location	Indicator ranks improvements 2007-2014
Biggenden (Shire)	Early school leavers/young adults not engaged Low income family Nil qualifications/post school qualifications Pre-school/school readiness
Hervey Bay (Council)	Early school leavers/young adults not engaged Low income families Unemployment Long term unemployment
Murgon (Shire)	Early school leavers/young adults not engaged Nil qualifications/post school qualifications
Mount Morgan (Shire)	Early school leavers/young adults not engaged Internet Nil qualifications/post school qualifications Unemployment Long term unemployment
Spring Hill	Pre-school/school readiness Psychiatric admissions
Wacol	Criminal convictions Prison admissions Psychiatric admissions Nil qualifications/post school qualifications Unemployment

Two locations (Aurukun and Doomadgee) have experienced increased disadvantage between 2007 and 2014. Aurukun's deterioration is evident in a range of indicators including: criminal convictions (ranked 11th in 2007 and 1st in 2014); young adults not engaged in work or study (ranked 107th in 2007 and 5th in 2014) and unemployment (ranked 262nd in 2007 and 10th in 2014). Doomadgee rankings deteriorated on the following indicators: post school qualifications (ranked 114th in 2007 and 2nd in 2014); young adults not engaged in work or study (ranked 40th in 2007 and 4th in 2014); unemployment (ranked 450th in 2007 and 8th in 2014); long term unemployment (ranked 450th in 2007 and 7th in 2014); and prison admissions (ranked 490th in 2007 and 2nd in 2014). One contributor to the changes in unemployment and long term unemployment may be the cessation of the Community Development Employment Projects (CDEP), which in 2006 made up half of all positions in the community.¹¹

Additionally, a number of locations appear for the first time in either the most or next most disadvantaged communities in Queensland. Of particular note is the number of Torres Strait Islands and the Northern Peninsula Area that appear for the first time, although this may be a reflection of improved data collection processes rather than an actual deterioration of conditions.

Table 5-7: SLAs appearing for the first time among disadvantaged

Most disadvantaged

Kowanyama (Shire)
Northern Peninsula Area (R) – Injinoo
Northern Peninsula Area (R) – Umagico
Palm Island (Shire)
Pormpuraaw (Shire)
Woorabinda (Shire)
Yarrabah (Shire)

Next most disadvantaged

Etheridge
Hope Vale
Inala
Lockhart River
Mapoon
Napranum
Northern Peninsula Area (R) - Bamaga
Northern Peninsula Area (R) – New
Torres Strait Island (R) - Boigu
Torres Strait Island (R) - Badu
Torres Strait Island (R) - Erub
Torres Strait Island (R) - St Pauls
Torres Strait Island (R) – Warraber
Torres Strait Island (R) - Mabuiag
Torres Strait Island (R) – Mer
Northern Peninsula Area (R) – Seisia
Wujal Wujal

Correlations between indicators

In the previous section we discussed the distribution of disadvantage in Queensland based on a simple counting of ranked places across the 21 indicators. This approach, whilst straightforward, fails to take account of the interactions between indicators

¹¹ http://www.aph.gov.au/~media/Estimates/Live/clac_ctte/estimates/add_1011/cross/fahcsia/220e.ashx

of disadvantage. In this section, we seek to identify what combinations of disadvantage work together or reinforce each other to further constrain people's life opportunities. This is what we describe elsewhere in the report as a 'web of disadvantage'. In this section our lens focuses on the interplay of indicators in Queensland. Later we will examine those indicators with high levels of correlation and compare them with the indicators that were characteristic of the most disadvantaged SLAs identified previously (Table 5-4).

As a reminder, in order to explore this interplay we employ a statistic known as the correlation coefficient or r . The practical challenge comes down to this: to what extent do areas with 'high', 'middling', or 'low' scores on one indicator tend to have similar scores on the other indicators used in the study? To answer this question we employ an index of co-variation, the correlation coefficient – more specifically, the Pearson Product-moment Correlation Coefficient. This coefficient places the degree of association between variables between +1 and -1, where the first-mentioned figure indicates total positive correlation. 0 is no correlation, and -1 is total negative correlation.

Full details of the Queensland correlation matrix can be viewed at the project website. Five indicators correlated at above +.50 with more than 10 other indicators: internet access; low family income; overall education; post-school qualifications; and young people not engaged in work or study. These indicators were previously identified as ones that affected ten of the 11 SLAs that experienced the most disadvantage in Queensland (Table 5-4). The matrix

also highlights three other indicators that correlated with seven to nine other indicators (long term unemployment; unemployment and Year 3 numeracy). The indicator in relation to prison admissions was ranked highly in all of the 11 most disadvantaged communities as well. The point of difference between the 11 most disadvantaged SLAs in Queensland and our analysis of the correlations of indicators was that of criminal convictions. While ten of the 11 most disadvantaged SLAs ranked highly on criminal convictions, the indicator only correlated with five other indicators at a level above +.50 (child maltreatment, unemployment, long-term unemployment, young adults not engaged in work or study and Year 3 numeracy). As we pointed out in Chapter 3, correlations of the order of .50 are practically as well as theoretically significant, but if we focus on those correlations above +.70 it is evident that unemployment and long term unemployment correlate strongly with internet access, low family income, overall education and young adults not engaged in work or study.

Comprehensive overview of rankings

In this section we employ another approach to examining social disadvantage in Queensland, using a statistical procedure known as *principal components analysis* (PCA). Rather than needlessly repeating technical details about the nature of Principal Components Analysis we refer readers to the description near the end of Chapter 1 (page 21) and the section headed *Comprehensive Overview of Rankings* in Chapter 3. This procedure can assist us to arrange the Queensland SLAs in an array, like beads on a string, ranging

from the area that is most generally vulnerable to the problems represented by our indicators, to the one that is least vulnerable. The principal components analysis takes into account each SLA's rank position on the indicators available in both 2014 and 2007.

Whilst this approach enables us to appraise how localities have 'travelled' over the past seven years this data needs to be interpreted with caution. The reasons for exercising caution include the fact that the outcome on either or both occasions can be influenced by the availability of matching data, with government agencies feeling bound to withhold counts or frequencies in those cases where the smallness of the numbers might enable the identification of individuals. Other complicating factors include some boundary adjustments, the inclusion of new locations, improved data collection and some definitional modifications. Accordingly, readers should look to a combination of the earlier provided lists of *most* and *next most* disadvantaged localities and the general vulnerability rankings. Following precedent, the 40 most vulnerable Queensland localities identified by the principal components analysis (PCA) are identified below (Table 5-7), listed alphabetically within bands of relative severity.

In the case of Queensland, the PCA's first factor accounted for 65% of the total variance among 10 indicators across 422 SLAs. Unfortunately due to missing data (withheld by ABS due to population size) long term unemployment has been excluded from the PCA. As described

in Chapter 2, we are justified in treating this first component as a 'general disadvantage' factor that captures along a single dimension many aspects of disadvantage previously reflected in separate indicator scores. This does not mean that all of the indicators are reflected to an equal extent by the Queensland 'disadvantage' factor. An SLA's position along the disadvantaged continuum is determined by weighting each of its indicator scores by a value that reflects each particular indicator's loading on the general disadvantage factor for its state. The relative weights assigned to the Queensland indicators are shown in the Technical Appendix. The final score for each locality then becomes the weighted sum of scores on the indicators.

The SLAs listed in Band 1 correspond to the 'Most Disadvantaged SLAs' listed in Table 5-1 above, where data is available for both 2007 and 2014. All six of the SLAs in Band 1 were also identified in the Most Disadvantaged SLAs (ranking via top 5% indicator scores) approach adopted earlier in this chapter. Palm Island and Cherbourg, whilst listed among the Most Disadvantaged SLAs (Table 5-1) appear in Band 2 on the disadvantage factor analysis. This reflects the fact that on some indicators these communities are not as severely disadvantaged. The inclusion of data from a number of new localities in 2014 is evident in the limited amount of comparative data with 2007 band rankings (Table 5-8).

Table 5-8: Queensland: 40 highest-ranking SLAs on 'disadvantage' factor

Band 2014	Localities arranged alphabetically within each band	Estimated Population	Band in 2007 (top 6 bands)¹²	Top 5% (✓) Top 10% (*) in 2014
BAND 1	Aurukun	1,200		✓
	Doomadgee	1,404		✓
	Kowanyama	1,198		✓
	Mornington	1,100	2	✓
	Woorabinda	970		✓
	Yarrabah	3,000		✓
BAND 2	Cherbourg	1,241		✓
	Inala	13,796	2	*
	Lockhart River	642		*
	Napranum	900		*
	Palm Island	5,000		✓
	Pormpuraaw	698		✓
BAND 3	Bundaberg – Kolan	4,563	2	
	Carpentaria	2,200	5	✓
	Rockhampton – Mount Morgan	2,447	1	
	South Burnett – Wondai	4,375	6	
	South Burnett – Murgon	2,092	1	
	Woodridge	12,787	1	
BAND 4	Cairns – Central Suburbs	22,196	6	
	Cook	3,976		
	Fraser Coast – Hervey Bay B	4,321	1	
	Paroo	1,951	3	
	Redland - Balance	8,360	3	
	South Burnett – Nanango	9,695		
BAND 5	Acacia Ridge	6,951	4	
	Beenleigh	8,244		
	Eagleby	11,972	4	
	Garbutt	2,482		
	North Burnett - Gayndah	2,751	6	
	North Burnett – Biggenden	1,506	1	
BAND 6	Bundaberg – Bundaberg	47,946	4	
	Caboolture Central	23,814	2	
	Deception Bay	21,761	6	
	Fraser Coast – Maryborough	26,231		
	Gladstone – Miriam Vale	5,533		
	Gympie – Kilkivan	3,735		
	Rocklea	1,248		
	Southern Downs – Warwick	11,802		
	Tablelands - Mareeba	20,020	4	
	Waterford West	6,160	6	

¹² Left blank when no data was available for this location in 2007. Boundary and name changes affect direct comparison.

Due to unavailability of data in some smaller locations they have been excluded from Table 5-8 above despite being identified earlier as 'Most' and 'Next Most' Disadvantage SLAs. This particularly relates to Torres Strait Island SLAs and those on the Northern Peninsula. Table 5-9 below indicates the population size of these remote locations.

Table 5-9: Estimated populations of remote locations experiencing disadvantage.

SLA	Estimated Population
Northern Peninsula Area (R) – Bamaga	920
Northern Peninsula Area (R) – New Mapoon	420
Torres Strait Island (R) – Badu	900
Torres Strait Island (R) – Boigu	300
Torres Strait Island (R) – Erub	400
Torres Strait Island (R) - St Pauls	240
Torres Strait Island (R) – Warraber	250
Torres Strait Island (R) – Mabuig	260
Torres Strait Island (R) – Mer	450
Northern Peninsula Area (R) – Seisia	260
Wujal Wujal	350

Remote communities on the Cape York Peninsula and the Torres Strait Islands experience the severest disadvantage in Queensland. Of the 11 most disadvantaged communities only three were in more urbanised areas. The population data reveals the small size of many of these remote communities. There were strong correlations between economic (unemployment, long term unemployment and income) and adverse social outcomes (criminal convictions, prison admissions) among the most disadvantaged communities.



CHAPTER 6

SOUTH AUSTRALIA

South Australia is the fourth largest State or Territory in Australia, covering large tracts of arid lands. Data used in this section is based on 125 Statistical Local Areas (SLAs). Data concerning some of the more remote desert areas is quite poor and has been excluded from the analysis (three so-called 'unincorporated areas'). Once again, the approach in this section is to explore:

- 1. The number of times localities rank highly on the indicators used;**
- 2. The existence or otherwise of pockets of concentrated disadvantage;**
- 3. The recurring features of disadvantage among those SLAs most vulnerable to multiple high rankings.**

The pursuit of these issues is intended to provide one perspective on the geographic distribution and degree

of concentration of social disadvantage in South Australia, based essentially on the summation of evidence of some areas' persistently high rankings on the indicators of disadvantage employed in the present project. There is another perspective on these matters which takes into account performance on *all* of the indicators, not just those on which a locality is manifestly not doing well. We turn to this second perspective in a later section.

Data available for South Australia (2014)*

Internet access	Housing stress	Low family income	Overall education	Post-school qualifications
Unskilled workers	Unengaged young adults	School readiness	Disability support	Long-term unemployment
Rent assistance	Unemployment	Year 3 numeracy	Year 3 reading	Year 9 numeracy
Year 9 reading	Criminal convictions	Juvenile offending	Psychiatric hospital admissions	Prison admissions

* Data was not available for either child maltreatment or domestic violence in South Australia

Cumulative disadvantage across South Australia

The frequency with which a place enters the top 5% rankings on individual indicators is a convenient way of assessing the relative disadvantage of localities. In simple terms this means our operational definition of disadvantage is the number of times an SLA ranks 1-6 on each of the 20 indicators across the 125 SLAs.

The data reveals that seven SLAs occur between 8 and 14 times in the top 5% most disadvantaged on the 20 indicators employed. On the basis of the evidence adduced in this section, these seven areas are entitled to be considered among the most disadvantaged SLAs in South Australia. They are shown in Table 6-1.

Table 6-1: SLAs ranked in top 5% between 8 and 14 times (estimated populations shown in brackets).

Anangu Pitjantjatjara	[2,440]
Ceduna	[2,642]
Coober Pedy	[1,695]
Maralinga Tjarutja	[73]
Peterborough	[1,731]
Playford – Elizabeth	[25,243]
Playford – West Central	[16,294]

Among these most disadvantaged communities there was a common factor of young people being not engaged in either work or study. Two SLAs, Anangu Pitjantjatjara and Coober Pedy, ranked consistently high (that is, extremely disadvantaged) across the board on educational indicators, employment and criminal justice-related behaviour.

Table 6-2: Most disadvantaged SLAs by educational indicator ranks

SLA - Anangu Pitjantjatjara	
Overall education	2
School readiness	1
Year 3 reading	1
Year 3 numeracy	1
Year 9 reading	1
Year 9 numeracy	1
SLA - Coober Pedy	
Overall education	9
School readiness	2
Year 3 reading	4
Year 3 numeracy	2
Year 9 reading	2
Year 9 numeracy	2

Despite the vulnerability of Anangu Pitjantjatjara SLA across most of the indexes used there was one indicator which contrasted with this generalised disadvantage, namely, juvenile offending (ranked 31st). In the case of Coober Pedy the exception to the generalised trend of disadvantage was post-school qualifications (ranked 71st) and unskilled workers (ranked 56th).

Among these most disadvantaged SLAs there were also distinct locational differences, with those in more remote locations (Anangu Pitjantjatjara, Coober Pedy, Peterborough and Maralinga Tjarutja) experiencing poor access to the internet (ranging in rank from 1st to 7th; median=4), and those more urbanised regions (Playford – Elizabeth and Playford – West Central) experiencing greater housing stress (ranked 4th and 2nd respectively).

Whilst the afore-mentioned seven SLAs experience the most severe accumulation of forms of disadvantage relative to others in the State, a second group of SLAs also warrants close attention. Within this group of Next Most Disadvantaged SLAs there is less vulnerability to severe forms of disadvantage (top 5%) but repeated appearance in the top 10% (ranked 1-13 on each of the 20 indicators). These are shown in alphabetical order on Table 6-3.

Table 6-3: SLAs ranked in top 10% between 5 and 10 times (estimated populations shown in brackets)

Berri & Barmera – Berri	[4,103]
Onkaparinga – North Coast	[2,534]
Port Adelaide – Enfield – Inner	[539]
Port Adelaide – Enfield – Park	[382]
Port Augusta	[7,336]
Port Pirie City Districts – City	[17,333]
Salisbury – Central	[28,485]
Unincorporated West Coast	[635]
Unincorporated Whyalla	[211]

All of these ‘Next Most Disadvantaged’ SLAs are ranked 1-13 (that is, the top 10%) on between five and 10 indicators. Unlike the most disadvantaged SLAs, there was much greater variation within this group with respect to the indicators on which they ranked highly. The exception was employment related indicators. Of the seven SLAs for which long-term unemployment data

were available, six ranked between 6th and 12th, Port Augusta being very slightly better placed on 17th. On the unemployment indicator, of the eight for which data were available, seven ranked between 4th and 13th, Port Augusta again being a little better placed at 23rd rank position.

In some instances performance on the education/training indexes has helped to lift some locations from potentially being among the ‘most’ disadvantaged into the ‘next most disadvantaged’ category. However, that trend was far from uniform, as the following rank positions show. Port Augusta (C), for example, may have been a little over half-way down the complete list of South Australian SLAs on post-school qualifications but was within the top 10 rank positions on Year 3 reading and school readiness. Even more dramatic was the fact that Unincorporated West Coast was more than three-quarters of the way down the ranks on qualifications yet in the 7th rank position on Year 3 reading as shown in Table 6-4.

Table 6-4: South Australian ranks on selected education and training indexes (n= 125)

Berri & Barmera – Berri	
Year 3 reading	72
School readiness	4
Qualifications	47
Onkaparinga North Coast	
Year 3 reading	16
School readiness	42
Qualifications	49
Port Adelaide – Enfield – Inner	
Year 3 reading	42
School readiness	10
Qualifications	11
Port Adelaide – Enfield – Park	
Year 3 reading	44
School readiness	15
Qualifications	43
Port Augusta	
Year 3 reading	10
School readiness	9
Qualifications	69
Port Pirie City Districts – City	
Year 3 reading	31
School readiness	22
Qualifications	12
Salisbury – Central	
Year 3 reading	35
School readiness	17
Qualifications	11
Unincorporated West Coast	
Year 3 reading	7
School readiness	-
Qualifications	97
Unincorporated Whyalla	
Year 3 reading	24
School readiness	-
Qualifications	3

Concentration of disadvantage

The extent to which social disadvantage in South Australia is geographically concentrated is shown by the fact that a limited number of SLAs occupy a disproportionate number of the ‘top’ – that is, most disadvantaged – rank positions on each of the 20 indicators. As a group the seven most disadvantaged SLAs account for 69 of the 120 places available in the top 5% (6 places x 20 indicators) or approximately 57%. This is despite comprising less than 6% of the total SLAs.

If we look only at the highest rank (1 of 125) on each indicator, two SLAs account for the highest rank on 14 of the 20 indicators (70%).

Major characteristics

When we look closely at the seven most disadvantaged SLAs in South Australia we find they share a vulnerability to specific indicators of social disadvantage that are likely to compound each other. Unemployment as well as ‘young adults not in full time work, education or training’ strongly shape the structure of disadvantage among the most disadvantaged SLAs. Table 6-5 below highlights the fact that many features of the present profile of disadvantage were also prominent in 2007.

Table 6-5: Indicators shared between all Disadvantaged SLAs (n=16; top 10%)

No. of SLAs (2014)	Indicator	Prominent in 2007
13	Unemployment ¹³	✓
11	Long-term unemployment ¹⁴	✓
11	Overall education	✓
10	Criminal convictions	✓
10	Young adults no full-time work, education/training ¹⁵	Not prominent
9	Disability support	✓
9	Year 9 reading	Not included
9	Prison admissions	✓
8	Internet	✓
8	Year 3 numeracy	Not included
8	Juvenile convictions	Not included
7	Post school qualifications	
7	School readiness ¹⁶	✓

Stability and change

Five of the seven most disadvantaged SLAs identified in 2007 remain in this category some seven years later, although there are two 'new' entrants into this group with the inclusion of data from the Aboriginal Councils of Anangu Pitjantjatjara and Maralinga Tjarutja (Table 6-6). Three of the seven 2007 'next most' disadvantaged SLAs reappear in the equivalent 2014 category. New entrants to this group are Berri & Barmera – Berri, Salisbury – Central, Unincorporated West Coast and Unincorporated Whyalla. Data was not previously available in 2007 for Unincorporated West Coast

or Unincorporated Whyalla or the two Aboriginal Councils (Anangu Pitjantjatjara and Maralinga Tjarutja). Setting these four places aside, the overall picture was that ten of the 14 SLAs assigned to one or the other of the categories of relatively severe disadvantage in 2007, were in the same combined list of the places (n=12) for which comparable data was available in 2014. However, the other two SLAs (Berri & Barmera – Berri and Salisbury – Central) appear to have experienced increased unemployment over the past seven years. Salisbury – Central in particular appears to have undergone increased disadvantage, evident through deterioration across most indicators.

¹³ Data only available for 14/16 SLAs on this indicator

¹⁴ Data only available for 12/16 SLAs on this indicator

¹⁵ Data only available for 15/16 SLAs on this indicator

¹⁶ Data only available for 13/16 SLAs on this indicator

Table 6-6: Comparison of disadvantaged SLAs in South Australia 2014 and 2007

2014 (20 indicators)	2007 (25 indicators)
Most disadvantaged	Most disadvantaged
Anangu Pitjantjatjara ¹⁷	Ceduna
Ceduna	Cooper Pedy
Cooper Pedy	Onkaparinga – North Coast
Maralinga Tjarutja ¹⁸	Peterborough
Peterborough	Playford – Elizabeth
Playford – Elizabeth	Playford – West Central
Playford – West Central	Port Adelaide Enfield – Port
Next most disadvantaged	Next most disadvantaged
Berri & Barmera – Berri	Barunga West
Onkaparinga – North Coast	Onkaparinga – Hackham
Port Adelaide – Enfield – Inner	Port Adelaide – Enfield – Inner
Port Adelaide – Enfield – Park	Port Augusta
Port Augusta	Port Pirie City Districts – City
Port Pirie City Districts (M) ¹⁹ – City	Whyalla
Salisbury – Central	Yorke Peninsula – South
Unincorporated West Coast	
Unincorporated Whyalla	

There is evidence also of improvement in some locations in the scale of disadvantage between 2007 and 2014. Onkaparinga – North Coast, for example, has experienced some improvement in its vulnerability to disadvantage, particularly in relation to short term unemployment, prison admission and mental health. There have also been some improvements among some of the next most disadvantaged SLAs in 2007, most notably Barunga West, Onkaparinga – Hackham and Yorke Peninsula – South. For the Yorke Peninsula – South SLA these improvements have been in access to the internet, a small improvement in long term unemployment and household incomes. This SLA only appears once in the bottom 20% on NAPLAN results.

Interconnections between indicators

In this section in order to explore how the indicators of disadvantage interplay to create a web of (mutually reinforcing) disadvantages, we employ a statistic known as the correlation coefficient or *r*. What we are interested in here is how indicators of social disadvantage correlate with other indicators and whether a pattern of relationships is evident. To answer this question we employ an index of co-variation, the correlation coefficient – more specifically, the Pearson Product-moment Correlation Coefficient. This coefficient places the degree of association between variables between +1 and -1, where the first-mentioned figure indicates total positive correlation, 0 is no correlation, and -1

¹⁷ No data available on this SLA in 2007

¹⁸ No data available on this SLA in 2007

¹⁹ Municipality

is total negative correlation. We also examine those indicators with high levels of correlation against the background of the most disadvantaged SLAs identified previously (Table 6-1).

The detailed correlation matrix for South Australia can be consulted at the project website. Focusing for the moment on those indicators which correlated at a level above +.50 with a number of other indicators it is revealed that internet access, for example, correlated with nine other indicators of social disadvantage. These correlations are not causal and we are not able to determine whether lack of internet access contributes to young adults not being engaged in work or study, or the reverse. What we can say is that the features of disadvantage weave together in a way that is likely to reduce life opportunities. The matrix highlights the interplay between internet access, low family income, overall education, young adults not engaged in work or study, receipt of disability support, long-term unemployment and criminal convictions.

Unsurprisingly, the strongest correlation was between unemployment and long-term unemployment (.99). Long term unemployment also strongly correlated with young adults not engaged in full-time work or study (+.91), overall education (+.89) and internet access (+.83). Prison admissions strongly correlated with criminal convictions (+.92), long-term unemployment (+.83), unemployment (+.81) and young adults not engaged in work or study (+.74).

Previously we identified a range of common features shared by many of the most disadvantaged LGAs. Many of the features of the most disadvantage SLAs overlap with indicators that have emerged as being highly inter-correlated with others (for full correlations see the project website).

Comprehensive overview of rankings

The method of principal components analysis (PCA), described in previous chapters, was applied to the rankings of South Australian Statistical Local Areas on the 11 indicators available for comparison with 2007 results. Rather than needlessly repeating technical details about the nature of Principal Components Analysis we refer readers to the description near the end of Chapter 1 (page 21) and the section headed *Comprehensive Overview of Rankings* in Chapter 3. The intention was again to blend the rank positions, both high and low, into a single score that reflects the overall vulnerability of each locality to the manifestations of disadvantage represented by the indicators. The operation was technically successful in that a first principal component was extracted that accounted for 60% of the total variance. Using the weightings adduced by the PCA procedure, the SLAs were arranged in an array from the place most susceptible to disadvantage to the place least vulnerable.

The findings are summarised in Table 6-7 (below). Following the 2007 precedent, we highlight the top 36 most disadvantaged localities, stratified by six bands with the constituent SLAs arranged alphabetically within each band. In addition to its utility in summarising localities' relative overall disadvantage, taking account of the results on all of the indicators used, Table 6-7 also provides the opportunity to consider the degree to which the findings obtained using different methods converge upon a consistent set of disadvantaged communities. When we combine the PCA findings with those earlier presented in Tables 6-1 and 6-3, it can be seen that all of the SLAs identified by PCA as being in the two most disadvantaged bands were in the top 10% of places based on occupancy of at least five extreme rankings on the indicators. Furthermore, there were eight SLAs in the first two bands of the current PCA findings that were reported upon in 2007; all eight were included among the 12 'most' or 'next most' disadvantaged in 2007. Indeed, without exception, every one of the 31 localities in bands 1-6 generated by the present data, and for which comparable data was available in 2007, appeared in bands 1-6 in 2007 (see the right hand column of Table 6-7). These results are another instalment in the unfolding story of the consistency of extreme disadvantage rankings across Australia's jurisdictions.

Social disadvantage in South Australia is concentrated in a small number of communities, with disadvantages entrenched in some instances. Very similar groups of SLAs are identified by the data as disadvantaged in both 2007 and 2014. The inclusion of new data for remote communities also highlights the severity of disadvantage experienced in those localities.

Table 6-7: South Australia's 30 highest-ranking SLAs on the 'disadvantage' factor

Band	Statistical Local Areas arranged alphabetically	Estimated population	Top 5% 2014 (✓) and Top 10% 2014 (*)	Band in 2007 ²⁰
	Anangu Pitjantjatjara	2,440	✓	
	Cooper Pedy	1,695	✓	1
1	Maralinga Tjarutja	73	✓	
	Peterborough	1,731	✓	1
	Playford – Elizabeth	25,243	✓	1
	Unincorporated Whyalla	211	*	
	Ceduna	2,642	✓	3
	Playford – West Central	16,294	✓	2
2	Port Adelaide – Enfield – Park	382	*	2
	Port Augusta	7,336	*	2
	Port Pirie City Districts – City	17,333	*	2
	Unincorporated West Coast	635	*	
	Berri & Barmera – Berri	4,103		4
	Copper Coast	12,949		2
3	Murray Bridge (RC)	13,892		1
	Onkaparinga – North Coast	2,534		1
	Renmark Paringa – Renmark	7,491		3
	Salisbury – Central	28,485		3
	Berri & Barmera – Barmera	4,103		2
	Port Adelaide Enfield – Inner	539		3
4	Port Adelaide Enfield (C) – Port	355		2
	Salisbury – Inner North	9,277		4
	Whyalla	3,733		3
	Yorke Peninsula (DC) – North	7,049		5
	The Coorong	5,525		5
	Goyder	4,162		4
5	Loxton Waikerie West	4,332		6
	Mid Murray	8,136		2
	Onkaparinga Hackham	14,093		4
	Yorke Peninsula South	7,049		4
	Barunga West	2,457		6
	East Murray Karoonda	1,032		
6	Mount Gambier	25,247		6
	Port Lincoln	14,088		5
	Port Pirie City Districts – Balance	3,511		6
	Wakefield	6,662		5

²⁰ No comparative data available if left blank

07

CHAPTER 7

TASMANIA

Tasmania is the smallest state jurisdiction in Australia, with some 513,000 people. Due to the small population, and consistent with the approach adopted in 2007, we again use data from the 29 Tasmanian Local Government Areas (LGAs) rather than postcodes. Like previous sections of this report, we again explore the data through a simple ranking from 1 - 29 on each indicator in order to make an initial assessment of the distribution or concentration of disadvantage across the State. This section also includes a discussion of the recurring features or indicators of the most disadvantaged LGAs as well as the correlations between indicators evident at a state-wide level. The latter enables us to explore the interplay between indicators of disadvantage that can create a web of disadvantage for specific locations. The data available for Tasmania in 2014 was:

Data available for Tasmania (2014)*

Internet access	Housing stress	Family income	Overall education	Post-school qualifications	Unskilled workers	Rent assistance
Psychiatric hospital admissions	Unengaged young adults	School readiness	Disability support	Long-term unemployment	Unemployment	Domestic violence
Year 3 numeracy	Year 3 reading	Year 9 numeracy	Year 9 reading	Criminal convictions	Juvenile offending	Prison admissions

**The one indicator for which data was not available in Tasmania was child maltreatment due to concern about the accuracy of data collection.*

Cumulative disadvantage across Tasmania

The frequency with which an LGA enters the top 10% rankings on individual indicators provides one perspective on the relative disadvantage of localities. Pragmatically, due to the small number of LGAs we have defined top as the 10% (or 3/29) most disadvantaged rank positions rather than the 5% used in most other jurisdictions.

The data reveals that five LGAs rank among the Most Disadvantaged locations in Tasmania, appearing at least seven times in the 'top 3' on the indicators of social disadvantage. The LGAs are (in alphabetical order) shown in Table 7-1.

Table 7-1: Most Disadvantaged Tasmanian LGAs: appearing at least seven times in 'top 3' ranks on indicators (estimated populations shown in brackets)

Break O' Day	[6,194]
Brighton	[15,460]
Central Highlands	[2,262]
George Town	[6,636]
Tasman	[2,355]

A second level or layer of disadvantaged LGAs was also evident in the data, appearing four times in the most disadvantaged 10% across the 21 indicators. These LGAs were (in alphabetical order) shown in Table 7-2.

Table 7-2: Next Most Disadvantaged LGAs: appearing at least four times in 'top 3' ranks on indicators (estimated populations shown in brackets)

Southern Midlands	[6,049]
Glenorchy	[44,656]
Circular Head	[7,977]

Central Highlands, Southern Midlands and Brighton all adjoin, creating a strip of social disadvantage through

central Tasmania. Glenorchy is the only LGA in either Table 7-1 or 7-2 located in a highly urbanised area (northern suburbs of Hobart). Within the five most disadvantaged LGAs there was considerable diversity. For example, whilst these five SLAs ranked 1, 2 and 3 on a range of indicators, their average rank was sometimes less disadvantaged, including criminal convictions (median=8), juvenile convictions (median=5) and long-term unemployment (median=18). On a number of indicators only one of the five most disadvantaged LGAs appeared in the 'top 3' ranks (readiness for school, post-school qualifications, unskilled workers, Year 3 numeracy, Year 9 reading, and psychiatric admissions).

Among the most disadvantaged locations (Table 7-1) there were some hopeful signs with respect to educational engagement, particularly in relation to school performance measures (Year 3 numeracy ranged 2nd-22nd, Year 3 reading ranged 1-28th, Year 9 numeracy ranged 1-19th and Year 9 reading ranged 3rd-24th), and post school qualifications (ranged 1-24th). In time the success in these areas may assist in reducing the locations' vulnerability to unemployment although this, of course, is also dependent on broader economic factors. Break O'Day, while continuing to experience significant social disadvantage, appears to be responding to this via education with markedly different rankings achieved in school performance compared to other indicators (Year 3 numeracy 22nd; Year 3 reading 29th; Year 9 numeracy 19th; Year 9 reading 24th). It also appears to be succeeding in breaking the link between unemployment and anti-social behaviours as reflected in juvenile convictions and domestic violence (ranked 25th and 18th respectively). The Tasman LGA also appears to have avoided the extreme negative impact

of anti-social behaviours (as reflected in criminal convictions 18th, juvenile convictions 11th and domestic violence 28th), although most educational indicators in this LGA are very poor (Year 3 numeracy 2nd; Year 3 reading 3rd; Year 9 numeracy 1st; overall education 3rd). This variability in manifestations of disadvantage points to the need to be sensitive to specific local contexts, requiring observations supplementary to those included in this report.

Concentration of disadvantage

The extent to which social disadvantage in Tasmania is geographically concentrated is shown by the fact that a limited number of LGAs occupy a disproportionate number of the 'top' (rank 1) – most disadvantaged – rank positions on each of the 21 indicators (Table 7-3). Of the 29 LGAs, six LGAs accounted for approximately 80% of the top ranks on the indicators (17/21). These six LGAs, accounting for just over 20% of the postcodes, were over-represented in the frequency of social disadvantages reflected by all indicators apart from: readiness for school, Year 3 numeracy, unskilled workers, and Year 9 reading.

Table 7-3: LGAs accounting for highest ranking on Tasmanian indicators

Number of LGAs	No. top ranks	Total top positions
1	5	5
2	3	6
3	2	6
6		17

If we broaden our lens and examine the spread or concentration of top three rank positions across all 21 indicators (3x21= 63 positions), we find again that disadvantage is concentrated. The five most disadvantaged communities listed

in Table 7-1 (Break O'Day, Brighton, Central Highlands, George Town and Tasman LGAs) accounted for 40 of the 63 'top 3' rank positions or some 64%.

Major characteristics

When we look closely at the most disadvantaged LGAs in Tasmania we find they share a vulnerability to specific indicators of social disadvantage that are likely to compound each other's negative effects. For example, three of the five most disadvantaged LGAs rank highly on 'young adults not participating in full time work, education or training'. Research and practice experience suggests that such lack of engagement exposes young people to the risk of long-term unemployment and juvenile and adult criminal offending. The correlational analysis in a later section of this chapter underlines the inter-connectedness of the 'un-engagement'/long-term unemployment/juvenile offending indicators, relationships that were also prominent features of the structure of disadvantage in 2007 (see Table 7-4, below).

Table 7-4: Indicators shared between Most Disadvantaged LGAs (n=5): based on 'top 3' rankings

No. of LGAs (2014)	Indicator	Prominent in 2007
3	Criminal convictions	✓
3	Long-term unemployment	✓
3	Juvenile offending	✓
3	Young adults no full-time work, education/training*	✓
3	Disability support	✓
3	Low family income	✓

*The indicators in 2007 and 2014 approximate to one another.

The data suggests that over the past seven years both Break O'Day and the Central Highlands continue to experience high levels of relative social disadvantage, appearing among the most disadvantaged LGAs in both 2007 and 2014. The communities of Brighton, George Town and Tasman appear to have experienced a deterioration of their

social circumstances over the past seven years (discussed below). Conversely, Derwent Valley remained steady or improved its circumstances across a range of indicators with slight improvements in ranking in relation to unemployment (ranked 4th in 2007 and 6th in 2014) and court convictions (from 6th in 2007 to 10th in 2014).

Table 7-5: Comparison of disadvantaged LGAs in Tasmania 2014 and 2007

2014 (21 indicators)	2007 (24 indicators)
MOST DISADVANTAGED (ranked in top 10% 7 - 9 times)	MOST DISADVANTAGED
Break O'Day Brighton Central Highlands George Town Tasman	Break O'Day Central Highlands Derwent Valley
NEXT MOST DISADVANTAGED (ranked in top 10% 3 or 4 times)	NEXT MOST DISADVANTAGED
Southern Midlands Glenorchy Circular Head	Brighton George Town Southern Midlands Tasman

The evidence indicates that Brighton and George Town have experienced significant deterioration of their social situation between 2007 and 2014. In 2007 both these LGAs were listed only twice in the top 3 rankings across 24 indicators whilst in 2014 they appeared 8 or more times. Over the past seven years Brighton has experienced increased housing pressure. In 2007 Brighton was ranked 22nd on purchase stress and 25th on rental stress but by 2014 it was ranked 1st on a similar but not identical indicator, housing stress. There was also deterioration in educational engagement (ranked 16th on early school leaving in 2007 and 2nd on the similar but not

identical indicator 'young people not engaged in work or study' in 2014) as well as criminal convictions (ranked 7th in 2007 and 3rd in 2014).

Whilst George Town does not exhibit the same level of educational disengagement there has been an increase in unemployment (ranked 6th in 2007 and ranked 2nd in 2014 on *unemployment*; ranked 4th in 2007 and ranked 2nd in 2014 on *long-term unemployment*). Department of Education, Employment and Workplace Relations (DEEWR) figures also highlight the increase in unemployment in George Town.²¹

²¹ Neville, I. 2010 *Survey of Employers' Recruitment Experiences in the North West/ Northern Tasmania region, Labour Market Research and Analysis, DEEWR*

Conversely, some locations appear to have enjoyed an overall improvement in their social situation, including Dorset, Hobart, Kentish and the West Coast. However these improvements are in the context of deepening social disadvantage in many locations within Tasmania.

Relationships between indicators in Tasmania

In this section, in order to explore how the indicators of disadvantage interplay to create a web of (mutually reinforcing) disadvantages, we employ a statistic known as the correlation coefficient or r . What we are interested in here is how indicators of social disadvantage correlate with other indicators and whether a pattern of relationships is evident. To answer this question we employ an index of co-variation, the correlation coefficient – more specifically, the Pearson Product-moment Correlation Coefficient. This coefficient places the degree of association between variables between +1 and -1, where the first-mentioned figure indicates total positive correlation. 0 is no correlation, and -1 is total negative correlation. We also examine those indicators with high levels of correlation against the background of the most disadvantaged SLAs identified previously (Table 7-1).

The full details of the correlation matrix for Tasmania can be consulted at the project website. In this instance, the matrix shows a limited number of indicators which correlate at a level above +.50 with a number of other indicators. Internet access, for example, correlates with nine other indicators of social disadvantage. These correlations are not causal and we are not able

to determine whether lack of internet access contributes to young adults not being engaged in work or study, or the reverse. What we can say is that the features of disadvantage weave together in a way that is likely to reduce life opportunities. The matrix highlights the interplay between internet access, low family income, overall education, young adults not engaged in work or study, receipt of disability support, long-term unemployment and criminal convictions.

Unsurprisingly, the strongest correlation was between unemployment and long-term unemployment. Low family income was strongly correlated with unemployment (.83), long-term unemployment (.82), overall education (.82), being in receipt of disability support (.79) and young people not engaged in work or study (.72). There were also strong relationships between young people not engaged in work or study, on the one hand, and receipt of disability support (.70) and criminal convictions (.76). Criminal convictions were strongly correlated to juvenile convictions (.73) and prison admissions (.71).

Previously we identified a range of common features shared by many of the most disadvantaged LGAs. Many of those shared features overlap with indicators that have emerged as being highly inter-correlated with others at or above the 0.50 level: criminal convictions with 14 other indicators, long term unemployment and juvenile offending with 11 other indicators, young adults not in full-time work or education/training with 14 other indicators, receipt of disability support with 15 other indicators and low family income correlated at .50 or above with 13 other indicators. From

this we can see how disadvantage in the five most disadvantaged communities knit together to bind these LGAs into webs of disadvantage.

Comprehensive overview of rankings

In Tasmania, like the Northern Territory and Western Australia, we employ a 'rank average' approach across all 29 LGAs as the number of units available (LGAs) is insufficient to warrant the use of the Principal Component Analysis used in other jurisdictions. The method we have employed averages each LGA's rank score across all of the indicators used and, therefore, captures a locality's performance, high and low, on the full range of indicators. The one drawback is that the results are not comparable with those obtained in 2007. However, they do provide another perspective on the distribution of disadvantage across Tasmania. The smaller the average, the closer a locality is to the most disadvantaged end of the disadvantage/non-disadvantage continuum.

This measure provides a slightly different picture to the one established through the top ranking procedure above (Tables 7-1 and 7-2). By this *rank average* measure Brighton and Central Tablelands remain among the most disadvantaged localities. Derwent Valley which did not appear in the Most or Next Most Disadvantaged LGAs has a low average score of 7.57, the third lowest in the State. Break O'Day also fares better on the rank average score than on the previously described top ranking procedure, being ranked 8th of 29 LGAs. Circular Head, previously identified as among the Next Most Disadvantaged LGAs had an average rank score of 17.6 suggesting its disadvantage may be specific to a limited number of indicators.

Table 7-6: Average ranks across all indicators for Tasmania LGAs (in alphabetical order)

LGA	Rank average	Estimated population
Break O'Day	11.7	6,194
Brighton	6.05	15,460
Burnie	13.7	19,329
Central Coast	17	21,355
Central Highlands	6.52	2,262
Circular Head	17.6	7,977
Clarence	20	51,852
Derwent Valley	7.57	9,704
Devonport	13.2	24,615
Dorset	13.9	6,827
George Town	7.71	6,636
Glenorchy	7.9	44,656
Flinders	18.3	776
Glamorgan/Spring Bay	13.5	4,190
Hobart	23.7	48,703
Huon Valley	13.8	15,140
Kentish	15	6,086
King Island	20.3	1,566
Kingborough	24.6	33,893
Latrobe	20	9,833
Launceston	15.5	64,193
Meander Valley	21.8	18,888
Northern Midlands	17.8	12,228
Sorell	15	13,194
Southern Midlands	10.4	6,049
Tasman	9.79	2,355
Waratah/Wynyard	14.8	13,708
West Coast	13.4	4,678
West Tamar	22.1	21,817

Overall, the data on disadvantage in Tasmania reveals a strip of disadvantage through the midlands as well as severe disadvantage in the north east. Two LGAs, Brighton and George Town, experienced significant deterioration of their social situation between 2007 and 2014. A web of disadvantage was created in some communities due to high rates of criminal convictions, long term unemployment, juvenile offending, young adults not in fulltime work or education/training, receipt of disability support and low family income.

08

CHAPTER 8

WESTERN AUSTRALIA

This Chapter shares a common purpose with the other chapters of this volume, namely, to gain strategic insights from the social-geographic study of a range of social problems that impact upon people's life opportunities, and which make a demand upon societal resources. In the pursuit of this objective, the project employs a range of social indicators, some of which have been acquired from statistics generating agencies, and others adapted from the operational data systems of service agencies. With the majority of Australian jurisdictions this has meant analysing 21-22 variables but a somewhat smaller number have been available with respect to Western Australia. Absent from our analysis are three criminal justice-related indicators, criminal convictions, juvenile offending and domestic violence, for which the authorities said information was unavailable in the form requested (essentially frequencies of occurrence by Local Government Area).

Data available for Western Australia

Internet access	Housing stress	Family income	Overall education	Post-school qualifications	Psych. admissions	Confirmed child maltreatment
Unskilled workers	Unengaged young adults	School readiness	Disability support	Long-term unemployment	Prison admissions	
Rent assist	Unemployment	Year 3 numeracy	Year 3 reading	Year 9 numeracy	Year 9 reading	

We begin our analysis by asking three questions which, for the moment, require little technical knowledge or skill and which might be characterised as 'commonsense' steps in the exploration of our topic:

1. To what extent is the distribution of disadvantage concentrated in particular localities?

2. What, if any, are the recurring features of the profiles of areas that figure most prominently on the indicators of disadvantage we employ?

3. Can counts of the number of times localities rank highly on the indicators used, contribute to a priority listing of areas warranting remedial measures?

Essentially, these questions involve simple counts of the attributes of 140 local government areas in Western Australia using 19 indicators, the rationale for which, and their precise method of calculation, were outlined in Chapter 2. The third question speaks of contributing to a priority listing because the approach described to this point emphasises those variables or indicators which reveal an area's problematic features. There is a second, somewhat more technical approach called *Principal Components Analysis (PCA)* which simultaneously takes into account a locality's rankings – high and low - on all of the indicators, thereby providing a second perspective on the issue of priority claims for special support. That is the approach we have brought to bear in analysing many of the Australian jurisdictions but because of data difficulties experienced with Western Australia, we have been obliged to resort to an alternative method, *rank average*. This measure has the benefit of taking account of each LGA's relative position on all 19 indicators but the results are not

directly comparable with those obtained in 2007. We focus on this second approach after first dealing with the three above-listed questions.

Concentration of disadvantage

The extent to which social disadvantage in Western Australia is geographically concentrated is shown by the fact that a limited number of postcodes occupy a disproportionate number of the 'top' – that is, most disadvantaged – rank positions on each of the 19 indicators. Pragmatically, and to facilitate comparisons, we have defined top as the 10% (or 14/140) most disadvantaged rank positions, the same approach as the one used in 2007 for Western Australia. Given that there were 14 'top' positions across 19 indicators, this meant that there were 266 rank places to be filled. The pattern of concentration was as follows:

- Two localities (1.4% of LGAs) accounted for 12% of 'top 14' positions (over-representation 8.6 times compared with equivalent result of 5.6 times in 2007);
- Six localities (4.3 % of LGAs) accounted for 28.6% of 'top 14' positions (over-representation 6.7 times compared with 4.3 times in 2007); and
- Thirteen localities (9.3% of LGAs) accounted for 47.7% of 'top 14' positions (over-representation 5.1 times compared with 3.3 times in 2007).

The foregoing degree of concentration of disadvantage in Western Australia resembles counterpart trends in the other Australian jurisdictions. The data involved in making the above calculations can also be used to rank the relative degree of disadvantage

of Western Australia's LGAs, at least in terms of the number of times they occupy extreme positions on individual indicators. There were 17 LGAs that appeared between six and 17 times in the 'top 14' lists. On that simple basis they can be grouped (alphabetically) within the following two categories as shown in Table 8-1.

Table 8-1: Most Disadvantaged Western Australia LGAs: appearing at least six times in 'top 14' ranks on indicators (estimated populations shown in brackets)

Most disadvantaged	
Derby-West Kimberley	[7,400]
Halls Creek	[1,300]
Meekatharra	[1,796]
Menzies	[231]
Mt Magnet	[458]
Ngaanyatjarraku	[1,500]
Wyndham – East Kimberley	[8,300]

Next most disadvantaged	
Beverley	[1,700]
Broome	[14,436]
Kellerberrin	[868]
Laverton	[316]
Mullewa	[420]
Murchison	[120]
Tammin	[400]
Trayning	[150]
Upper Gascoyne	[14,500]
Wiluna	[1,279]

Largely because a number of LGAs were inseparable on the basis of their 'top 14' scores, the number identified as *next most disadvantaged* exceeds the equivalent tabulation in 2007. Nevertheless, despite variations in the indicators made available and those employed on this occasion, the current 17 include seven places highlighted in the overall list of 13 in 2007 - Menzies (S), Ngaanyatjarraku (S), Halls Creek (S), Upper Gascoyne (S), Murchison

(S), Trayning (S), and Laverton (S). Of the areas previously nominated as Most disadvantaged but not included in either of the two disadvantaged categories on this occasion, Dundas was in the top 14 rank positions on just two indicators but it was also in the top quarter of the range on six other variables. The other locality that was more prominent with respect to disadvantage in 2007 was Sandstone. It also had a particularly significant proportion of people without post-schooling qualifications or prison admissions but was among the LGAs in Western Australia most poorly covered by the indicator data.

Major characteristics

There were some recurring features of the 17 localities identified on the basis of multiple high rankings on our disadvantage indicators as shown in Table 8-2.

Table 8-2: Indicator profiles of 17 LGAs identified as disadvantaged (based on 'top 14' rankings)

Indicator	Frequency
Internet access	13
Unengaged young adults	11
Overall education of population	11
Year 3 reading	11
Prison admissions	11
Low family income	10
Disability support	10
Psychiatric admissions	10
Year 3 numeracy	10
Unemployment	10
Year 9 reading	9
Post-school qualifications	8
Year 9 numeracy	8
Confirmed child maltreatment	7
Readiness for schooling	7
Unskilled workers	7
Long-term unemployment	6
Rent assistance	1
Housing stress	-

There was no instance of all 17 LGAs occupying a top 14 rank on a particular indicator but *limited access to the internet* came close to that outcome, being a featured characteristic of 13 of the disadvantaged LGAs. The overall limited education of their local populations, young people being neither engaged in education or training and comparatively low rankings on Year 3 reading, were three other characteristics shared by 11 of the 17 disadvantaged LGAs. At the other extreme, rent assistance barely registered, housing stress didn't, and child maltreatment, long-term unemployment, school readiness and unskilled workers were middle-order characteristics of the disadvantaged areas.

Interconnections between the indicators

Restraints upon life opportunities can be more than the separately operating influence exerted by single forms of disadvantage. We have spoken in other chapters of the inter-locking character of localised systems of disadvantage - metaphorically a *web* comprised of interwoven strands such that the prospect of overcoming, say, unemployment, is made more difficult by lack of work skills, the lack of job-search money and contacts, the lack of education, and the other characteristics of multiply disadvantaged communities.

To see whether the structure of disadvantage in Western Australia approximates to that operating in other Australian jurisdictions, we have assessed the degree of co-variation of the 19 indicators for which data has been made available. We again resort to that standard measure of *correlation* which was described in Chapter 2 and which captures the degree of co-variation with an index score

between +1 (a high degree of interconnection) and -1 marking a strong counter-move in the opposite direction. Full details of the Western Australia correlation matrix can be consulted at the project website. There it can be seen that a number of comparatively highly inter-woven strands link the indicators of localised disadvantage in Western Australia. Again we have adopted the strategy of focusing upon those indicators that correlate with at least nine others at a level of correlation (+.50) of practical as well as theoretical significance. Coincidentally, the number of correlated variables at that level - 13 - is the same as in New South Wales and Victoria. Prominent among them are unemployment of short and longer duration (14 and 16 instances, respectively), disability support and prison admissions (each 13 instances), low family income, low overall education and access to the internet (12 instances), and unengaged young adults. To this point the prominent inter-correlating variables bear a strong general resemblance to those of other jurisdictions. Child maltreatment and rent assistance were less prominent as connecting threads of localised disadvantage in Western Australia. However, indicators relating to education were relatively strong threads binding other elements of disadvantage: school readiness only missed out on a +.50 correlation with four indicators, the four Year 3 and Year 9 numeracy and reading indexes all had 10 or more +.50 correlations, and the overall local level of education correlated at the criterion level in 12 instances. To complete the picture it would have been advantageous to include in the analysis, the three criminal justice indicators (criminal convictions, domestic violence and juvenile offending) that unfortunately were not available on this occasion.

Comprehensive overview of rankings

In the introductory section of this chapter we described the average of a locality's rank positions on each of the indicators employed as a means of gaining an overall picture of its vulnerability to disadvantage. Regrettably, since a different method, *principal components analysis*, was used to achieve the same end in 2007, direct comparisons between the two sets of results are not possible. Indeed, in the final analysis, it is the combination of the earlier described results based on 'top 10%' rankings and the *average rank* calculations that we now present, which should inform judgements concerning the most disadvantaged LGAs in Western Australia. For ease of relating the two sets of results, we confine the comparisons to the 17 localities in each instance that were identified as highly disadvantaged (see Table 8-1 and 8-2). The places are arranged alphabetically within two categories of relative severity of disadvantage.

Gascoyne is one LGA within the *rank average/ most disadvantaged* category which, on a 'top 10%' basis, was located in the '*Next most disadvantaged*' category. That relocation is symbolised by a ✓ in Table 8-3. The significance of that is that both sets of signposts, rank averages and top 10%, point in very similar directions so far as the most disadvantaged category is concerned. The only anomalous LGA is Katanning. A possible explanation for its elevation on the rank average scale is that although it only occupied five 'top 10%' places, it had somewhat disadvantaged rankings on most of the remaining indicators. Overall, on 13 of the 19

indicators, Katanning's rank positions were in the most disadvantaged 30% of the range.

Clearly, with regard to the 'Next most disadvantaged' categories – based on top 10% places as well as rank averages - the convergence of the two sets of results was less pronounced than was the case in other Australian jurisdictions. The explanation offered in relation to Katanning appears also to apply to several other apparent inconsistencies. For example, Pingelly had only three top 10% ranks but on 12 indicators it was located within the 30% most disadvantaged levels. Wyndham-East Kimberley had 12 top 10% results but its claims to being disadvantaged were moderated by rank positions exceeding 100 on post-schooling qualifications and rent assistance, and rank positions exceeding 70th on three others (housing stress, low family income and unskilled workers). What we see at work here is the difference between a simple count of areas that fare badly on some indicators, reflected in rankings of the order of 1-14, and other LGAs where the compensating effect of some less disadvantaged rankings reduces an area's assessed overall vulnerability to disadvantage. Both approaches have their merits and generally align closely when it comes to choosing the Most Disadvantaged localities. Of course, the value of both approaches is dependent upon adequate and accurate data, which was not fully provided for Western Australia on this occasion.

Table 8-3: Western Australia's most disadvantaged LGAs in terms of average ranks

Disadvantage/rank averages (2014)	Estimated population	Top 10% (2014)
MOST DISADVANTAGED		MOST DISADVANTAGED
Derby-West Kimberley	7,400	Derby-West Kimberley
Halls Creek	1,300	Halls Creek
Katanning		--
Menzies	231	Menzies
Mt Magnet	458	Mt Magnet
Ngaanyatjarraku	1,500	Ngaanyatjarraku
Upper Gascoyne	14,500	✓
NEXT MOST DISADVANTAGED		NEXT MOST DISADVANTAGED
Brookton	992	--
Carnarvon	4,560	--
Cue	328	--
Kellerberrin	868	Kellerberrin
Meekatharra	1,796	--
Narrogin	4,240	--
Pingelly	900	--
Wagin	1,427	--
Wyalkatchem	520	--
Wyndham-East Kimberley	8,652	--

The general convergence of findings based on top rankings on single indicators, and the principal components/rank average approaches, is a major theme of the conclusions section of this report.

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CHAPTER 9

NORTHERN TERRITORY

The Northern Territory is home to only 1% of the Australian population, with many residents living in small communities in remote areas. Approximately 26% of Northern Territory residents are Aboriginal and Torres Strait Islanders (ATSI). Data used in this section is based on 16 Statistical Local Areas (SLAs). Once again, the approach in this section is to explore:

1. The number of times localities rank high on the indicators used;

2. The distribution of disadvantage across the State;

3. The recurring features of disadvantage among those SLAs most vulnerable to cumulative disadvantage;

4. The average ranking of SLAs across all indicators.

Our approach initially is to provide one perspective on the geographic distribution and degree of concentration of social disadvantage in the Northern

Territory, based essentially on the summation of evidence of some areas' persistently high rankings on the indicators of disadvantage employed in this project. There is another perspective on these matters which takes into account performance on *all* of the indicators, not just those on which a locality is manifestly not doing well. We turn to this second perspective in a later section.

Data on each of the locations has been provided across the indicators specified below and is generally quite comprehensive. Data availability now compares favourably with the situation in 2007.

Internet access	Housing stress	Low family income	Overall education	Post-school qualifications	Unskilled workers	Unengaged young people
School readiness	Year 3 numeracy	Year 3 reading	Confirmed child maltreat.	Year 9 numeracy	Year 9 reading	Disability support
Rent assistance	Unemployment	Long-term Unemployment	Criminal convictions	Juvenile offending	Prison admissions	Domestic violence

**Data was not available for psychiatric admissions in Northern Territory*

Cumulative disadvantage across the Northern Territory

Due to the small number of geographic units in the Northern Territory our analysis will focus on the top 10% or those SLAs ranked first or second on one of the 21 indicators. The four Most Disadvantaged SLAs account for 20 first or second ranks (20/42 or 47%). Once again we adopt the Most Disadvantage and Next Most Disadvantaged categories and the constituent locations are listed in alphabetical order in Table 9-1.

Table 9-1 Disadvantaged SLAs in the Northern Territory (estimated populations in brackets)

Most Disadvantaged (Ranked 1-2 on at least five indicators)	
Belyuen	[181]
East Arnhem	[9,098]
Katherine	[17,823]
Tiwi Islands	[2,580]

Next Most Disadvantaged (Ranked 1-2 on three or four indicators)	
Central Desert	[3,720]
MacDonnell	[5,829]

In the case of the Northern Territory, these six locations comprise 38% of all SLAs but account for 70% of 'top 2' ranks across all the indicators.

The four Most Disadvantaged SLAs, while having similar overall rankings, have quite distinct patterns of disadvantage. Table 9-2 highlights some of the variation in features of disadvantage among the four SLAs.

Table 9-2: Indicator ranking among Most Disadvantaged SLAs (n= 16)

Belyuen	
Post school qualifications	1
Unskilled workers	1
Criminal conviction	13
Domestic violence	9
Prison admissions	11

East Arnhem	
Post school qualifications	2
Unskilled workers	2
Criminal conviction	10
Domestic violence	7
Prison admissions	13

Katherine	
Post school qualifications	11
Unskilled workers	11
Criminal conviction	1
Domestic violence	1
Prison admissions	1

Tiwi Islands	
Post school qualifications	3
Unskilled workers	6
Criminal conviction	8
Domestic violence	8
Prison admissions	10

Tiwi Islands experience disadvantage in terms of access to the internet, low family incomes and young adults not engaged in work or study (ranked 1st on all these indicators). East Arnhem is ranked highly on unemployment (2nd), long term unemployment (2nd) and young adults not engaged in work or study (2nd).

Among the Next Most Disadvantaged group (those appearing at least three times in 1st and 2nd ranks) we find again distinct patterns of disadvantage, despite similar overall levels of disadvantage as indicated in Table 9-3.

Table 9-3: Indicator ranking among Next Most Disadvantaged SLAs.

Central Desert	
Unemployment	1
Long term unemployment	1
Low family income	3
Year 3 numeracy	2
Year 9 reading	6
MacDonnell	
Unemployment	9
Long term unemployment	7
Low family income	5
Year 3 numeracy	1
Year 9 reading	1

Concentration of disadvantage

The extent to which social disadvantage in the Northern Territory is geographically concentrated is shown by the fact that a limited number of SLAs occupy a disproportionate number of the 'top' – that is, most disadvantaged – rank positions on each of the 21 indicators. However, unlike many of the other jurisdictions discussed in this report, disadvantage in the Northern Territory is somewhat more dispersed. Adoption of a broader definition of disadvantage – ranks 1-3 on the indicators - shows that the six locations mentioned above account for half of all places (32/63). Only one SLA failed to appear in at least one of the 'top 3' places on any indicator.

Stability and change

In 2007 data was only available on six regions across Northern Territory, making comparison between 2007 and 2014 impossible. As mentioned previously, data collection processes in the Northern Territory have improved enabling us now to explore data across 16 locations. Name changes also add to the difficult

of comparisons across time. In the 2007 publication two locations were noted for higher levels of disadvantage: Darwin Region Balance and Barkly. Neither of these regions remains in the 2014 data, although Barkly is likely to be captured in data now called Central Desert, and Darwin Region Balance is likely to be captured in data now called Belyuen.

Comprehensive overview of rankings

The calculation of each Statistical Local Area's average rank position across the available 21 indicators, combines those aspects of disadvantage to which the locality is particularly vulnerable, and those aspects to which it is less so, within a single score. When another summarising measure, Principal Components Analysis, has been applied to similar data within other Australian jurisdictions, the findings have strongly resonated with the results of simple 'top 5%' assessments. This has not proved to be the case with the Northern Territory. Six of the 16 SLAs had rank averages of 6.5 or less, indicating a tendency to occupy positions at the deprivation end of the disadvantage - less disadvantage continuum. Three of the six SLAs with comparatively low rank averages indicative of generalised disadvantage – Tiwi Islands, MacDonnell and Central Desert – were among the six previously identified 'Most/Next most disadvantaged' localities. However, Katherine (average rank score 8.2) and East Arnhem (average rank score 7.5), and to a lesser extent Belyuen (average rank score 6.6), were not particularly disadvantaged when viewed from the perspective of their average ranks positions (see Table 9-4, below). The explanation, such as it is, for this difference was foreshadowed by Table 9-2 (above) which depicted the variability in rankings of East Arnhem and Katherine. In the case of East

Arnhem the rankings were as disparate as 13/16 (prison admissions) and 1/16 (post school qualifications and unskilled workers), and, in the case of Katherine, 1/16 (criminal convictions, domestic violence and prison admissions), and 11/16 (post school qualifications and unskilled workers).

In reading Table 9-4 (below) it needs to be understood that the method we have employed averages each SLA's rank score across all of the indicators used and, therefore, captures a locality's performances, high and low, on the full range of indicators. The averages provide another perspective on the distribution of disadvantage across the Northern Territory. The smaller the average, the closer a locality is to the most disadvantaged end of the disadvantage/non-disadvantage continuum.

Table 9-4: Average ranks across all indicators for the Northern Territory SLAs (in alphabetical order)

SLAs	Av. Ranks	Estimated Population
Alice Springs (T)	10.1	36,066
Barkly (S)	6.4	5,722
Belyuen (S)	6.6	181
Central Desert (S)	6.5	3,720
Coomalie (S)	7.8	1,106
Darwin	12.8	120,586
East Arnhem (S)	7.5	9,098
Katherine (T)	8.2	17,823
Litchfield	13.7	18,620
MacDonnell (S)	6.3	5,829
Palmerston	13.0	27,618
Roper Gulf (S)	6.5	6,121
Tiwi Islands (S)	6.1	2,580
Victoria-Daly (S)	6.4	5,925
Wagait (S)	7.9	368
West Arnhem (S)	7.9	6,228
Unincorporated NT	13.2	

Three SLAs not identified by our previous ranking method are highlighted by the Average Ranking procedure: Victoria-Daly (average rank score 6.4); Barkly (average rank score 6.4); and Roper Gulf (average rank of 6.5). These SLAs should also be priority areas when it comes to addressing disadvantage in the Northern Territory.

Northern Territory disadvantage, as measured by the indicators employed in this project, is more dispersed and less geographically concentrated than in other Australian jurisdictions. It was common for SLAs to experience both high and low ranks on indicators of disadvantage. Four communities – Belyuen, East Arnhem, Katherine and Tiwi Islands – were identified as the most disadvantaged, being ranked 1 or 2 on at least five indicators.

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CHAPTER 10

AUSTRALIAN CAPITAL TERRITORY (ACT)

As previously discussed, we employ two means of gauging the degree and location of social disadvantage within this jurisdiction. Both means involve the application of a number of indicators to 26 postcode areas – 24 in the counterpart 2007 study – and, in the first instance, we simply count the number of times each locality occupied a ‘top’ rank position on each of the indicators. Having regard to the comparatively small number of postcodes places involved in the ACT, we followed the 2007 precedent of focusing upon the five highest ranking postcodes. Whereas this approach presents a picture of disadvantage derived from localities’ high rankings on particular indicators, the second approach, employing rank averages, takes account of the results on all of the indicators – high, middling or low – in arriving at an ‘overall vulnerability to disadvantage’ score.

Top ranking locations

The ACT did not have the range of indicators available that was characteristic of the other seven Australian jurisdictions.²² Since in 2014 there were 26 ACT postcode areas and 13 indicators applied to them, this meant that $13 \times 5 = 65$ ‘top’ positions were available to be filled. This approach revealed a marked – but not uncharacteristic – degree of concentration of disadvantage in the ACT. A quarter of the 65 positions (25%) were accounted for by just two postcodes. This result was virtually

identical with the 2007 finding that two localities accounted for 26% of the top ranking positions. Furthermore, they were the same two places. The theme of ‘concentration’ continued as the next several high ranking places were taken into account: a total of five postcodes accounted for just under half (49%) of the 65 positions. Six postcodes (23% of the areas studied) yield 55% of the top positions, again matching the equivalent 2007 result. It required a total of nine localities in 2007 to account for two-thirds of the top positions, the same mark being attained by a total of eight postcodes in 2014.

²² Typically around 20 indicators, 14 ‘purchased’ and five or six provided by State and Territory Administrations, were generally made available. Unfortunately the ACT Administration was unable to provide any data at the postcode level until one variable, psychiatric hospital admissions, was made available but too late to be incorporated in our project. This meant that of the 12 indicators discussed in Chapter 2 as providing the basis for comparison of the present findings with those of 2007, three (criminal convictions, prison admissions and confirmed child maltreatment) were unavailable in this case, although the first two mentioned variables were provided in 2007. One other complicating factor is that NAPLAN results for Year 3 numeric and reading assessments were available in 21/26 instances but just 16/26 for the Year 9 assessments. The Year 9 results will occasionally be cited for illustrative purposes in the discussion that follows but not included in the overview of top 5 rankings.

Table 10-1 which follows shows those ACT locations that attained six or more appearances in the top 5 indicator rankings in the previous (2007) study. The relevant postcodes appear in two categories of relative severity of disadvantage and are listed in the order of their postcode numbers so

that a picture of relative disadvantage is gained without stigmatizing those places situated at the extremes. Remembering the greater number of indicators employed on the previous occasion, the cut-off point in the current study was set at five appearances as shown in Table 10-1.

Table 10-1: ACT's most disadvantaged postcodes based on 'top 5' rankings in 2007 and 2014.

2007	Population estimate	2014	Population estimate
Most disadvantaged		Most disadvantaged	
2604 Kingston, Narrabundah	8,650	2601 Acton, Black Mountain	4,792
2609 Fyshwick, Pialligo, Symonston	899	2609 Fyshwick, Pialligo, Symonston	899
2612 Braddon, Campbell, Reid	14,644	2612 Braddon, Campbell, Reid	14,644
2620 Oaks Estate, Majura, Tuggeranong (Bal), Hume	36,433	2620 Oaks Estate	36,433
		2905 Bonython, Calwell, Chisholm	29,222
Next most disadvantaged		Next most disadvantaged	
2602 Ainslie, Dickson, Downer, Hackett	28,574	2602 Ainslie, Dickson, Downer, Hackett	28,574
2615 Charnwood, Dunlop, Fassifern, Florey, Flynn, Fraser, Higgins, Holt, Kippax, Latham, Macgregor	43,702	2902 Kambah	15,499
2618 Hall	1,389	2900 Greenway	1,485
2905 Bonython, Calwell, Chisholm	29,222		
2906 Banks, Gordon	18,136		

In the 2007 report, despite the use of different counting units and methodologies, we noted some convergence between our identification of disadvantaged areas in the ACT and an earlier (2002) study of the distribution of poverty in the ACT conducted by the National Centre for Social and Economic Modelling (NATSEM). Income estimates

took account of household size and composition and on that basis NATSEM identified the ten suburbs in the ACT with the highest poverty rates. Seven of the ten suburbs rated by NATSEM as having the highest poverty rates were located within the nine postcode areas listed in the left hand column of the above table.

Stability and change

How similar are the localities identified in 2007 and 2014 as being the postcodes most frequently ranked in the top disadvantage group on the indicator scores (Table 10-1.) In large measure this can be determined by simple counts but there are two factors that need to be taken into account in interpreting the results, namely, (i) variations in data accessibility, and (ii) changes in the range of indicators used, of which more is said below. Both of these factors impose the need for some interpretation of the findings.

Least complicated is the reappearance of postcodes 2612, 2620 and 2609 in the 'most disadvantaged' results for 2014, and 2602's retention of its 'next most disadvantaged' status. However, there was no NAPLAN data available for 2609 so that taking its score at face value tends to understate its disadvantageous position. Indeed, of the indicators considered, the postcode only ranked low on two variables. One of them was housing stress. The other, perhaps signalling a constructive pathway to an improvement in the well-being of the area, was the proportion of young people engaging in work or study. This last-mentioned indicator is all the more to be welcomed because of the postcode's highly disadvantaged rankings on the education and training measures used in 2007.

Despite the foregoing element of consistency in the results, the emerging picture is not one of completely unchanging fortunes. The new list of most disadvantaged postcodes now includes 2905 (identified in the table as Bonython) with just under half of its 15 indicators placed in the five most disadvantaged rank positions. Shortly we will come more specifically to overall 'risk score' comparisons but some mention of that aspect is necessary at this point.

In 2007, postcode 2905's comparatively low overall risk score ranking (18th) was linked to its low ranking on some indicators that are not included in the present set, including immunization level, lone person households and suicide. On the other hand, 2905's low (that is, problematic) scores on the newly introduced NAPLAN indicators were consistent with the limited overall educational attainments of the population, lack of work skills, relative absence of post-school qualifications, and the lack of engagement of young adults in work and/or study. A review of our data from seven years ago also uncovered evidence pointing in the same direction – 4th ranking on 'Year 12 incomplete', low skilled employment and limited access to the internet; and 5th on the absence of post-school qualifications.

Postcode 2601, identified in the 2014 table as Acton, enjoyed a low risk score ranking in 2007 but has moved to a more prominently disadvantaged position on this occasion. This change has been partly artifactual; several of the specific rankings that have not been used this time contributed to the 2007 low overall risk score, including dependency ratio, and low taxable income. Other indicators whose low rank results served to suppress 2601's comparative risk score in the earlier study included variables that have not been made available this time, including court convictions, domestic violence, and prison admissions. In the current study, very low rankings on Year 3 numeric and reading tests, and comparable relative deficiencies with respect to qualifications and work skills, and housing and rental stress, focus attention on 2601's problematic features, revealing it as one of the ACT's most disadvantaged localities.

The ranking position of postcode 2604, incorporating Kingston and Narrabundah, has benefited from the changes in the indicator set employed on this occasion. Previously it ranked poorly on some variables not repeated in 2014 - immunization, lone person households, prison admission, suicide – as well as some indicators that were repeated – low family income, disability support, home purchase and rental stress, internet access, unemployment and long-term unemployment. The net effect was to see 2604 displaced from the top bracket disadvantage category, but note that the postcode was still in the bottom third (1 – 8) of rank positions on four of the 13 indicators for which data is available. The heterogeneity of the population in this instance was shown by 2604's occupancy of a most advantaged position (25th) on the post-school qualifications and occupational skills indicators. Note also that it was well placed (21st) on the Year 3 standardised reading test.

Major characteristics

Are there distinctive elements that are characteristic of the seven postcodes identified in 2014 as disadvantaged in the ACT? One distinctive feature of the seven profiles is the recurring evidence of rental accommodation pressures:

- In 2007 six of the eight places assessed as disadvantaged ranked in the top eight on rental stress; in 2014 five of the seven postcodes assessed as disadvantaged ranked in the top eight on rental stress; and
- In 2007, five of the nine places assessed as disadvantaged ranked in the top eight on several education/training related attributes, namely, 'Year 12 incomplete,' no internet access, low work skills and limited qualifications. This time,

limited qualifications attained the same prominence in the profile of five of the seven disadvantaged areas, in company with long-term unemployment. Only slightly less prominent were low family income, no internet access, limited work skills, disability benefit, and unemployment, all of which appeared four times in the top eight rankings of the currently disadvantaged postcodes.

Missing from the comparisons are the criminal conviction and domestic violence results, due to the unavailability of the relevant data. These missing indicators were conspicuous elements of the profiles of disadvantaged localities in 2007.

Overall locational vulnerability

In our 2007 report we identified a technical difficulty in using our summary measure (Principal Components Analysis or 'risk factor') in a jurisdiction with so few counting units relative to the number of indicators employed. The same technical challenge applies to the 2014 data derived from 26 postcode areas. We have, therefore, substituted another method of combining results - high, middling and low - across all of the indicators that are available at postcode level for the ACT. The method we have employed, rank average, calculates each postcode's average rank score across all of the indicators used and, therefore, captures a locality's performance on the full range of indicators. The one drawback is that the results are not directly comparable with those obtained in 2007. However, they do provide another perspective on the distribution of disadvantage across the ACT. The smaller the average, the closer a locality is to the most disadvantaged end of the disadvantage/less-disadvantage continuum.

How consistent are the present rank averages with the risk factor (summary) scores calculated in 2007? Table 10-2 (below) compares the ten localities with the highest 'risk' scores in the current project and the ten that were the highest ranking in 2007. Note that the areas are listed within two categories of disadvantage according to their postcode number.

Table 10-2: 10 ACT postcodes with the most disadvantaged rank average scores in 2014 and risk factor scores in 2007

2014 disadvantage rank average	2014 disadvantage by simple 'top 5' count	2007 disadvantage factor rankings
Most disadvantaged	Most disadvantaged	Most disadvantaged
2609 Fyshwick, Pialligo, Symonston	2601 Acton, Black Mountain	2602 Ainslie, Dickson, Downer
2615 Charnwood, Dunlop, Florey, Flynn, Fraser	2609 Fyshwick, Pialligo, Symonston	2604 Kingston, Narrabundah
2620 Oaks Estate, Majura, Tuggeranong (Bal), Hume	2612 Braddon, Campbell, Reid, Turner	2609 Fyshwick, Pialligo, Symonston
2905 Bonython, Chisholm	2620 Oaks Estate, Tuggeranong (Bal), Majura, Hume	2620 Oaks Estate, Tuggeranong (Bal), Majura, Hume
	2905 Bonython, Chisholm	
Next most disadvantaged	Next most disadvantaged	Next most disadvantaged
2602 Ainslie, Dickson, Downer	2602 Ainslie, Dickson, Downer	2603 Griffith, Forrest
2606 Chifley, Lyons	2902 Kambah	2606 Lyons, Chifley, Phillip
2612 Braddon, Campbell, Reid, Turner	2900 Greenway	2612 Braddon, Campbell, Reid, Turner
2902 Kambah	Six p'codes of equal (comparatively low) rankings*	2614 Cook, Page, Scullin

The first pattern evident in Table 10-2 is the similarity evident between the eight locations identified by the average rank analysis as being either most or *next most* disadvantaged, and the eight so identified by the summation of 'top 5' rankings on the indicators. Six localities highlighted by the first method reappeared in the top 5 list. Furthermore, 2615 Charnwood and 2606 Chifley, were among the group of six areas with equal claims to the status of being next most disadvantaged by the top 5 rankings method.

Notwithstanding the less than optimum data available on this occasion, there is a considerable degree of convergence in the 2014 and 2007 ACT summary rankings. Five of the eight localities identified by the rank averages as being most vulnerable to disadvantage in 2014, were among the eight so identified in 2007.

* Included 2615 Charnwood, 2604 Kingston, 2606 Chifley, 2902 Wanniasa, 2906 Banks, and 2911 Crace.

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CHAPTER 11

CONCLUSIONS AND RECOMMENDATIONS

Four waves of research over a 15 year period (1999 – 2014) have served to confirm the enduring cumulative social disadvantage of a relatively small number of localities across Australia. The evidence for this conclusion has withstood challenges arising from differences in the range of jurisdictions involved, some variations over time in the set of disadvantage indicators used, and variations in the scale of information made available by the data generating agencies upon whom the project has depended. The conclusion to be drawn from the series of studies is clear. As long as research focuses on indicators of disadvantage with an established research provenance, an underlying commonality is manifested in the:

- *disadvantage profiles of localities* that rank highly across multiple indicators of disadvantage;
- *inter-connecting or correlative variables* that play a significant role in constituting web-like, localised systems of disadvantage; and
- *rank positions of localities* when account is taken of their relative position on a complete set of disadvantage indicators.

From simple counts to more sophisticated statistical procedures like *principal components analysis*, or *average rank*, tilting the perspective now one way, and then another, the signposts maintain a common direction. After allowing for the introduction of new counting areas, the same localities quite consistently emerge as being most vulnerable to disadvantage; the same disadvantageous attributes generally characterise the areas in question, and the dominant characteristics also figure prominently among the highly inter-correlating indicators.

This symmetrical pattern embracing high rankings on particular indicators, prominent characteristics and associated correlative variables, and overall rankings when all indicators are taken into account, is illustrated across the 15 years of the entire project. With regard to the 2014 results, the findings for Victoria serve to remind us of the convergent evidence. Just under half of the state's 40 highest ranking postcodes were similarly placed – that is, amongst the highest ranking 40 places – in 2007. When modifications to the indicator set and other procedural changes noted

in Chapter 4 were taken into account, 25 of the 2014 'top 40' locations coincided with their 2007 counterparts. Consistencies within the most extreme top 12 rank positions were striking: in 1999 eight of the 12 names in the top two bands were the same as for 2014; the same was true midway through this period (2007). A similar set of results occurred with New South Wales. Particularly telling was the finding that 15 years ago nine of the 12 names in the top two bands were the same as in the present listing. In South Australia, all of the SLAs identified by the principal components analysis (PCA) as being in the two most disadvantaged bands – top 12 rank positions – overlapped with the top 10% of places based on extreme rankings on the separate indicators. Furthermore, there were eight SLAs in the first two bands of the current PCA findings for South Australia that matched the results in 2007; all eight were included among the 12 'most' or 'next most' disadvantaged in 2007. These results are another instalment in the unfolding story of the consistency of extreme disadvantage rankings of localities across Australia's states and territories.

The cohesive structure of disadvantage that has persisted in a comparatively small number of localities over the life of four studies, constitutes fertile ground for the development of an attitude of resignation to seemingly insurmountable deprivations. Although the 2014 study has focused on the structure of localised disadvantage rather than associated attitudes, the findings of other researches complement our findings. Rotter's (1966) concept of the locus of control is highly pertinent because the notion of 'external control' captures people's inclination to perceive their life as being shaped by chance, fate or complex forces beyond

their influence. An alternative disposition is to believe that one's own behaviour and characteristics influence the course of events ('internal control').

A study undertaken as part of the Australian Commission of Inquiry into Poverty in the 1970s, utilised social indicators of a similar general character to those employed in the present study. Residents of localities within the city of Newcastle (NSW) identified as cumulatively disadvantaged, were significantly more likely to score at the 'external' end of the locus of control scale than residents of other areas. This difference in orientation was associated with differences in attitudes towards aspects of daily living bearing on life opportunities – 'externals' placed less emphasis upon the cultivation of good health, they less frequently sought redress of perceived shortcomings in services they received, were less inclined to avail themselves of child guidance services, and anticipated a shorter duration of their children's education (Vinson, Homel and Bonney, 1976).

Subsequent studies tell a similar story (Avison and Seabrook, 2012; Harding, McNamara, Tanton, Daly and Yap, 2006; Bauman, Silver and Stein, 2006). That being the case, it would appear rather short-sighted to place faith in a single means – like employment training and placement – to overcome severe localised disadvantage. To reduce the amelioration of cumulative localised disadvantage to additional inputs of officially favoured services and facilities, is of limited value. *Dropping off the Edge* (2007) and other intra-governmental studies to which it gave rise, led to what were considered *communal* initiatives.* There was, however, a confusion of community strengthening with localised focus – a variation on the *old wine in*

* Via the then extant Social Inclusion Board.

new bottles proverb, because the new packaging disguised a decentralised serving of old fare. Two of us recently described the process involved in the following terms:

Notwithstanding the frequency with which terms like *community strengthening*, *community resilience* and *community capacity-building* are invoked today, (these descriptions) simply camouflage the simple transposition of more traditional family and individual focused endeavours and services to a new symbolic stage called 'community'.²³

Such conceptual confusion is well illustrated by a Commonwealth Government scheme of recent years, the "Family Centred Employment Project (FCEP)". Involved was the translation of a declared community strengthening program into a series of potentially useful but individual and family level measures. Intended as a response to marked locational concentrations of social disadvantage, the managing government authority described the FCEP as an "innovative approach to developing, delivering and documenting effective approaches that respond to the employment, education and social needs of jobless families in three communities." The intended range of services related to issues as diverse as transport, mental health, self-confidence, skills, child care and family relationships. The *communal dimension* of the project simply resided in the requirement that each of the FCEP Providers should take into account the characteristics of the local community and the existing services within these communities (Department of Education, Employment and Workplace Relations, 2012-13).

Decidedly absent from the FCEP and many other schemes undertaken in the name of community strengthening has been a focus on community, *qua community*. The latter is achieved when it is conceived of as an entity whose core problem-solving and effort-sustaining capacities can be developed in their own right, in addition to the encouragement of individual and familial initiatives and external investments. There is a well-documented history of how the benefits of 'aid', disconnected from the strengthening of specifiable community capacities, generally tapers and disappears once the external inputs cease. As to the nature of the crucial dimensions of community functioning, we believe that they can be derived from a combination of sociological theory, the findings of experimental research and decades of community field practice. This is not the place for a detailed exposition but our own scheme revolves around four key dimensions. The first two focus on task management, the remaining two are mainly concerned with the socio-emotional operation of the community:²⁴

- *Substance and style of decision-making*: with an emphasis upon open arrangements for generating an action agenda; serious efforts being made to elicit and give serious consideration to opinions across sub-groups, and with leaders guiding the community in developing and using a vision for its future;
- *Resource generation and allocation*: marshalling resources to align with and support goals that have been determined; capitalising on intra-community 'bonding' and 'bridging' ties to generate additional resources

²³ Vinson, T., Rawsthorne, M., (2013) *Lifting Our Gaze. The Community Appraisal and Strengthening Framework*, Champaign, Illinois, Common Ground, p. 27

²⁴ For a detailed discussion see Vinson and Rawsthorne (2013) pp.52-57

and cultivating external connections to lever additional resources; and brokering partnerships aligned with community goals;

- *Integration of people, groups and community organisations*: fostering a sentiment of attachment to the local area; welcoming cultural diversity, accommodating differences and striving to ensure the inclusion of all groups in decision-making; celebrating and symbolising unity; and
- *Maintaining direction, energy and motivation*: the well-functioning community, without denying people's entitlement to self-expression and differences of opinion, encourages the preservation of that degree of order needed for goal identification and achievement; it supports people's willingness to intervene in promoting the sound development of children and young people. It provides opportunities for 'bleeding off' tension and containing disruptive rivalries.

To speak of community strengthening is not to deny the continuing importance of external investment in markedly disadvantaged localities. There have been occasions on which the help proffered has been rather more symbolic than practical, or in the nature of an attempted short-cut 'solution' by authorities. The previously mentioned FCEP project, with its emphasis upon skill acquisition and employment, cannot be criticised on those grounds, but how was it linked to an appraisal of the functional strengths and limitations of the host – choice of term intentional – community? How was its intended operation integrated with the

strengthening of community capacities that can ensure the enduring successful functioning of a community?

The functional opposite of collective resignation is a communal state of *collective efficacy*. This is a notion associated particularly with Sampson and Associates investigations of delinquency (1989; 1997; 2002), but it has its counterpart in a number of fields of research. For example, community-level conditions like cohesion, trust and willingness to work for community goals, are associated with social support that enhances well-being and health (Uchino, 2004). In the field of delinquency studies, Sampson and Groves (1989) found that aspects of social organisation, including high levels of local participation in organisations, the exercise of informal social control, the ability and willingness of residents to guide the behaviour of others towards pro-social norms, mutual support for children, and the density of local friendship networks, reduced levels of crime. Sampson and colleagues have been led to the conclusion that *community level* structures and processes are among the most salient constraints on criminal behaviour. In a summary statement that has close links to the task and socio-emotional dimensions of sound community functioning, outlined earlier in this concluding chapter, Sampson and Groves comment:

... "Socially cohesive neighbourhoods will prove the most fertile contexts for the realisation of informal social control. In sum, it is the linkage of mutual trust and the willingness to intervene for the common good that defines the neighbourhood context of collective efficacy".²⁵

²⁵ Sampson, R., Groves, W., (1989) "Community structure and crime: Testing social disorganisation theory," *American Journal of Sociology*, Vol. 94, 775-802

Of course, it may take an extended period to loosen contrary local practices, and to encourage and gradually build collective efficacy. Largely because of their fuzzy conception of the nature and level of the challenge, Australian authorities have impatiently considered just a few years of community work to be necessary to accomplish change. Then, according to this view, it is time to “roll out” the scheme to benefit other localities. What is needed is careful investigation of the changes wrought at the community level by the various projects currently underway. We can acknowledge some sensitive, skilled community projects across Australia, however, in our present state of knowledge, it is doubtful whether a single community, marked by extreme cumulative disadvantage, has been ‘turned around’ in the sense of experiencing a sustainable and generalised improvement in life opportunities.

It is a matter of fundamental morality that as a nation we are obliged to find an answer to this question. The alternative is to continue to turn away and allow our institutions and charity queues for the unemployed and homeless to be filled to over-flowing by successive generations of the time honoured ‘top 40’ sites, presented in Chapters 3-10 of the present report. Firm political and administrative decisions are required to stay the distance with a manageable number of highly disadvantaged communities in order to ‘turn around’ the life prospects of those who live in them. That objective calls for more than an expression of concern and brief refurbishment. The cycle of extreme disadvantage needs to be tackled at the community level, employing strategies that cultivate a willingness to work for the benefit of the community, developing cohesion and mutual trust – an authentic

effort to strengthen community in terms of key functions, such as those previously outlined, and to consolidate collective efficacy.

Of course, it would be equally foolish and morally unacceptable to contemplate local area solutions to all socially problematic situations. National, state and local government policies and practices have an obvious bearing upon individual and family wellbeing. But here we are discussing localities whose degree and duration of deprivation, and the inter-locking nature of the social impediments experienced, necessitates something more. The additional costs entailed need to be weighed against the bill incurred by present arrangements that often amount to cleaning up the aftermath of neglect, rather than introducing positive measures. For example, when we consider the rate of occurrence of the problems represented by our indicators within the most disadvantaged 3% of localities in each jurisdiction, and compare that rate with the one prevailing in the remaining 97%, the differences can be compellingly stark. Note that we confine the comparisons to those indicators that lend themselves to this analysis.

Perhaps the very stability of the distribution of disadvantage throughout Australia may tempt some to question whether this is an appropriate topic for academic exploration but a fact of life that is to be expected and lived with. Some work undertaken following the publication of *Dropping off the Edge* in 2007 indicated that the point of cleavage separating the most disadvantaged Australian communities from the remainder is at the 3% / 97% level. That split within the counting units of each Australian jurisdiction reveals differences that are far from being of merely academic significance.

The data gathered on this occasion has facilitated a more complete and accurate assessment of the nature and scale of the distinction in life circumstances prevailing within the 3% most disadvantaged communities. That assessment has been in terms of the available indicators which lend themselves to the analysis (see below) and, of necessity, has been conducted

within each jurisdiction. Taking Victoria as a first example, based upon the comparative proportions of those eligible by age or circumstance (for example, participation in the workforce or children under 15 years) within the two aggregated 3% and 97% locational categories, the following ratios apply as shown in Table 11-1.

Table 11-1: Ratio of 3% most disadvantaged localities and remainder of localities in Victoria

Victoria	Proportion top 3%	Proportion 97% (the rest)	Ratio 97% to 3%
Overall low level of education	9.7	3.6	2.7
Absence of post school qualifications	54.6	41.0	1.3
Unskilled workers	24.0	15.6	1.5
Young adults not engaged	11.8	5.5	2.2
Disability support	13.0	5.5	2.4
Long term unemployed	5.5	1.9	2.9
Rent assistance	10.9	6.2	1.8
Unemployed	8.0	3.2	2.5
Child maltreatment	5.4	1.8	3.1
Criminal convictions	12.9	6.6	2.0
Juvenile convictions	1.2	0.4	3.4
Domestic violence	6.2	2.4	2.6
Prison admissions	1.4	0.5	2.8
Psychiatric admissions	1.5	0.9	1.8

Normally we would regard a doubling of the rate of an occurrence as being a matter of note. That is what we find to be the case with criminal convictions in Victoria and, indeed, in only four instances was the ratio less than 2.0. However, in the case of juvenile offending, in a State with an acknowledged overall modest rate, the ratio favouring the general community was almost three-and-a-half times less than the 3% group. The ratio of the rates of child maltreatment were of a similar order and the comparable measures

of long-term unemployment, prison admissions and limited overall education were not far behind.

These differences were by no means extreme in comparison with some of the other jurisdictions. For example, in Western Australia, the proportion of prison admissions was eight times greater in the top 3% localities, and approximately 5-6 times higher with respect to both unemployment indicators, 'Young people not engaged' and low overall level of education.

Table 11-2: Ratio of 3% and 97% in Western Australia

Western Australia	Proportion top 3%	Proportion 97% (the rest)	Ratio 97% to 3%
Overall low level of education	10.6	2.2	4.8
Absence of post school qualifications	49.5	41.8	1.2
Unskilled workers	24.0	15.5	1.5
Young people not engaged	33.8	6.8	5.0
Disability support	14.4	4.4	3.3
Long term unemployed	12.0	2.0	6.0
Rent assistance	0.9	5.7	0.2
Unemployed	20.3	3.5	5.8
Child maltreatment	3.9	1.5	2.6
Prison admissions	5.8	0.7	8.1
Psychiatric admissions	3.0	1.4	2.1

Having illustrated our approach with the two foregoing examples, rather than proceed individually with each of the remaining four states it serves our purpose to summarise their ratios as shown in Table 11.3.

Table 11-3: Ratio of 3% and 97% in various States

Remaining four States	Ratio 97% to 3% NSW	Ratio 97% to 3% SA	Ratio 97% to 3% TAS	Ratio 97% to 3% QLD
Overall low level of education	2.9	5.3	1.4	4.1
Absence of post school qualifications	1.4	1.4	1.2	1.5
Unskilled workers	1.5	1.3	1.3	1.0
Young adults not engaged	2.2	5.2	2.0	4.7
Disability support	2.0	2.3	1.5	2.4
Long term unemployed	3.3	5.1	1.4	2.3
Rent assistance	1.7	0.7	0.9	1.1
Unemployed	2.9	5.2	1.3	1.7
Child maltreatment	---	---	---	4.2
Criminal convictions	2.3	4.1	1.5	8.5
Juvenile convictions	2.3	2.4	1.8	6.1
Domestic violence	2.8	---	2.3	4.2
Prison admissions	3.6	10.0	1.6	5.2
Psychiatric admissions	1.8	3.5	1.1	---

The above information actually offers some reassurance to governments and finance controllers: to concentrate on the most cumulatively disadvantaged localities throughout Australia is not to 'Open Pandora's box.' What we recommend (below) is a firm political and administrative commitment to staying the distance with a manageable number of highly disadvantaged communities. There are exemplars of Australian communities sustaining a long-term commitment to community strengthening guided by the type of principles outlined here, such as the Local Government led initiatives undertaken in Mildura in Victoria, and community led, City Government supported initiatives in Glebe (Sydney). The fundamental aim of these projects is to 'turn around' the life

prospects of residents, while reducing the ultimate social costs otherwise incurred by neglect of fundamental communal needs.

While development processes are at the heart of community strengthening, the profiles of disadvantaged areas across Australian jurisdictions show that the venture needs to have at its disposal the wherewithal to achieve practical goals. For example, the unavailability of work opportunities and occupational skills have featured in our results, often in association with limited education and training, criminal convictions and prison admissions. Undoubtedly part of an effective community level response to lack of engagement in paid work is the creative local generation of work

opportunities across the board – within extra-community corporations, creative locality-based enterprises to serve local markets, and ‘start up’ individual and small group enterprises. Whatever other measures are necessary to combat the geographic concentration of the problems highlighted throughout our report, it is difficult to deny the centrality of limited education and training and their impact on the acquisition of economic and life skills, in the making and sustaining of localised disadvantage in Australia. Yet, as the uplifting example of the *School as Community Centre* cited in Chapter 3 illustrates, the ways in which developments are decided upon and fashioned are as important as the measures themselves if community strengthening is to be achieved.

The fundamental principle is this: in order for services and infrastructural interventions to be effective in the long run, they must not only be useful in their own right but simultaneously serve the end of strengthening the overall community. More than gaining the participation of residents is involved in fulfilling this principle (although that achievement is of fundamental importance). To the best of our knowledge there have been few ‘before and after’ evaluations of community functioning undertaken at community project sites in Australia. Where data available from the present series of projects has been utilised for this purpose, there have been indications of improved life opportunities being achieved during the period a community worker has been available, only to see a downturn when the services of that agent have terminated (Vinson, T., 2007, pp.99-100). The focus needs to be on strengthening the critical capacities of community functioning, whether they match the dimensions we earlier proposed, or some other appropriate formulation.

RECOMMENDATIONS

1. A driver of strategy

To identify and assist Australian communities with high social needs and concentrated disadvantage, a Centre for Community Strengthening and Program Evaluation be established within the Commonwealth Government. The Centre should be so located as to facilitate its coordination of community service initiatives by government and non-government organisations, and undertake rigorous collaborative evaluations of community strengthening projects. It should be established on a basis that enables it to gather full statistical information on local populations while adhering to existing data confidentiality guidelines, in the manner illustrated by the present project. The Centre should continue to develop and refine the data gathering and dissemination of community wellbeing information pioneered by a number of non-government agencies over recent decades, including the sponsors of the present project.

In recommending a national Centre for Community Strengthening and Program Evaluation we are fully conscious of the responsibility state and territory governments have for strengthening disadvantaged communities within their respective jurisdictions. Community level interventions should be an integral part of their human service functions but they have generally not dealt with this facet of their work in a knowledgeable, focused way. Achieving confidence in community strengthening, and a willingness to cooperate fully with the proposed Centre, are priority requirements of state and territory governments. The latter need look no further than the summary of the high rates of occurrence within a limited number of highly disadvantaged areas of problems for which states have a primary responsibility – including

criminal convictions, imprisonment, child maltreatment, education and mental illness. The establishment of the recommended Commonwealth level centre needs to be matched by the creation of counterpart state and territory units performing linked coordinating, educational and evaluation functions. Their efficient operation would be less dependent on staffing numbers than their strategic location within the structure of government services, their supportive professional mandates and their capacity to draw upon seconded professional personnel for specific tasks and purposes.

2. An instigator of focused, practical change

The proposed Commonwealth Centre, while of modest size and incorporating the seconded services of existing specialist staff of relevant government agencies, should be endowed with the authority necessary to carry out its community strengthening functions and secure the necessary cooperation of Commonwealth and State authorities. That cooperation generally has been extended to projects in the present series but should be even more forthcoming when backed by a degree of official sanction.

The Centre should be staffed by officers who have practical experience of community work and research, and a demonstrated interest in, and capacity to contribute to, the furtherance of knowledge and approaches that bring practical benefits to cumulatively disadvantaged communities. The selection criteria should include candidates' demonstrated interest in working collaboratively with people engaged in community interventions, as well as possessing the detachment and objectivity needed to distinguish

tangible benefits from good intentions. If the present inequalities of opportunity are to be seriously remedied, the Centre must focus on strengthening disadvantaged communities, starting with those identified in the present report, while providing practical feedback to Government on policies and practices that will help close the opportunity gap that persistently separates those communities from mainstream Australian society.

3. Establishing and demonstrating high standards

The Centre for Community Strengthening and Program Evaluation should act as a repository of international and national research and practice insights into the evaluation of community interventions and insights gained, and should undertake interventions in its own right. The Centre should have particular responsibility for auspicing and participating in an exemplary project in each Australian jurisdiction, chosen jointly with the respective governments. The selected project sites should be among the communities nominated as 'most disadvantaged' in the present report and, for the reasons nominated in the report, should in the first instance, have a minimum intervention period of six to eight years, subject to further extension if judged necessary. The cost of exemplary projects should be shared between the Commonwealth and the relevant State or Territory Government. The methods employed and the outcomes achieved should be widely disseminated if our nation is to achieve the necessary knowledge and means of providing its citizens – especially its young – with life opportunities consistent with our tradition of the 'fair go.'

RECOMMENDED OPERATIONAL PRINCIPLES

A. Perseverance Given the persistence of documented cumulative disadvantage in a number of Australian communities, it is unrealistic to expect rapid short-term improvements following brief community strengthening interventions. What is needed is:

A firm political and administrative commitment to staying the distance with a manageable number of highly disadvantaged communities for the durations previously specified.

B. Knowledge The shaping of community strengthening endeavours is not a knowledge-free area. The choice of objectives and their sequencing, while substantially reflecting the views and aspirations of the communities involved, must also be influenced by knowledge gained from decades of community development practice and research findings. Vital in this regard is an underlying shared conception of the capacities of a well-functioning community.

The adoption of individual community initiatives should be based on appraisals of their contribution to the overall strengthening of the community and its ultimate capacity for strong independent action.

C. Extra-communal resources

The un-negotiated arrival of externally provided resources seldom provides a disadvantaged community with long-term benefits. Yet severely disadvantaged communities cannot attain their goals by 'spinning thin air'. The capacity to harness the arguments and make the case for external assistance is actually part of the negotiating equipment of

strong communities and disadvantaged ones sometimes need assistance simply to attain their fair share of infrastructural and other centrally dispersed resources. However, pragmatism needs to be balanced with community strengthening principles. The gaining of externally sourced assistance can be an important part of a community strengthening project provided, wherever practicable, the opportunity is taken to involve the community in prioritising the resources to be pursued and to be involved in, and learn from, participation in the negotiations entailed. Both of these activities rehearse skills that are central to effective communal management.

Examples of the afore-mentioned approach include identifying potential local employment opportunities and leveraging government and non-government organisations based outside of the community to employ locals. Such communal action could address the high unemployment levels which the present research confirms are a recurring feature of multiply disadvantaged communities in Australia. Likewise, pressing for additional skilled support to help ensure the successful launching of children's education and to help maintain their meaningful engagement in school and post-school training and education, would also address another of the recurring features of the most disadvantaged areas. So, too, would problem-solving collaboration between police and social agencies where the detection of early juvenile offending provides opportunities to intercept criminal careers in the making.

Frequently the object of community strengthening is aided by the more effective use of existing resources but that is not always possible. Constructive strategies sometimes come at additional

costs. However, in reckoning the scale of those outlays account needs to be taken of the institutional, service and social value costs of tolerating the continuation of the locally concentrated disadvantage that we have documented in this report.

In pursuing additional resources every effort must be made to rehearse skills that are central to effective communal management including the prioritising of objectives and local participation in associated negotiations.

D. Community-level changes

Community strengthening projects need to maintain a steady focus upon core problem-solving and effort-sustaining capacities of the community *qua community*. In earlier sections we have emphasised the importance in that regard of building organisational competence and realistic confidence in the pursuit of local goals. Key attitudinal requirements are the development of mutual trust and willingness to take action for the common good. The transformative power of these attributes, summarised in the notion of collective efficacy, is now widely recognised and was reflected in Victorian data included in the earlier publication *Dropping off the Edge* (Chapter 6: Assessing the Impact of Social Cohesion).

Without unduly restricting the intellectual framework employed, a focus upon community level change should be a mandatory requirement of projects intended to strengthen multiply disadvantaged communities.

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TECHNICAL APPENDIX:**Loadings On First Principal Component Factor**

	NSW	VIC	QLD	SA	WA
Internet access	.908	.851	.899	.878	.960
Low family income	.910	.897	.889	.856	.949
Overall education	.835	.828	.921	.887	.934
Post-schooling qualifications	.846	.788	.838	.688	.738
Unskilled workers	.829	.856	.702	.709	.757
Young adults not engaged	.875	.889	.928	.883	.954
Disability Support	.871	.939	.621 *	.594	.872
Long-term unemployment	.834	.923	.907	.643	.963
Unemployment	.910	.923	.913	.718	.972
Criminal convictions	.870	.882	.699	No data	No data
Child maltreatment	No data	.776	.718	.801	.493 *
Prison admissions	0.697	.485	.767	.816	.913

* These items loaded more heavily on the second component.

Data from the ACT, Northern Territory and Tasmania were not used as there were too few localities for the results to be reliable.

* Included 2615 Charnwood, 2604 Kingston, 2606 Chifley, 2902 Wanniasa, 2906 Banks, and 2911 Crace.

MAPS

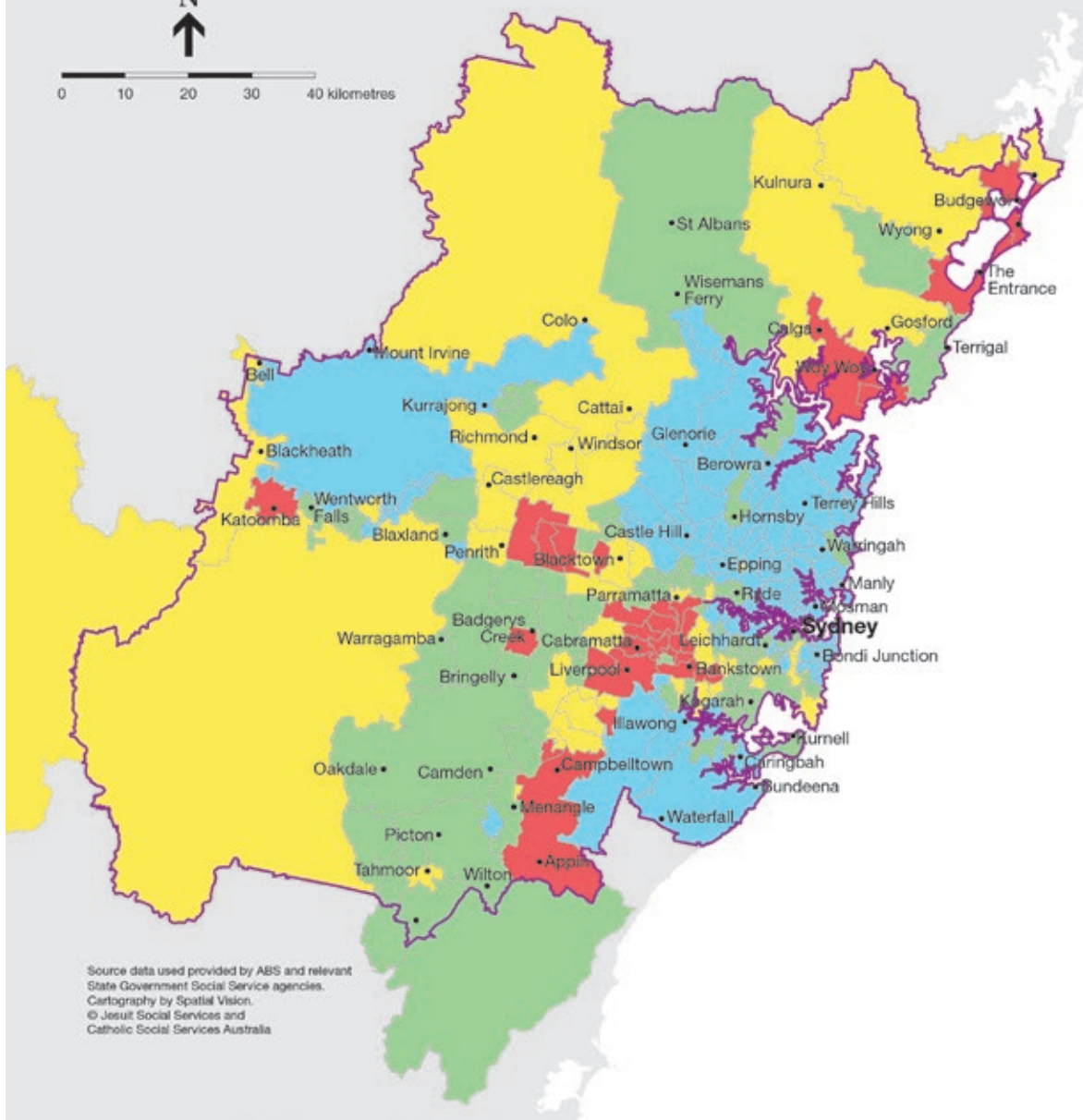
The maps that appear in the publication and on the website, showing the spatial distribution of disadvantage, use four categories of severity. The method used to determine this outcome is one favoured by geographers – the nested mean. The method has the advantage of using the data and their distribution to determine breaks in the distribution of scores. The procedure is simple: the mean of the data is calculated and a two- fold division made at this point. Then the mean for each half is calculated and a further two-fold division made yielding the desired four categories of severity of disadvantage – most disadvantaged, disadvantaged, advantaged, and most advantaged.

Sydney Postcodes

- Most disadvantaged
- Disadvantaged
- Advantaged
- Most advantaged
- Greater capital city statistical area



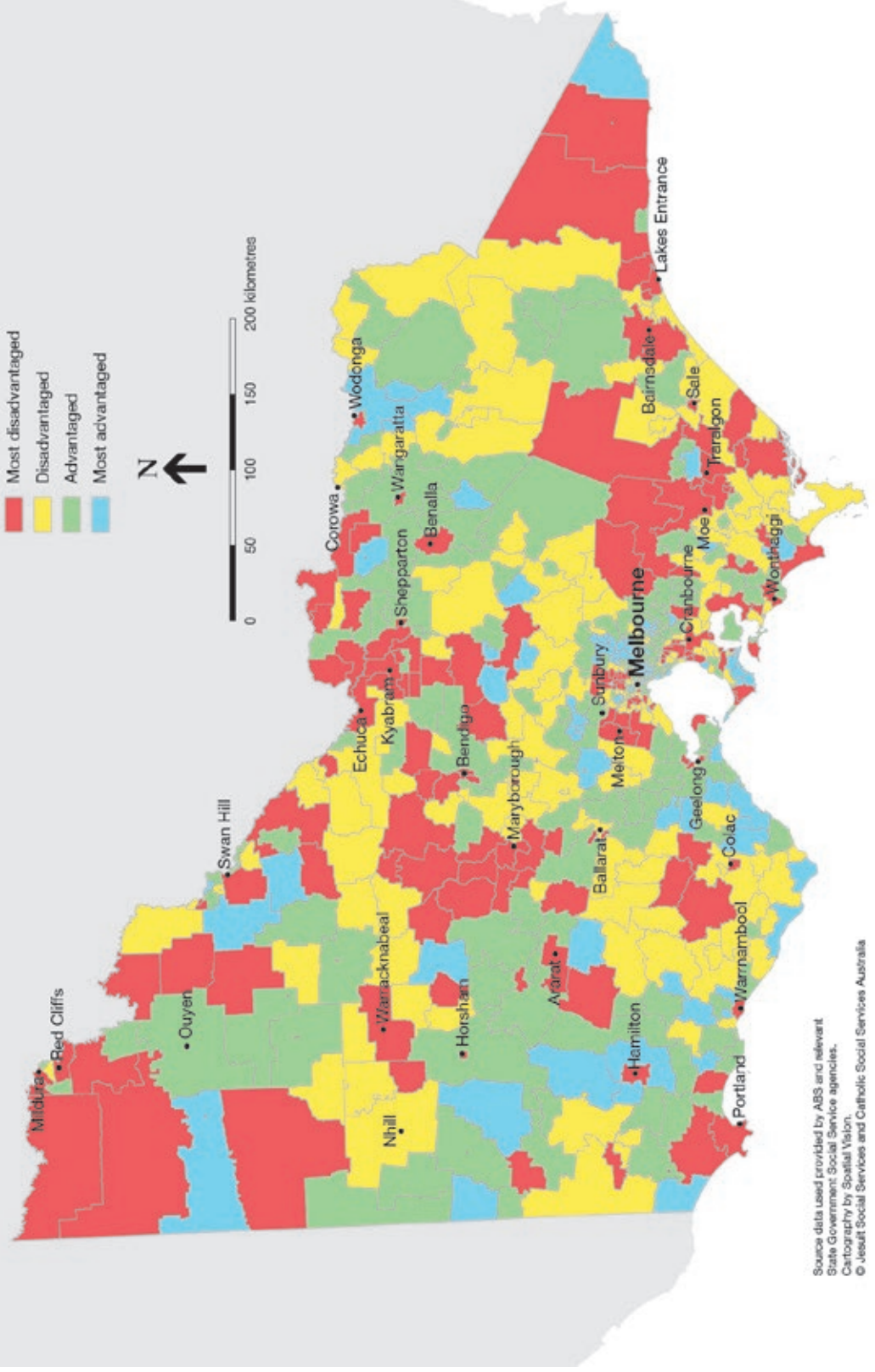
0 10 20 30 40 kilometres



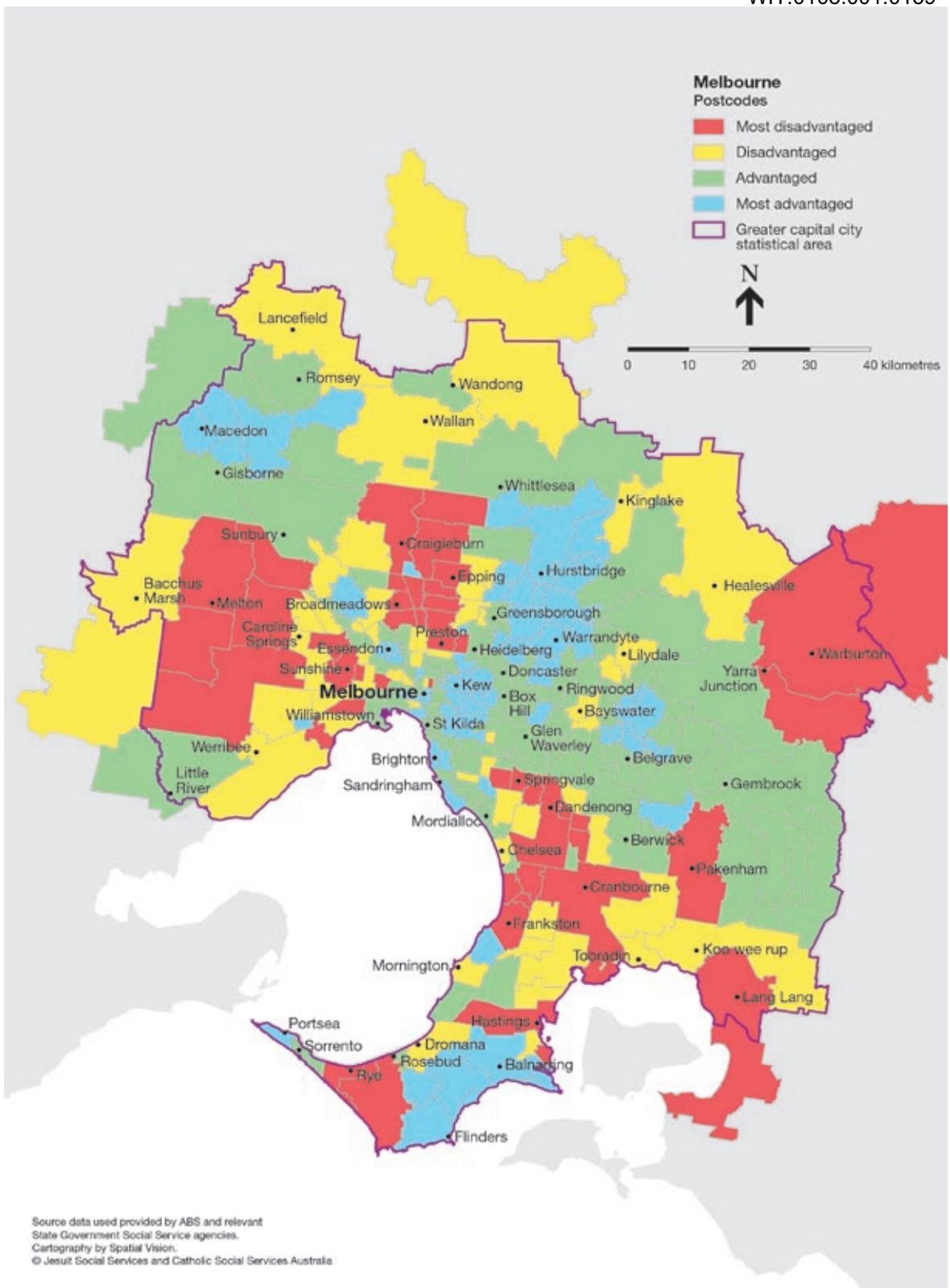
Source data used provided by ABS and relevant State Government Social Service agencies.
 Cartography by Spatial Vision.
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Victoria
Postcodes

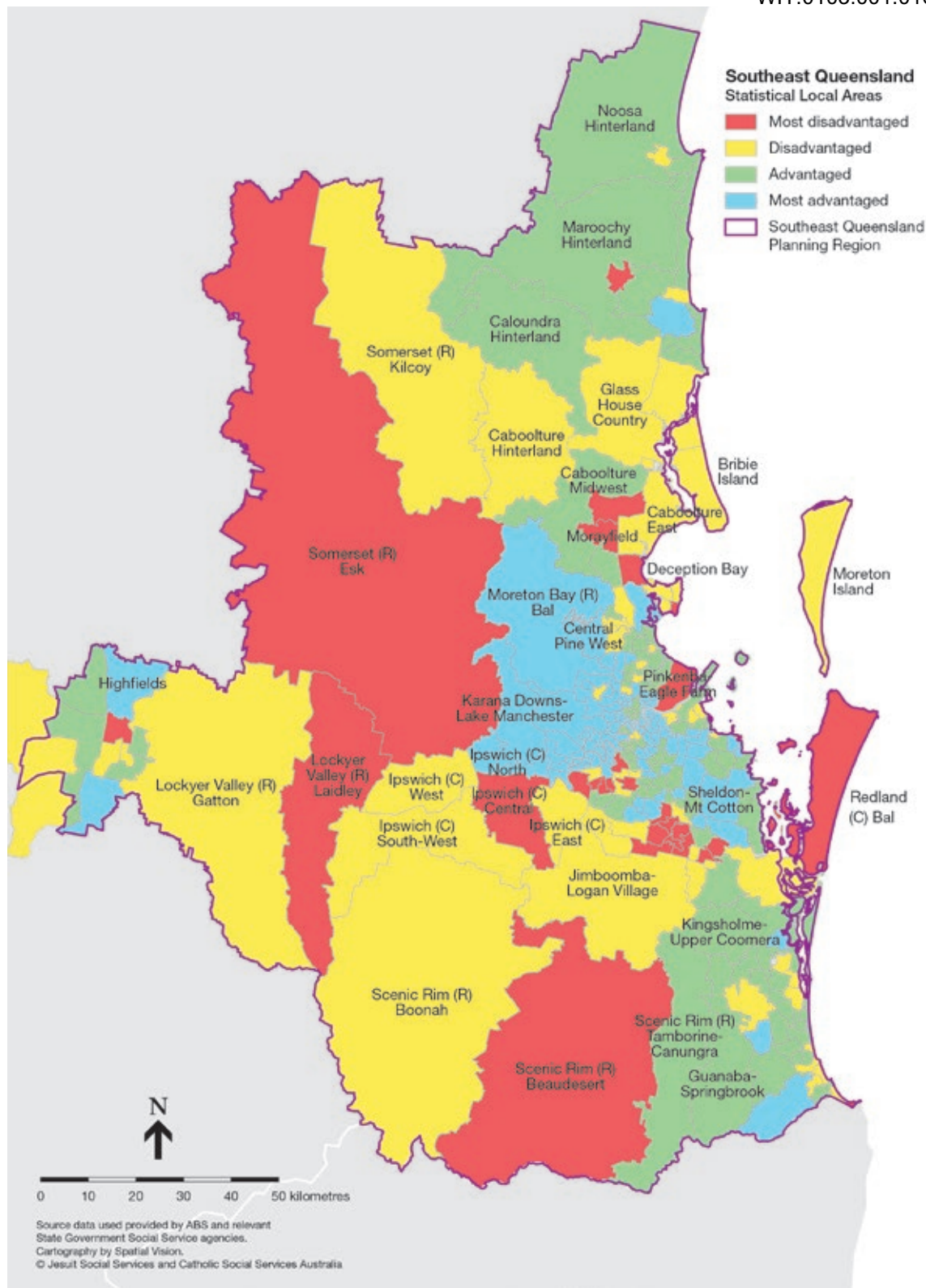
- Most disadvantaged
- Disadvantaged
- Advantaged
- Most advantaged

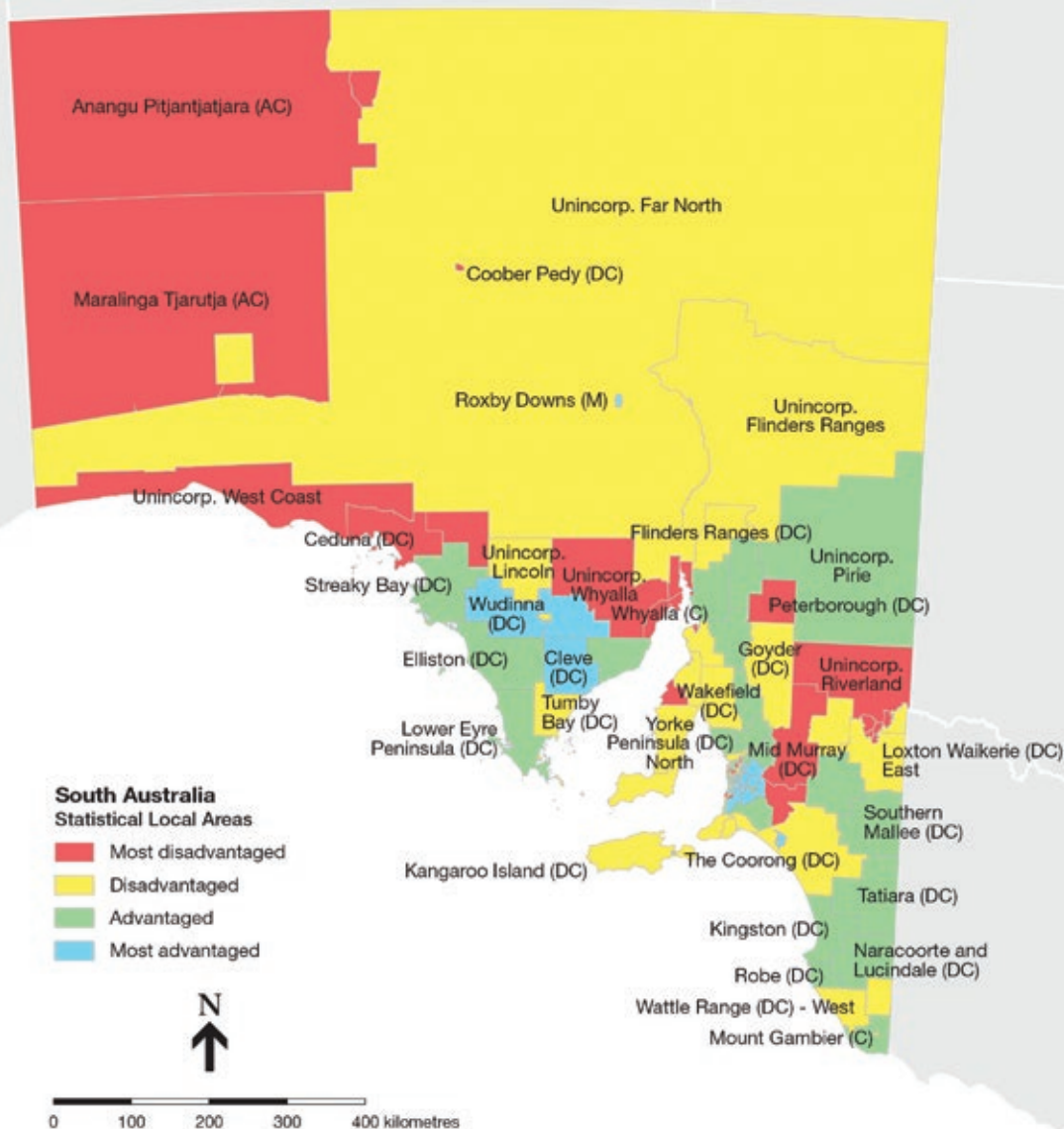


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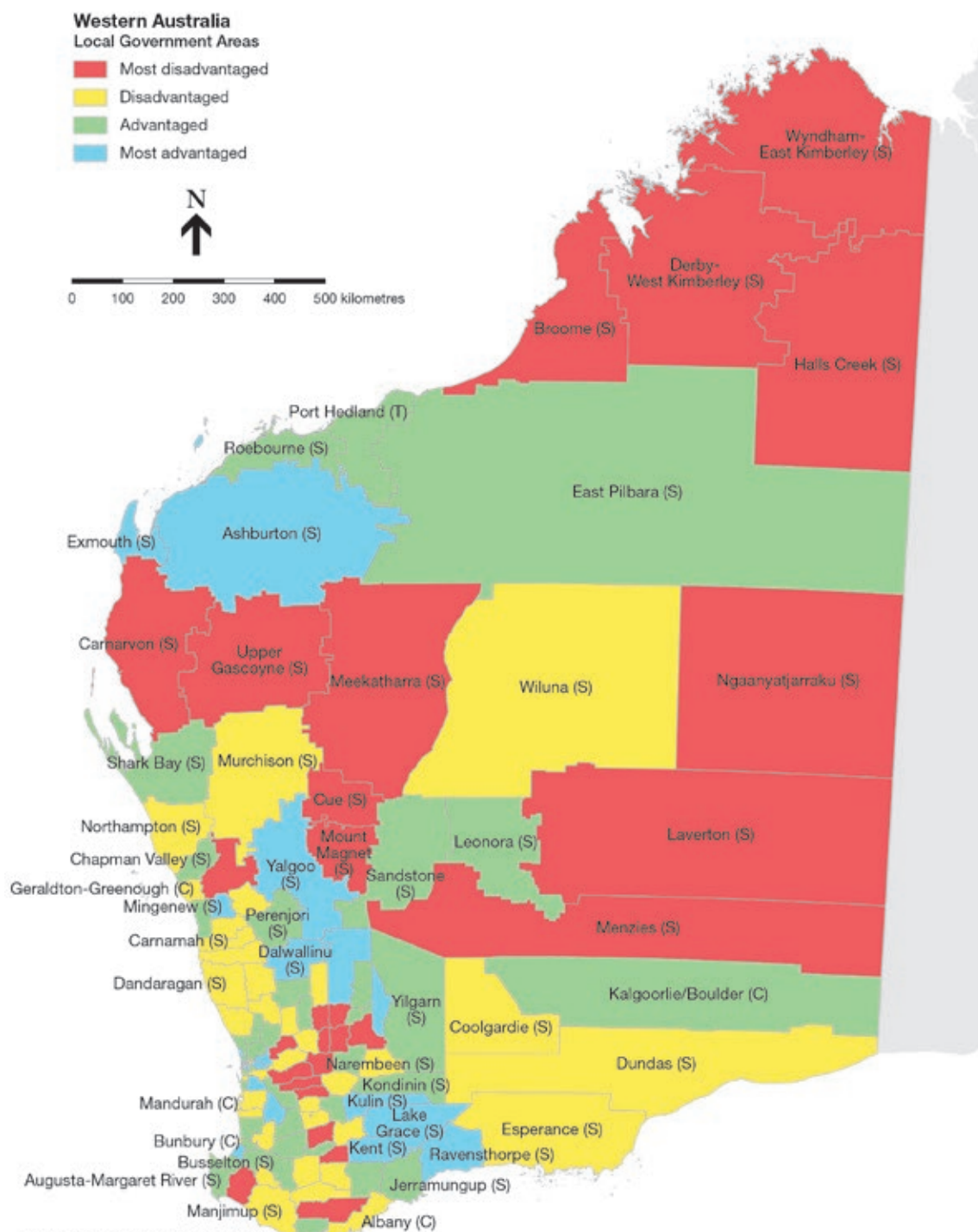




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DOTE 2015

In 2007, Jesuit Social Services and Catholic Social Services Australia commissioned ground-breaking research into place-based disadvantage across the nation. The resulting report, *Dropping off the Edge*, quickly became a critical resource for governments, service providers and communities attempting to address the challenge of entrenched geographical disadvantage.

That report received over 284 scholarly citations and supported the establishment of the Australian Social Inclusion Board – a body charged with identifying long-term strategies to end poverty in Australia. This new report, *Dropping off the Edge 2015*, seeks to build on that work as well as significant national and international research documenting social influences that limit people's opportunities in life.