

## Addressing disadvantage to optimise children's development in Australia



### Key points

- Disadvantage has an enduring impact on children's development.
- Disadvantage can be more fully understood using four key social determinant lenses: sociodemographic factors, geographic environments, health conditions and risk factors.
- Children's exposure to disadvantage is complex and may change over time.
- To meaningfully address disadvantage we need to understand its complexity.
- Reducing disadvantage would have measurable benefits for children's development.

### Background

To be disadvantaged is to experience relatively unfavourable or inferior conditions: a relatively poorer position in a social hierarchy determined by wealth, power and prestige.<sup>1</sup> For children, disadvantage manifests in the circumstances in which they live, learn and develop - these are the social determinants.<sup>2</sup> Disadvantage is multifaceted and affects children's long-term health and development.<sup>3-7</sup>

Many children are exposed to disadvantage during their childhood: it may be a little or a lot, and in different combinations or at different times throughout their childhood. The impact of disadvantage on children's development has lasting social, economic and health implications for Australia.

### Aim

The Changing Children's Chances project aimed to identify patterns in children's experiences of disadvantage over time and quantify the long-lasting impact of disadvantage. It used four lenses related to social determinants - sociodemographic factors, geographic environments, health conditions, and risk factors - to measure children's exposure to disadvantage and identify its impact on important aspects of children's development (social-emotional, cognitive, and physical functioning).

**Changing Children's Chances** is a partnership initiative bringing together leading equity researchers and policy experts from the University of Melbourne, Flinders University, Murdoch Children's Research Institute, Sydney Children's Hospital Network, The University of New South Wales, University of Otago, Australian Department of Education and Training, Victorian Department of Education and Training, Brotherhood of St. Laurence and the Royal Melbourne Institute of Technology.

## Study details

The study used a comprehensive approach to identify the many ways in which disadvantage can emerge in children’s everyday lives (see Figure 1), and how this exposure to disadvantage impacts on children’s development.

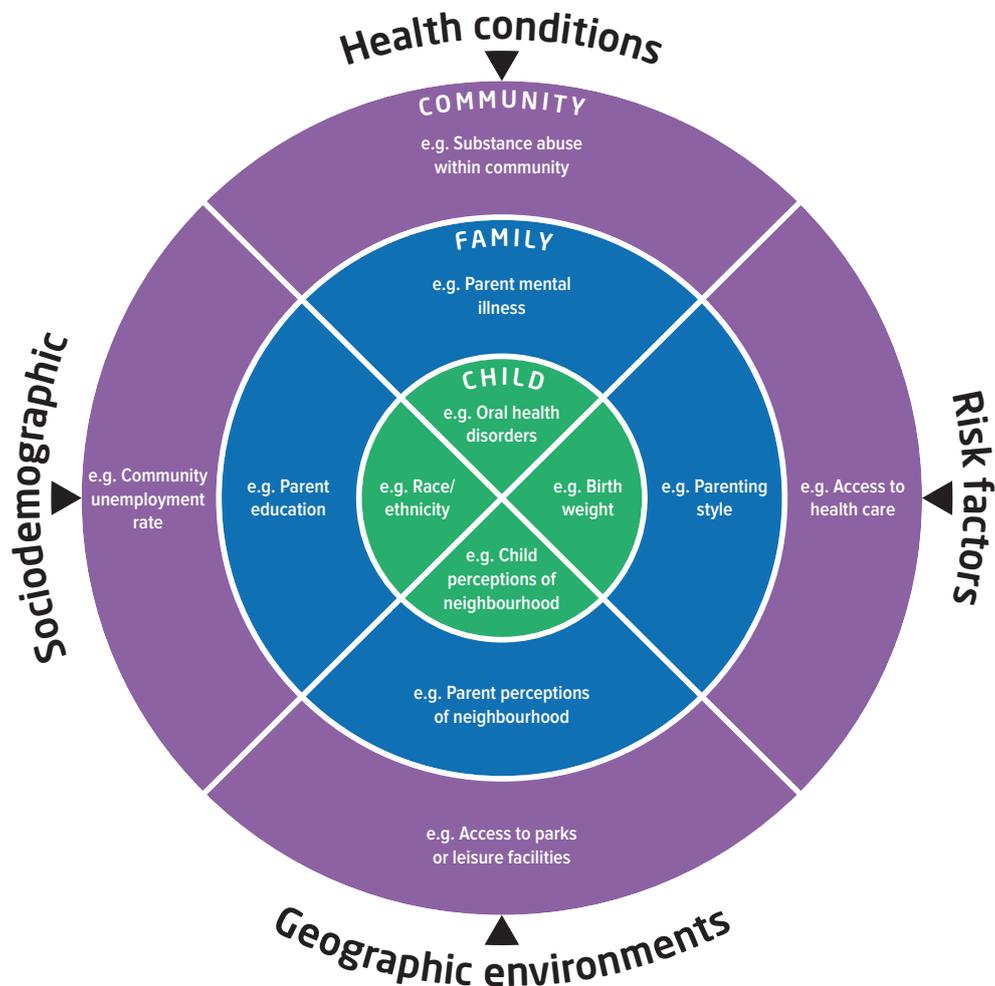


Figure 1. Framework for understanding child disadvantage, with examples of relevant indicators shown.

The framework used four lenses to understand children’s experience of disadvantage across the different contexts in which it can arise:

- **Sociodemographic:** belonging to subpopulation groups that are at risk of poorer outcomes (e.g. ethnicity).
- **Geographic environments:** characteristics of the places in which children live that drive inequities through processes such as socioeconomic segregation and barriers to services (e.g. proximity to transport).
- **Health conditions:** diagnosable health conditions that drive inequities due to being unevenly distributed across social groups (e.g. caregiver diabetes).
- **Risk factors:** attributes, characteristics and exposures that increase the likelihood of poor child health and developmental outcomes, unevenly distributed across the population (e.g. caregiver smoking).

The study examined how disadvantage during childhood (from birth to 8-9 years) relates to children’s development by late childhood (10-11 years).

The research draws on data from *Growing Up in Australia: the Longitudinal Study of Australian Children (LSAC)*. LSAC is a nationally representative sample of two cohorts of Australian children which commenced in May 2004.<sup>8</sup> This includes the birth cohort (B-cohort) of 5,107 infants and the kindergarten cohort (K-cohort) of 4,983 four-year-olds. To date, six waves of data have been collected. The current paper draws on data from the B-cohort.

Data collected about children’s development across socio-emotional adjustment, physical functioning and learning competencies at 10-11 years were used. Children were categorised as struggling in a domain if they were in the bottom 15 per cent of scores.

### Children’s exposure to disadvantage

Data collected at ages 0-1, 2-3, 4-5, 6-7, and 8-9 years was used to measure the types of disadvantage experienced by children. At each of these time points, a range of variables that corresponded to each lens were considered (see Table 1). This information was used to allocate children with a score at each time point for each lens, and an average score across the lenses. This determined pathways of disadvantage over time.

**Table 1.** Measures of disadvantage assessed from 0-1 to 8-9 years.

Sociodemographic	Geographic environments	Health conditions	Risk factors
<ul style="list-style-type: none"> <li>Child language other than English</li> <li>Main caregiver language other than English</li> <li>Main caregiver income</li> <li>Both caregiver income</li> <li>Main caregiver education</li> <li>Main caregiver occupation</li> <li>Main caregiver financial hardship</li> <li>Main caregiver partner status</li> <li>Household size</li> <li>Child medical condition or disability*</li> </ul>	<ul style="list-style-type: none"> <li>Neighbourhood liveability</li> <li>Geographic location</li> <li>Community socioeconomic status</li> </ul>	<ul style="list-style-type: none"> <li>Main caregiver depression</li> <li>Main caregiver medical condition or disability</li> </ul>	<ul style="list-style-type: none"> <li>Child body mass index</li> <li>Main caregiver body mass index</li> <li>Main caregiver smoking</li> <li>Main caregiver binge drinking</li> <li>Child unmet need for services</li> <li>Main caregiver physical arguments with partner</li> <li>Number of homes lived in</li> <li>Main caregiver argumentative partner relationship</li> <li>Stressful life events within family</li> <li>Main caregiver unmet need for social support</li> </ul>

\*The lenses overlap and some measures of disadvantage could fall under more than one lens. Child medical condition or disability for example, could be considered as a population of children with special needs (i.e. sociodemographic lens), or their disability could alternatively have been qualified in the health conditions lens.

## Key findings

The study illustrates that many children experience some form of disadvantage that can have a lasting impact on their development. It also highlights those aspects of disadvantage that are likely to have greater impact on different domains of child development and the potential value of efforts to reduce disadvantage.

## Pathways of disadvantage

Children experience disadvantage in different ways:

- Disadvantage exists across a continuum: a child can experience a lot or a little disadvantage.
- Children can experience disadvantage in some aspects of their lives but not others, and may experience different combinations of disadvantage.
- One in three children are on a disadvantaged pathway, experiencing some form of disadvantage across the lenses.

### Overall pathways of disadvantage

Children’s experiences of overall disadvantage over time were fairly stable (see Figure 2). In terms of their overall circumstances, children who began as most advantaged stayed most advantaged, while those who began as most disadvantaged remained most disadvantaged.

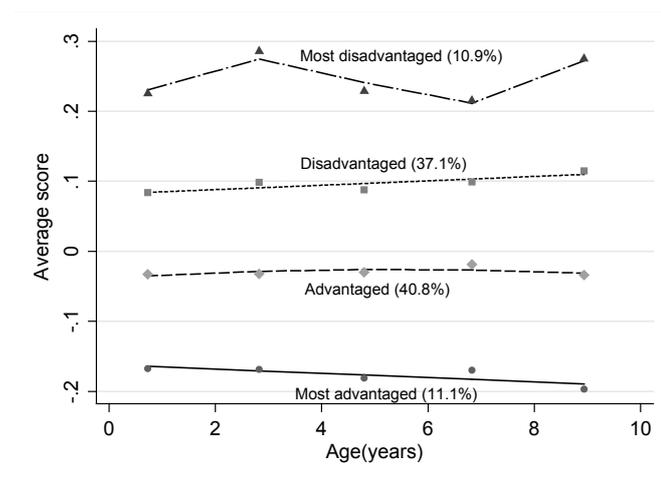
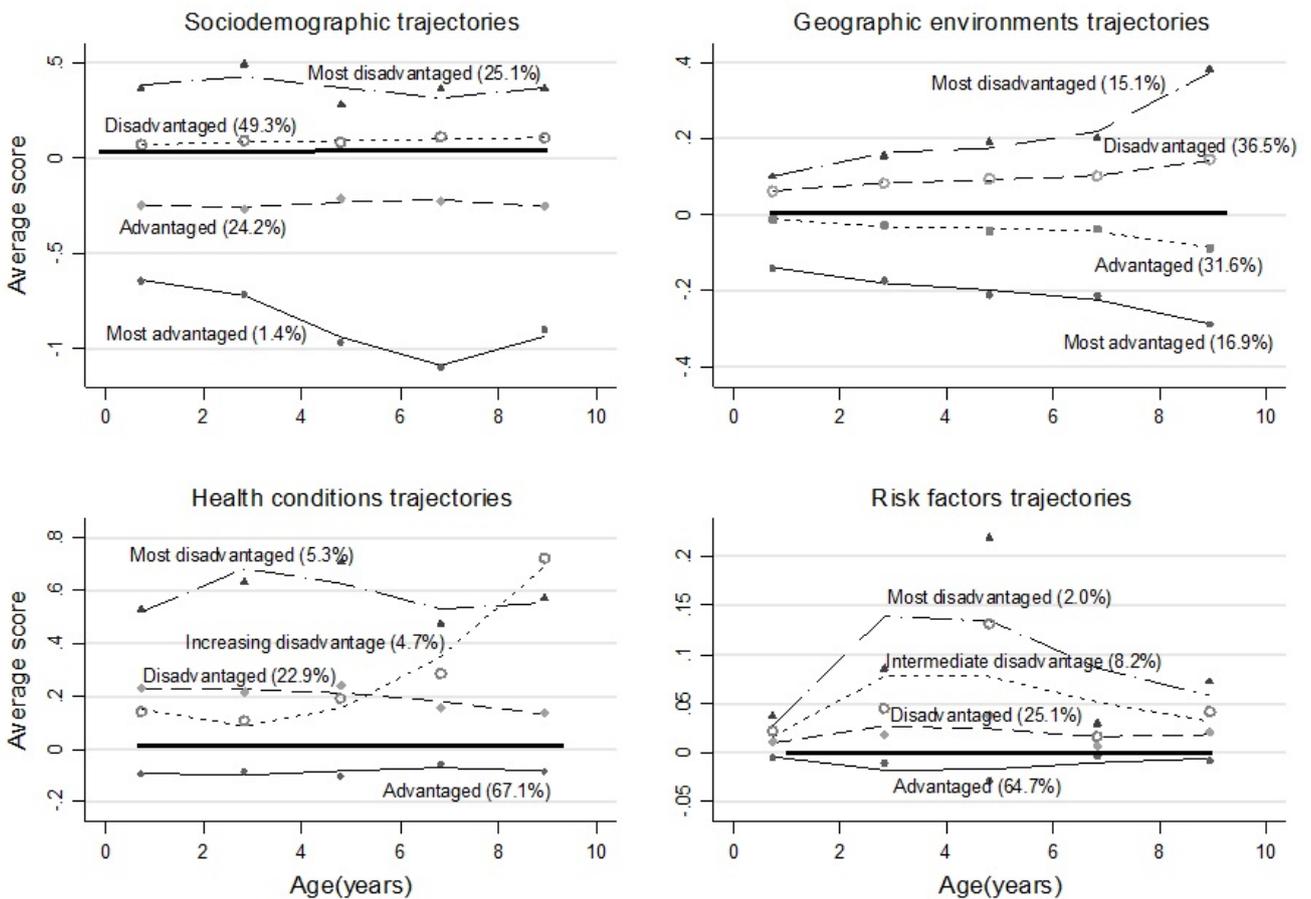


Figure 2. Pathways of overall disadvantage from 0-1 to 8-9 years. Higher average scores indicate higher levels of disadvantage.

### Pathways of disadvantage for each lens

Around one in three children (36.3 per cent) were in the most disadvantaged pathway for at least one lens. This included 23.7 per cent who were in the most disadvantaged pathway on one lens, and 12.6 per cent on two or more lenses. Different patterns of change over time were evident within each lens (Figure 3). We observed that:

- children’s sociodemographic pathways were fairly stable over time
- different geographic environments pathways showed a pattern of fanning over time. Those who started in the most advantaged geographic environments tended to become even more advantaged over time, and vice versa.
- for most children, levels of disadvantage on the health conditions lens were fairly stable over time. A small group of children (4.7 per cent) experienced an increase (i.e. worsening) in disadvantage over time.
- when applying the risk factor lens, differences between the pathways seemed to be largest during the early school years. Children who began as most disadvantaged were always the most disadvantaged in terms of their relative position.



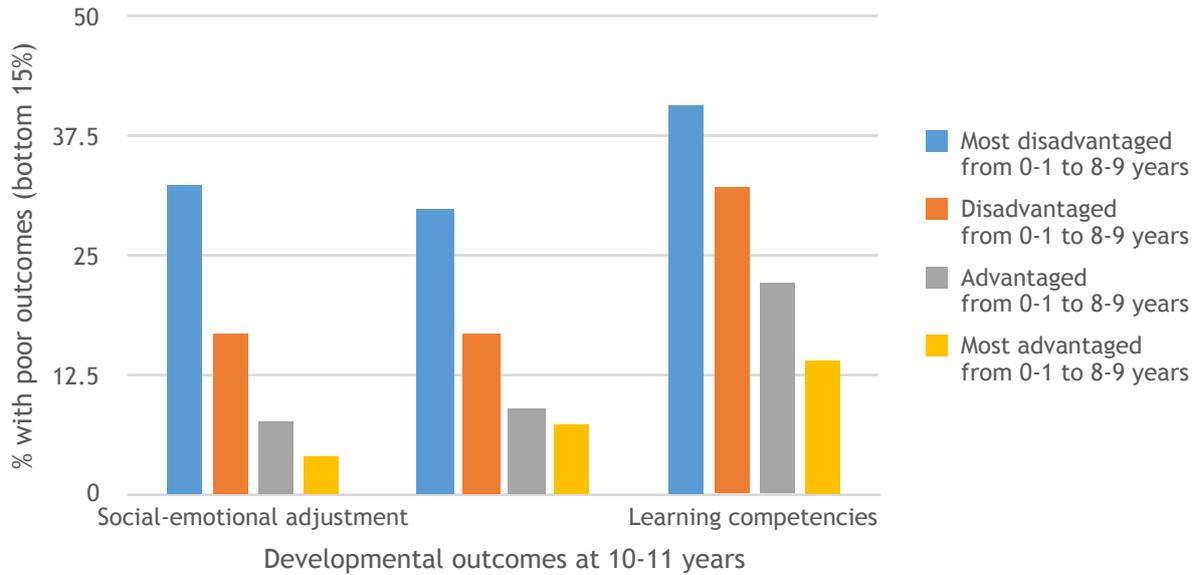
**Figure 3.** Pathways of disadvantage within the sociodemographic, geographic environments, health conditions and risk factors lenses from 0-1 to 8-9 years. Higher average scores indicate higher levels of disadvantage.

## How does disadvantage affect children’s development?

Disadvantage places children at greater risk of poorer developmental outcomes across three broad domains<sup>9</sup>:

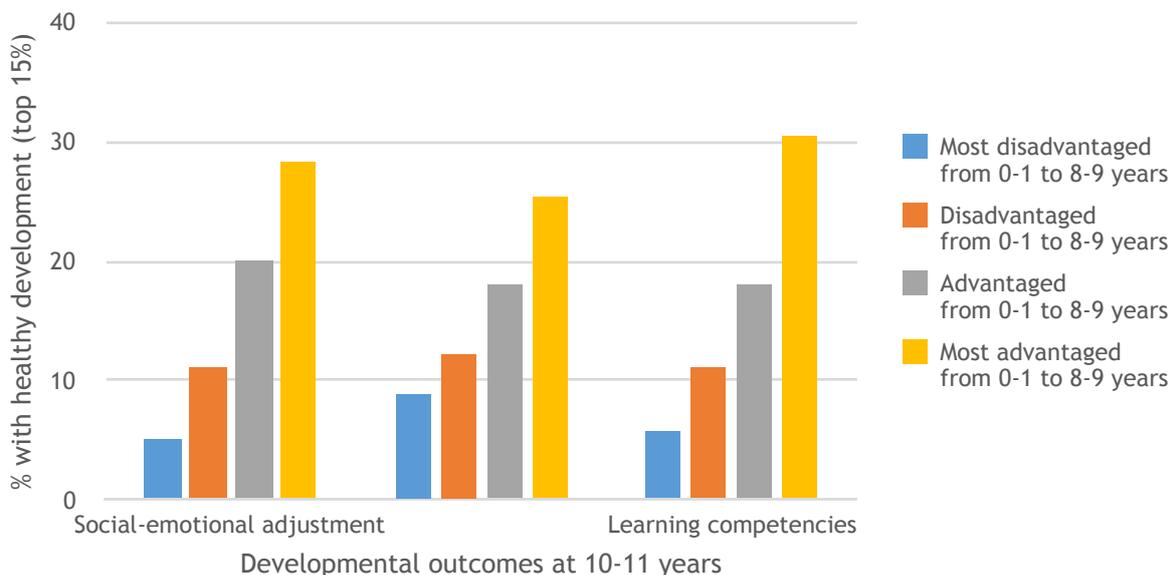
- Social-emotional adjustment (e.g. emotional problems)
- Physical functioning (e.g. motor skills)
- Learning competencies (e.g. literacy and numeracy).

Children on more disadvantaged pathways overall were at higher risk of poor development by the time they were 10-11 years of age. This pattern was seen for each of the three domains of development (see Figure 4).



**Figure 4.** The proportion of children with poor developmental outcomes (bottom 15%) in late childhood (10-11 years), according to their overall pathway of disadvantage.

For healthy development (the top 15 per cent), the opposite is evident when examining the impact of disadvantage on children’s outcomes (see Figure 5). A smaller proportion of disadvantaged children exhibit development in the optimal range.



**Figure 5.** The proportion of children with healthy development (top 15%) in late childhood, according to their overall pathway of disadvantage.

Some lenses of disadvantage more strongly correlated with particular developmental outcomes (see Table 2). For example, only pathways of disadvantage in the sociodemographic lens were associated with poorer learning competencies, after other lenses were accounted for. This finding suggests that disadvantage does not affect all aspects of child development in the same way.

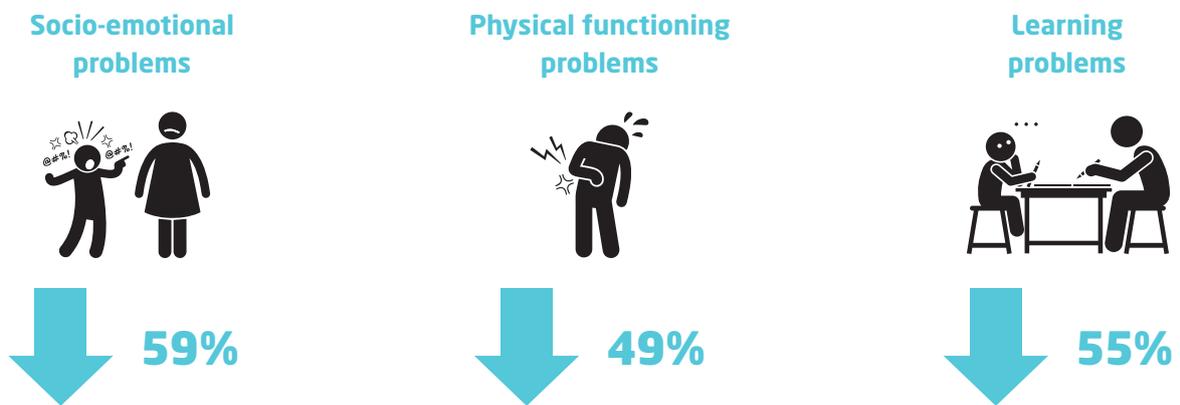
**Table 2.** Summary of where increased risk of poor developmental outcomes were associated with being on a more disadvantaged pathway for each lens.

Disadvantage lens	Poor socio-emotional adjustment	Poor physical functioning	Poor learning competencies
Sociodemographic factors	↑	↑	↑
Geographic environments	↑		
Health conditions	↑	↑	
Risk factors	↑		

### Potential benefits of reducing disadvantage

The findings suggest that reducing disadvantage early will be of substantial benefit to children’s development: reducing socio-emotional problems by up to 59 per cent; physical function problems by up to 49 per cent; and learning problems by up to 55 per cent (see Figure 6).

### The projected benefits of addressing disadvantage early



**Figure 6:** The project benefits of addressing disadvantage early.

# Implications

Some children have a high and enduring exposure to disadvantage that has a substantial impact on their development. Knowing how disadvantage arises and its impact on children's development can help policy makers to address disadvantage and better utilise the existing social, health and education infrastructure to reduce its impact on children's development.

This study helps to reveal the extent and impact of disadvantage on children's development. The findings indicate that some aspects of disadvantage are particularly relevant for some developmental outcomes, which may inform targeted strategies for reducing exposure to disadvantage.

While some factors, such as sociodemographic characteristics, may be difficult to modify, others such as geographic environments, health conditions and risk factors may be more modifiable. Policy efforts directed at minimising children's exposure to early disadvantage are extremely important, and the findings suggest that successfully addressing disadvantage early could potentially have a significant impact on the reduction of socio-emotional, physical functioning and learning problems.

## Next steps

The study examined the association between broad lenses of disadvantage and child development. We were not able to determine how disadvantage directly causes poor developmental outcomes, or how to best intervene. Our next phase of research will identify what modifiable factors hold the best potential for reducing child inequities.

# For further information

## Details of the research papers

Goldfeld, S., O'Connor, M., Cloney, D., Gray, S., Redmond, G., Badland, H., Williams, K., Mensah, F., Woolfenden, S., Kvalsvig, A., & Kochanoff, A. (2018). Understanding child disadvantage from a social determinants perspective. *Journal of Epidemiology & Community Health*, 72, 223-229. doi:<http://dx.doi.org/10.1136/jech-2017-209036>

Goldfeld, S., O'Connor, M., O'Connor, E., Chong, S., Badland, H., Woolfenden, S., Redmond, G., Williams, K., Azpitarte, F., Cloney, D., & Mensah, F. (Accepted). More than a snapshot in time: Pathways of disadvantage over childhood. *International Journal of Epidemiology*.

Goldfeld, S., O'Connor, M., Chong, S., Gray, S., O'Connor, E., Woolfenden, S., Redmond, G., Williams, K., Mensah, F., Kvalsvig, A., & Badland, H. (in press). The impact of multidimensional disadvantage over childhood on developmental outcomes in Australia. *International Journal of Epidemiology*. doi:<https://doi.org/10.1093/ije/dyy087>

## About the Changing Children's Chances research project

The Changing Children's Chances research project will contribute to a greater understanding of the causes of inequities, including the potential for health and education systems to prevent inequities. To achieve this, powerful existing data and new analytic approaches will be used to examine the many contexts in which children and their families live and grow. We are working collaboratively with policymakers and practitioners to find the most promising short to medium-term leverage points for interventions to reduce child inequities in Australia.

Changing Children's Chances is a partnership initiative bringing together leading equity researchers and policy experts from the University of Melbourne, Flinders University, Murdoch Children's Research Institute, Sydney Children's Hospital Network, The University of New South Wales, University of Otago, Australian Department of Education and Training, Victorian Department of Education and Training, Brotherhood of St. Laurence and the Royal Melbourne Institute of Technology.

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For more information about the project visit: [www.rch.org.au/ccch/changing-childrens-chances](http://www.rch.org.au/ccch/changing-childrens-chances)

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