MINISTRY OF SOCIAL DEVELOPMENT
TE MANATŪ WHAKAHIATO ORA

12 February 2025

Tēnā koe

Official Information Act request

Thank you for your email of 10 December 2024, requesting the following research reports:

- *Material hardship of children in households with a disabled person, by Wilson, M., & McLeod, K.*
- *How much additional income is needed to address higher deprivation levels of children in households with disabled people? By Wilson, M., McLeod, K., & Godfrey, J. A.*

I have considered your request under the Official Information Act 1982 (the Act). Please find the requested reports enclosed with this letter.

I will be publishing this decision letter, with your personal details deleted, on the Ministry's website in due course.

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Ngā mihi nui

pp.

Anna Graham
General Manager
Ministerial and Executive Services

Material hardship of children in households with a disabled person

MINISTRY OF SOCIAL DEVELOPMENT
TE MANATŪ WHAKAHIATO ORA

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Disclaimer

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure which is carefully managed by Stats NZ. For more information about the Integrated Data Infrastructure please visit https://www.stats.govt.nz/integrated-data/.

The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the Integrated Data Infrastructure for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

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Contents

Executive summary 6

Key findings 9

Insights for policy and research 17

Introduction 22

Purpose 22

Background 22

Approach 26

Definitions 27

Strengths and limitations 31

Children in households with a disabled person 35

Number of disabled people in the household 35

Ages of disabled people in the household 36

Material hardship, income poverty, incomes, and housing costs for children with and without a disabled person in their household 39

The rate of material hardship 39

What material hardship looks like 48

Income-based poverty rates 54

Incomes and housing costs 58

Household and other characteristics for children with and without a disabled person in their household 63

Household size and composition 63

Housing 69

Geographic location and neighbourhood deprivation 72

The circumstances of adults in the household 74
Receipt of Disability Support Services 77
Receipt of benefits and other transfers 79
Receipt of Ongoing Resource Scheme funding 86
Children's characteristics 87
Material hardship rates by adults' paid employment and sources of income 89
Non-employment and/or transfers the main source of income 89
Employment and/or market income the main source of income 92
Main benefit receipt compared with ACC receipt 93
Insights for policy and research 95
References 103
Appendix 1: Strengths and limitations 108
Appendix 2: What material hardship looks like by ethnic group 114
Appendix 3: Child-related restrictions by ethnic group 119
Appendix 4: Rural-urban location 124

Executive summary

The New Zealand Government uses three primary measures to track progress on reducing child poverty. Stats NZ reports on these measures each year.

- One measure tracks the proportion of children aged under 18 who live in households experiencing material hardship. This is based on a set of questions about whether the household can afford items that most people regard as essential, or whether they experience financial stress or vulnerability.
- Two measures track the proportions of children aged under 18 in households with income below income-based poverty lines. These include a measure that looks at income before deducting housing costs, and a fixed-line measure that looks at income after deducting housing costs (relative to the baseline year ended June 2018).

These measures have been reported for children living in households with a disabled person since 2019/20. In that reporting, whether a person is disabled or not has been based on international Washington Group questions on functioning. These questions have been used to derive disability indicators where:

- people aged 18 or over are considered disabled based on the amount of difficulty they have with seeing, hearing, walking or climbing stairs, remembering or concentrating, self-care, communication (expressive

and receptive), upper body activities, and affect (depression and anxiety)[1]

- children and young people aged 5 to 17 are considered disabled based on the amount of difficulty they have with seeing (even with glasses), hearing (even with hearing aids), walking, feeding or dressing themselves, communicating, learning, remembering, concentrating, accepting change, controlling their own behaviour, making friends, anxiety, or depression[2]
- children aged 2 to 4 are considered disabled based on the amount of difficulty they have with seeing (even with glasses), hearing (even with hearing aids), walking, manual dexterity, communicating, learning, playing, or controlling their own behaviour.[3]

Children living in households where there is a disabled person according to these indicators (either the child themselves or another person) account for just over half of all children living in households experiencing material hardship.

The aim of this study is to help build a better understanding of this over-representation to inform possible policy responses. It provides a data resource that:

- looks at differences between children in households with a disabled person (adult or child) and other children who do not live in households with a disabled person, by ethnic group

[1] The 'Washington Group Short Set on Functioning – Enhanced' indicator.

[2] The 'Washington Group / UNICEF Child Functioning Module – Ages 5-17 Years' indicator.

[3] The 'Washington Group / UNICEF Child Functioning Module – Ages 2-4 Years' indicator.

- allows children in different ethnic groups living in households with a disabled person to be compared.

We use combined data from three years of the Statistics New Zealand (Stats NZ) Household Economic Survey (survey years 2019/20, 2020/21, and 2021/22). These data are linked with administrative data on income support payments, employment and support services.

Stats NZ provides official statistics on child poverty as required under the Child Poverty Reduction Act. Because we pool data across multiple years[4] and because of slight variations in approach, we obtain slightly different child poverty rates to the Stats NZ official statistics.

The study is limited to providing a descriptive data resource. It does not explore causal relationships. Nor does it explore independent associations (for example, between having a disabled household member and material hardship) after holding constant all other measurable factors (such as differences in education level or employment).

Alongside this study, a multi-strand qualitative study has invited disabled people, people with long-term health conditions, and people in families and whānau with a disabled person or a person with a long-term health condition to share their experiences. These interviews provide deeper insights into the context of peoples' lives, the costs they face, and their income support experiences.

Other studies in the work programme:

- look at the feasibility of using the Household Economic Survey data to estimate how much extra income households with a disabled person

[4] In addition, our analysis did not include revisions to the 2021/22 Household Economic Survey data made by Stats NZ in March 2024.

would need to have the same living standards as households with no disabled person, on average

- examine awareness and understanding of the income support that is available to help with extra costs for disabled people and people with disabled children.

This report describes the results from the present study. Accompanying tables allow readers to look in more detail at the data behind the results.

Key findings

Differences between groups highlighted in this summary are statistically significant differences.

Based on the disability measure used in child poverty reporting, almost three in every ten children (29.2 percent, around 335,000 children) lived in a household with a disabled person:

- 14.2 percent lived with one or more disabled adults aged 18-64
- 1.4 percent lived with one or more disabled adults aged 65 or over
- 19.0 percent lived in a household with one or more disabled children
- 5.0 percent lived in a household with both one or more disabled children and one or more disabled adults.

Māori and Pacific children were more likely than children in other ethnic groups to live in a household with a disabled person.

The proportions of children in each ethnic group living in a household with at least one disabled person (adult or child) were:

- 38.5 percent for Māori children
- 36.4 percent for Pacific children
- 28.9 percent for European children
- 18.6 percent for Asian children, compared with
- 29.2 percent for all children.

Māori and Pacific children were more likely to live in multi-generational households with an older disabled person, and with multiple disabled people in their household.

Māori children were more likely than non-Māori children to live in a household with an older disabled person (2.2 percent compared with 1.3 percent). The proportion was 3.2 percent for Pacific children.

Māori children were more likely than non-Māori children to live in a household with two or more disabled people (13.0 percent compared with 6.9 percent). The proportion was 11.8 percent for Pacific children.

Children living in households with a disabled person (adult or child) were much more likely than other children to experience material hardship.

Compared to children in households with no disabled person, children in households with a disabled person were 3.1 times more likely to be in a household experiencing material hardship (21.2 percent compared to 6.9 percent).

In households with a disabled person, Pacific and Māori children had much higher rates of material hardship than children in other ethnic groups.

The proportions of children in households with a disabled person in a household experiencing material hardship were:

- 35.8 percent for Pacific children
- 28.8 percent for Māori children
- 17.5 percent for European children
- 11.5 percent for Asian children, compared with
- 21.2 percent for all children.

The difference in material hardship rates, comparing those in and not in households with a disabled person, was less pronounced for Māori and Pacific children.

This was partly due to a higher rate of material hardship among Māori and Pacific children not in households with a disabled person.

Compared to Māori children in households with no disabled person, Māori children in households with a disabled person were 2.0 times more likely to be in a household experiencing material hardship (28.8 percent compared to 14.1 percent).

Compared to Pacific children in households with no disabled person, Pacific children in households with a disabled person were 1.8 times more likely to be in a household experiencing material hardship (35.8 percent compared to 19.8 percent).

In general, the more disabled people in a child's household, the more likely it was that their household was in material hardship.

The material hardship rate for children was:

- 17.4 percent where there was one disabled person in the household,
- 30.6 percent where there were two or more disabled people in the household.

Each of the 17 restrictions that are used to measure material hardship were more likely to occur for children in a household with a disabled person (adult or child) than for other children.

The measure of material hardship used for child poverty monitoring is the percentage of children living in households reporting six or more of 17 restrictions that indicate that they can't afford items that most people regard as essential or experience financial stress and vulnerability.

Children living in a household with a disabled person were more likely to have each of these 17 restrictions compared to other children. Their households were, for example:

- 2.8 times more likely to report putting off visits to the doctor a lot to keep costs down (16.3 percent compared to 5.8 percent)
- 1.7 times more likely to report putting off visits to the dentist a lot to keep costs down (37.9 percent compared to 22.0 percent)
- 2.0 times more likely to report that they would be unable to pay an unexpected and unavoidable expense of $500 within a month without borrowing (35.0 percent compared to 17.9 percent).

Children in households with a disabled person were more likely than other children to experience severe material hardship, defined as experiencing nine or more of the 17 restrictions.

Comparing with children in households with no disabled person, children in households with a disabled person were 3.7 times more likely to be in a household experiencing severe hardship (9.6 percent compared to 2.6 percent).

For Māori children in a household with a disabled person, the proportion in severe hardship was 13.8 percent. This compared to 7.4 percent for non-Māori children in a household with a disabled person.

For Pacific children, the proportion in severe material hardship was 15.8 percent.

In addition, more children aged 6-17 in households with a disabled person faced child-related expenditure restrictions and needed to economise compared to other children in this age group.

For example, they were:

- 3.0 times more likely to not have fresh fruit and vegetables daily (7.9 percent compared to 2.6 percent)
- 2.6 times more likely to have had to go without music, dance, kapa haka, art, swimming or other special interest lessons a lot to keep down costs (7.5 percent compared to 2.9 percent).

Children living in a household with a disabled person were more likely to be living in poverty measured using the income-based poverty measures, but this over-representation was not as marked as it was for material hardship.

Children in households with a disabled person were:

- 1.5 times more likely to be in a household with income below the before-housing-costs poverty line (15.7 percent compared to 10.3 percent)
- 1.2 times more likely to be in a household with income below the after-housing-costs poverty line (20.7 percent compared to 16.6 percent).

They accounted for:

- 38.6 percent of all children in households with income below the before-housing-costs poverty line
- 33.9 percent of all children in households with income below the 'after-housing-costs' poverty line.

In contrast they accounted for 55.9 percent of children in households experiencing material hardship.

Average household income was only slightly lower for children in households with a disabled person than for children in households with no disabled person.

- Average household disposable income (after tax and transfers such as benefits and Working for Families tax credits) for children in a household with a disabled person was 94.2 percent of that for other children ($103,017 compared with $109,386 in 2022-dollar terms).
- Average equivalised household disposable income (after tax and transfers *and* after adjusting for household size and composition) for children in a household with a disabled person was 85.4 percent of that for other children ($40,938 compared with $47,915 in 2022-dollar terms).

Although average household disposable income was only slightly lower, the effect of equivalisation increased the size of the income gap. This indicates the income needed to meet the needs of more people, reflecting the larger average size of households with disabled people.

For context, one-person households are the reference point for equivalisation. This means that $40,938 should be thought of relative to the needs of a one-person household in terms of value.

While income support payments that help with additional costs experienced by households with a disabled person are included in income, equivalisation does not adjust for these costs. This means that less of the equivalised disposable income will be available for spending on other everyday needs in households with a disabled person, on average.

Results suggest economising on housing and home heating costs.

Children in households with a disabled person were more likely live in housing that was crowded (19.6 percent compared to 10.5 percent). They were also more likely to live in a household that reported putting up with feeling cold to save on heating costs.

Children in households with a disabled person (adult or child) were more likely to have a range of other circumstances that are associated with higher-than-average rates of material hardship.

Compared to other children, children in households with a disabled person were more likely to:

- live in a household made up of a sole parent and their children, usually a sole mother
- be in a household that was renting or in social housing
- live outside regions containing the main centres, and in more deprived neighbourhoods
- live with adults with low educational qualifications or no paid employment, and/or who were receiving income support payments.

Only a small proportion of children in households with a disabled person lived in households where disability-related income support payments and support services were received.

Looking at children in households with a disabled person in any age group:

- 12.0 percent were in a household where Disability Allowance was received
- 8.1 percent were in a household where a child or adult had received Disability Support Services.

Looking at children in households with a disabled child:

- 22.9 percent were in a household where Child Disability Allowance was received
- 8.0 percent were in a household where a child was receiving Ongoing Resource Scheme funding.

Material hardship rates were particularly high for children in households where no adults were in paid employment.

Where no adults were in paid employment, children in households with a disabled person had a material hardship rate of 53.5 percent, compared with 31.6 percent for other children in these circumstances.

Children in households where no adults were in paid employment with a disabled person made up:

- 15.9 percent of children in a household with a disabled person
- 40.1 percent of children in a household with a disabled person in material hardship
- 22.4 percent of all children in material hardship.

Where no adults were in employment, rates of material hardship for children in households with a disabled person were broadly similar across ethnic groups.

Māori children in a household with a disabled person where no adult was employed had a material hardship rate of 55.4 percent compared to 51.0 for non-Māori children in these circumstances. For Pacific children, the proportion was 61.0 percent. Differences between these rates were not statistically significant.

Among children in households where adults were in paid employment, being in a household with a disabled person substantially increased the risk of material hardship.

Children in a household with a disabled person where at least one adult was employed had a material hardship rate of 15.1 percent compared with 4.6 percent for other children in a household where adults are employed.

Among children in households with a disabled person, those in households where at least one adult was employed were more numerous than those in jobless households.

This meant that despite having a lower rate of material hardship, the children in households where at least one adult was employed accounted for a larger share of children in material hardship than the children in households where no adults were in employment.

Children in a household with a disabled person where at least one adult was employed made up:

- 84.1 percent of children in a household with a disabled person
- 59.9 percent of children in a household with a disabled person in material hardship
- 33.5 percent of all children in material hardship.

Where there were adults in paid employment, Māori and Pacific children in households with a disabled person had higher rates of material hardship than European and Asian children in households with a disabled person.

Māori children in a household with a disabled person where adults were employed had a material hardship rate of 20.2 percent compared with 12.9 percent for non-Māori children in these circumstances. For Pacific children, the proportion was 30.0 percent.

Insights for policy and research

So long as they lead to improved income after factoring in the costs of working such as transport costs and costs of alternative care arrangements, policies that improve support for paid employment and improved earnings of disabled adults and adults who care for disabled children and adults are likely to reduce income-based child poverty rates and material hardship.

In households with children where there is a disabled person, there are higher than average rates of receipt of main benefits and lower than average rates of paid employment among the adults.

Policies that support employment and improved earnings are likely to reduce income-based child poverty and material hardship rates if they lead to improved income, after taking into account the costs of working.

Such policies need to be mindful that many children living in households with a disabled person are in families where there is only one parent, generally a sole mother, to meet the family's care and economic needs.

Almost three in ten children in households with a disabled person live with a sole parent. Support for employment needs to be flexible and tailored. Employment may not always be possible or economically feasible, especially where the disabled person is the sole parent or a child has a disability requiring significant additional care and attention.

Policies that support increased paid employment and earnings, on their own, will not fully address the high rates of material hardship among children in households with a disabled person.

Most children in households with a disabled person and in material hardship live with adults who are employed. In most cases market income is already the household's main source of annual income. Average household incomes of children in households with a disabled person, although lower, are already fairly close to the average household incomes of other children.

An important factor likely to contribute to high rates of material hardship among children in households with a disabled person is the extra costs households with a disabled person face.

There is a larger gap in material hardship than in average incomes and income-based poverty rates comparing children in households with a disabled person to other children. This indicates that other factors, in addition to lower incomes, contribute to the higher rates of material hardship among children in households with a disabled person.

Additional costs associated with disability are likely to be an important factor. International and New Zealand evidence points toward households with a disabled person having extra costs that can be sizeable. These costs reduce the resources available to spend on other essential items.

Improving income support payments such as Disability Allowance and Child Disability Allowance and Whaikaha-funded supports that help with the additional costs of disability would be a useful focus for future child poverty reduction efforts.

Policies that reduce or compensate for additional costs would be useful to explore as mechanisms for reducing rates of material hardship among children and addressing inequities in material hardship rates.

For most children in households with a disabled person, there is no receipt of disability-related income support payments and support services in the household. This is important because it implies that simply increasing the

generosity of these payments and supports for people currently in receipt of them would not be enough to address the over-representation of children in households with a disabled person among children in material hardship.

More research on rates of receipt of health- and disability-related income support payments and support services would be useful.

Our analysis could be extended by further research that looks in more detail at rates of receipt for those with potential eligibility, taking into account income tests and other qualifying criteria. This could include estimating rates of receipt at the individual level. This would be important to do in order to understand equity of receipt given that Māori and Pacific children would be expected to have more potentially eligible people in their households.

This would provide a better understanding of whether increasing rates of receipt of existing income support payments and support services, and improving equality of receipt of these supports across groups, could contribute to meeting child poverty reduction goals.

Households with a disabled person are more likely than other households to be crowded and economise on home heating. This is likely to be harmful to children's health and development, and to the health and wellbeing of other household members.

This suggests that policies that reduce or compensate for additional costs could improve the health and wellbeing of disabled children and their families and whānau, in addition to reducing material hardship.

Addressing other factors that contribute to inequalities between Māori and non-Māori in children's experiences of material hardship is also important.

Policies could include, for example, improving support for the employment of Māori disabled people, and for Māori who care for disabled children and adults, enabling Māori-led employment strategies, and reducing

inequalities in housing and in access to health and other services faced by Māori disabled people.

Pacific children need to be a key population for focus given their very high rates of material hardship.

Policies that address housing, educational, economic, and health and disability inequalities experienced by Pacific people will also help address large inequities in Pacific children's experiences of material hardship. This includes policies that are Pacific-led and targeted for the unique cultural needs of different Pacific ethnic groups.

The over-representation of children in households with a disabled person among children in material hardship could be explored further.

Our descriptive results highlight associations between whether there is a disabled person in a household and factors such as adults' education levels, employment and housing. These factors also have independent associations with material hardship. Further research could seek to disentangle the independent effects of having a disabled person in the household on children's risk of material hardship from the effects of these other factors, and explore causal relationships.

In addition, detailed expenditure data collected in the Household Economic Survey could be analysed to explore the relationship between costs incurred by households with and without a disabled person, and their income and experiences of material hardship.

The next step for our research is to look at the feasibility of estimating how much extra income households with a disabled person would need to have the same living standards as households with no disabled person, on average.

Internationally, research studies have estimated the scale of the additional costs of disability using statistical methods. These studies aim to provide estimates that can help inform:

- policy settings for income support payments and other publicly-funded supports
- methods used to equivalise incomes when tracking income-based poverty measures.

The statistical methods used in international studies look at how much more income families with a disabled person would need to have the same standard of living as similar families without a disabled person. The amount arrived at can be taken as an indication of the average additional costs families with a disabled person have.

We will look at the feasibility of producing such estimates for New Zealand.

Introduction

Purpose

This study explores the data behind child poverty monitoring results that show high rates of material hardship for children living in a household where there is one or more disabled person.

It provides a data resource for children overall, and for Māori and non-Māori children. This helps provide evidence on the degree to which there is protection and equitable outcomes for Māori. Data are also presented for European, Pacific and Asian children. Sample size does not allow data to be presented for children in different Pacific ethnic groups, or for children in Middle Eastern, Latin American, African, or other ethnic groups.

Background

The Child Poverty Reduction Act (2018) requires current and future Governments to set three-year and ten-year targets for reducing child poverty. It also establishes measures for tracking progress on reducing child poverty. This includes reporting on material hardship and income-based poverty measures from the annual Household Economic Survey (HES) (Department of Prime Minister and Cabinet, 2022).

Statistics New Zealand's (Stats NZ's) reporting for the year ended June 2023 showed that one in five children in households with a disabled person lived in a household experiencing material hardship. This rate had not changed since reporting for year ended June 2020, the first year questions were asked about whether there were disabled people in the household.

In the year ended June 2023, children in households with a disabled person were three times more likely to experience material hardship than children in households with no disabled people. They accounted for just

over half of all children living in a household experiencing material hardship.

Across all children, the proportion in a household experiencing material hardship was one in five for Māori children and one in four for Pacific children in the year ended June 2023. These rates were substantially higher than the overall average rate of one in eight children experiencing material hardship.

Little of the standard output from Stats NZ allows results for Māori disabled people to be compared with those for non-Māori disabled people. One of the aims of this study is to address this evidence gap for child poverty data.

Our study adds to the research and data resources available that contain data for disabled people (Box 1).

Box 1: Research and resources with data for disabled people

Stats NZ's 1996, 2001, 2006 and 2013 Disability Surveys provide data on the characteristics of disabled people, including the nature and cause of impairments, the type of support they need, and how well they are faring compared with non-disabled people (Stats NZ, 2014). Results from the 2023 Disability Survey will be released in November 2024.

The Ministry of Health's annual Health Survey reports on measures for disabled adults and children (Ministry of Health, 2023). Data for disabled people are also available from the Household Labour Force Survey, the General Social Survey and the Household Economic Survey (Office of Disability Issues, 2022). Stats NZ (2020) compares a range of housing, economic, and social outcomes from selected survey data sources and the 2018 Census. Analysis of Household Economic Survey data by Stephens (2022) includes breakdowns of poverty rates for families with disabled people.

In 2022, Ingham et al. (2023) conducted an accessible and culturally grounded survey with 7,230 adult participants that explored Māori health, wellbeing and disability. The survey uses a Kaupapa Māori Research methodology and was codesigned with tāngata whaikaha Māori (Māori with lived experience of disability). It includes Māori measures of disability.

Reports prepared for the Waitangi Tribunal inquiry Wai 2575 include analysis of data for Māori and non-Māori disabled people from Stats NZ's 1996, 2001, 2006 and 2013 Disability Surveys, SOCRATES (the Disability Support Services client database) and Blind Foundation data (Himona et al., 2019), and examine other data sources (King, 2019).

Murray (2018) presents unpublished data for disabled children aged 0-14 from the 2013 Disability Survey and data from the Ministry of Education's Ongoing Resourcing Scheme (for students with high learning support

needs). Wynd (2015) collates available data on disabled children and receipt of disability-related income support payments including Child Disability Allowance. A working paper prepared for the Expert Advisory Group on Solutions to Child Poverty (2012) provides an overview of the relationship between disability and child poverty, and disability data available at that time.

A report and associated interactive web application prepared for the IHC by Beltran-Castillon and McLeod (2023) compares outcomes for intellectually disabled people and other New Zealanders.

A research snapshot from the Growing Up in New Zealand (GUiNZ) longitudinal study looks at the characteristics and experiences of disabled children and children with a disabled person in their family (Marks et al., 2023).

Approach

We combine data from the first three years of the Household Economic Survey that asked questions about whether people are disabled ((2019/20, 2020/21, and 2021/22).

Combining data across years provides a sample of 103,383 people[5] living in 39,777 households.[6] This allows us to look at smaller population sub-groups than we would be able to if we used a single year of the Household Economic Survey. We re-weight the data to represent the average New Zealand population across the three years.

We then look at differences between children in households with a disabled person (either the child or another person) and other children in households without a disabled person. Differences between children in different ethnic groups in households with a disabled person are also examined.

Some of the comparisons are based on data collected from the household in the Household Economic Survey. Other comparisons are based on administrative data able to be linked with the Household Economic Survey in the Stats NZ Integrated Data Infrastructure.

The Integrated Data Infrastructure is a database containing linked individual-level data (Milne et al., 2019). The data comes from a range of government and non-government administrative and survey sources and

[5] 40,707 in the year ended June 2020; 41,136 in the year ended June 2021; and 21,540 in the year ended June 2022. The smaller sample in the year ended June 2022 reflects reduced data collection for that year due to COVID-19 alert level restrictions, lockdowns, and other disruptions.

[6] 15,636 in year ended June 2020; 15,654 in year ended June 2021; and 8,487 in the year ended June 2022.

are probabilistically linked and de-identified before being made available for approved research.

Administrative data in the Integrated Data Infrastructure allow us to look at, for example, the income and employment status of adults in the household and receipt of income support payments and disability-related services.

Accompanying tables provide the full set of results produced.

Definitions

Disability

Since 2019/20, international Washington Group questions on functioning have been asked of all Household Economic Survey respondents aged two and over.[7] These are used to derive disability indicators where:

- people aged 18 or over are considered disabled based on the amount of difficulty they have with one or more of the following: seeing (even with glasses), hearing (even with hearing aids), walking or climbing stairs, remembering or concentrating, self-care, communication (expressive and receptive), upper body activities, and affect (depression and anxiety) – The 'Washington Group Short Set on Functioning – Enhanced' indicator (Washington Group, 2020a)
- children and young people aged 5 to 17 are considered disabled based on the amount of difficulty they have with one or more of the following: seeing (even with glasses), hearing (even with hearing aids), walking, feeding or dressing themselves, communicating,

[7] The Washington Group questions were designed to provide comparable data cross-nationally for populations living in a variety of cultures with varying economic resources.

learning, remembering, concentrating, accepting change, controlling their own behaviour, making friends, anxiety, or depression – The 'Washington Group/UNICEF Child Functioning Module – Ages 5-17 Years' indicator (Washington Group, 2020b)

- children aged 2 to 4 are considered disabled based on the amount of difficulty they have with one or more of the following: seeing (even with glasses), hearing (even with hearing aids), walking, manual dexterity, communicating, learning, playing, or controlling their own behaviour – The 'Washington Group/UNICEF Child Functioning Module – Ages 2-4 Years' indicator (Washington Group, 2020c).

These indicators are not suitable for counting the disabled population. Their main intended use is to support comparisons between groups, rather than support discussion of the size of those groups. The official measure of the disabled population is derived from the Disability Survey.

Child poverty

We examine the three primary child poverty measures set out in the Child Poverty Reduction Act (2018) and used in Stats NZ's child poverty monitoring.

These include a measure of material hardship and two income-based poverty measures. The methods Stats NZ uses to calculate these measures is set out in more detail in Stats NZ (2024).

Material hardship

The measure of material hardship is the percentage of children aged under 18 living in households reporting six or more of 17 items.[8] These items are based on questions in the Household Economic Survey that ask about four types of restrictions for the respondent or household as a whole:

- enforced lack of essentials
- economising, cutting back or delaying purchases 'a lot' (because money was needed for other essentials, not just to be thrifty or to save for a trip or other non-essential)
- being in arrears for expenses more than once in last 12 months (because of shortage of money at the time, not through forgetting)
- experiencing financial stress and vulnerability.

One randomly selected adult in the household is asked the questions about these restrictions.

The Household Economic Survey also asks this adult whether their income meets their everyday needs. We present the proportion reporting that they do not have enough money to meet their everyday needs.

Income-based child poverty monitoring measures

The income-based measures examine the equivalised disposable income of the household. This means the household income, after tax, and after adjusting for the number of people in the household and their ages.

[8] See page 30 of Perry (2022) and Figure 12 below for the list of items.

The two income-based measures that are primary measures of child poverty are:

- the percentage of children aged under 18 living in households with less than 50 percent of median equivalised disposable household income before housing costs are deducted
- the percentage of children aged under 18 living in households with less than 50 percent of median equivalised disposable household income after housing costs are deducted (where the median is calculated for the 2017/2018 base financial year and then adjusted for inflation using the household living-costs price index).

The medians are calculated across all households, not just households with children.[9]

Stats NZ provides official statistics on child poverty as required under the Child Poverty Reduction Act. Because we pool data across multiple years and because of slight variations in approach,[10] we obtain slightly different child poverty rates to the Stats NZ official statistics.

[9] Specifically, the medians are calculated from the total person population, after household equivalised disposable incomes have been applied to all members of a household.

[10] We only include people we have material wellbeing responses for in our analysis so that the population analysed is the same across the material hardship and income-based poverty measures. In contrast, Stats NZ includes people for whom there is no material wellbeing response in the sample they calculate income-based poverty rates for. In calculating the baseline year poverty threshold for the after-housing-costs measure, we use data from the Household Economic Survey only. In contrast, Stats NZ uses pooled data from the Household Economic Survey and the Household Labour Force Survey. In addition, our analysis does not include revisions to the 2021/22 Household Economic Survey data made by Stats NZ in March 2024.

Strengths and limitations

It is important to acknowledge that the data and measures available, and our analysis of them, all have strengths and limitations. These are summarised in Box 2 and discussed in more detail in Appendix 1.

Box 2: Strengths and limitations of this study

The combined Household Economic Survey data:

Strengths:

- large sample size and a consistent question set over time
- a rich source of information on the composition of households and their economic circumstances and whether household members are disabled.

Limitations:

- the survey is cross-sectional so cannot provide information on the length of time households have been in material hardship or income poverty (note that work is underway by Stats NZ to measure persistent income poverty)
- estimates are based on sample data and are therefore subject to sampling error which introduces imprecision, particularly for small population groups
- there is potential for non-response bias due to uneven participation across groups
- although weighting seeks to address uneven participation across groups, some detailed counts (eg. by main benefit type) may be

affected by differences in response rates for which the weighting is unable to correct[11]

- questions focus on the household based on co-residence and misses relationships of care and financial support for people who do not reside in the same household
- results relate July 2019 to June 2022, reflect the economic, social and service landscape of that period, and may not be generalisable to other periods
- 2021/22 was a time of peak disruptions to caring arrangements, access to services, mental health, and economic life due to Covid-19
- sample size is not large enough to present results for children in different Pacific ethnic groups, or for children in Middle Eastern, Latin American, African, or other ethnic groups, or to examine whether households included children in care
- includes no information on whether people in the household are carers
- does not capture factors such as attitudes, spending priorities, or debt repayments which can influence measured poverty rates
- includes no Māori measures of disability or connection to culture
- while the survey includes information on the nature and severity of functional limitations as indicated by answers to the Washington Group question set, these data are not made available for analysis in the Integrated Data Infrastructure.

[11] The accompanying tables should not, therefore, be used as a data source for counts of children included in main benefits. Ministry of Social Development data are the official source for these counts. (See the 'Other – last 5 years' table in National Level Data Tables available at https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/benefit/index.html.)

Linkage with administrative data in the Integrated Data Infrastructure

Strengths:

- allows examination of characteristics and receipt of income support payments and services not captured by the Household Economic Survey while avoiding non-response and recall bias.

Limitations:

- data linking is generally probabilistic and some errors and missed links are inevitable with some known biases
- does not provide all the measures that are of interest.

The poverty measures

Strengths:

- standardised definitions that allow comparisons with other statistics and research.

Limitations:

- the measures assume that there is resource sharing across members of the household which will not always be the case (for example a family and unrelated adults living in the same household may not share resources)
- equivalence scales do not take account of disability-related costs
- material hardship questions have been developed within a Eurocentric and non-disabled world view and results may be subject to some bias depending on how different socio-cultural groups and disabled versus non-disabled people conceive of everyday consumption needs and normal spending constraints.

The measures of disability

Strengths:

- a standardised definition that allows comparisons with other statistics and research
- good at picking up age-related impairments.

Limitations:

- not developed to capture Māori or Pacific concepts of disability
- questions may have different responses for different groups due to differences in cultural or age- or gender-specific norms
- does not capture data on disabled people with functional limitations or impairments not captured by the questions
- may miss those with fluctuating levels of impairment
- provides no information on whether impairment is permanent or transient
- age of onset and severity of disability not captured.

Our analysis

Strengths:

- a new data resource that fills evidence gaps.

Limitations:

- does not explore independent associations after holding other factors constant
- unable to say anything about causal relationships between disability and material hardship.

Children in households with a disabled person

The section sets out the proportion of children who live in households with a disabled person and examines the number and ages of disabled people in their households.

Number of disabled people in the household

Based on the disability indicators used in child poverty reporting, almost three in every ten children live in a household with a disabled person

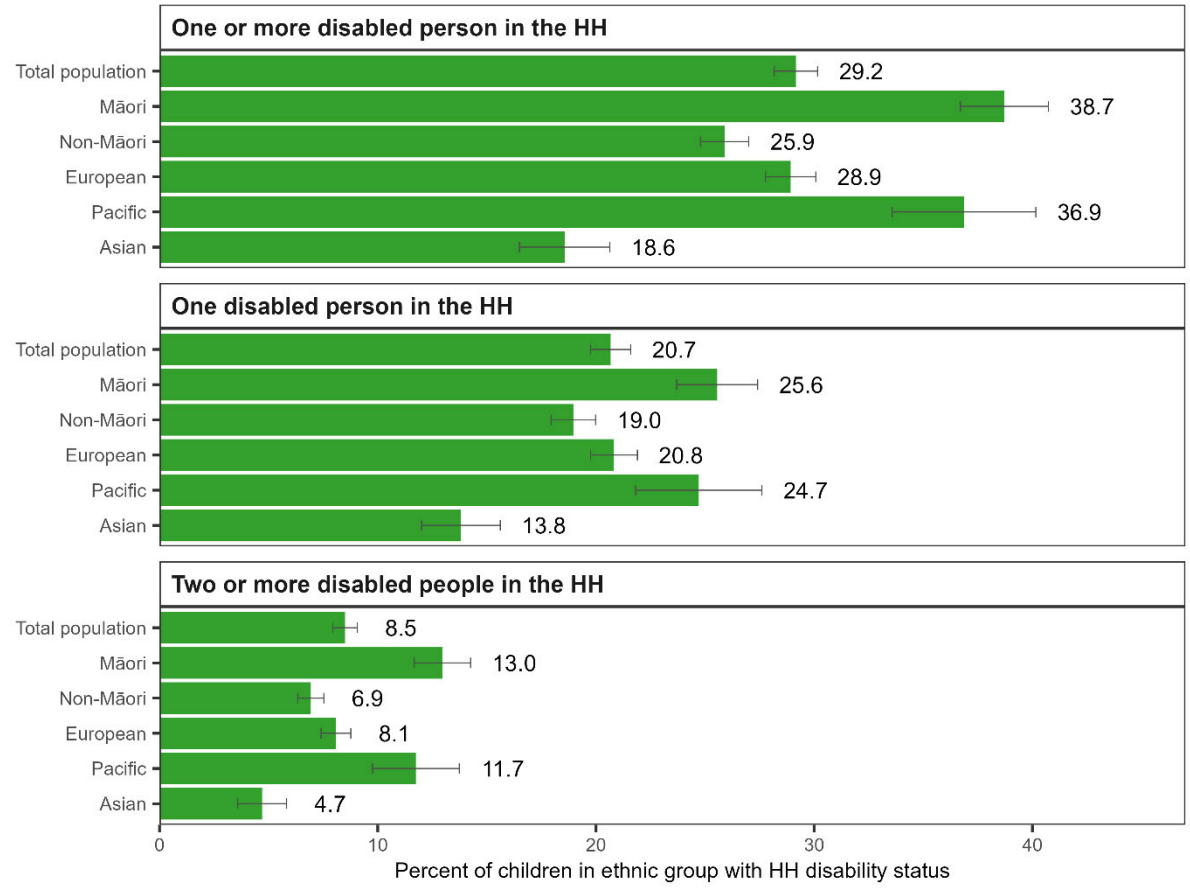
There were an estimated 1,148,000 children in the population on average across the three years to June 2022. Overall, 29.2 percent of these children (around 335,000) lived in a household with a disabled person:

- 20.7 percent lived in a household with one disabled person
- 8.5 percent lived in a household with two or more disabled people (Figure 1).

Māori children were more likely than non-Māori children to live in a household with a disabled person (38.5 percent compared with 25.9 percent). They were more likely than non-Māori children to live in a household with two or more disabled people (13.0 percent compared with 6.9 percent). Māori children made up 34.2 percent of all children living in a household with a disabled person.

Of Pacific children, 36.4 percent lived in a household with a disabled person, and 11.8 percent lived in a household with two or more disabled people. Pacific children made up 16.1 percent of all children living in a household with a disabled person.

Figure 1: Proportion of children living in households (HHs) with a disabled person



Ages of disabled people in the household

For most children living with a disabled adult, that adult was working-aged.

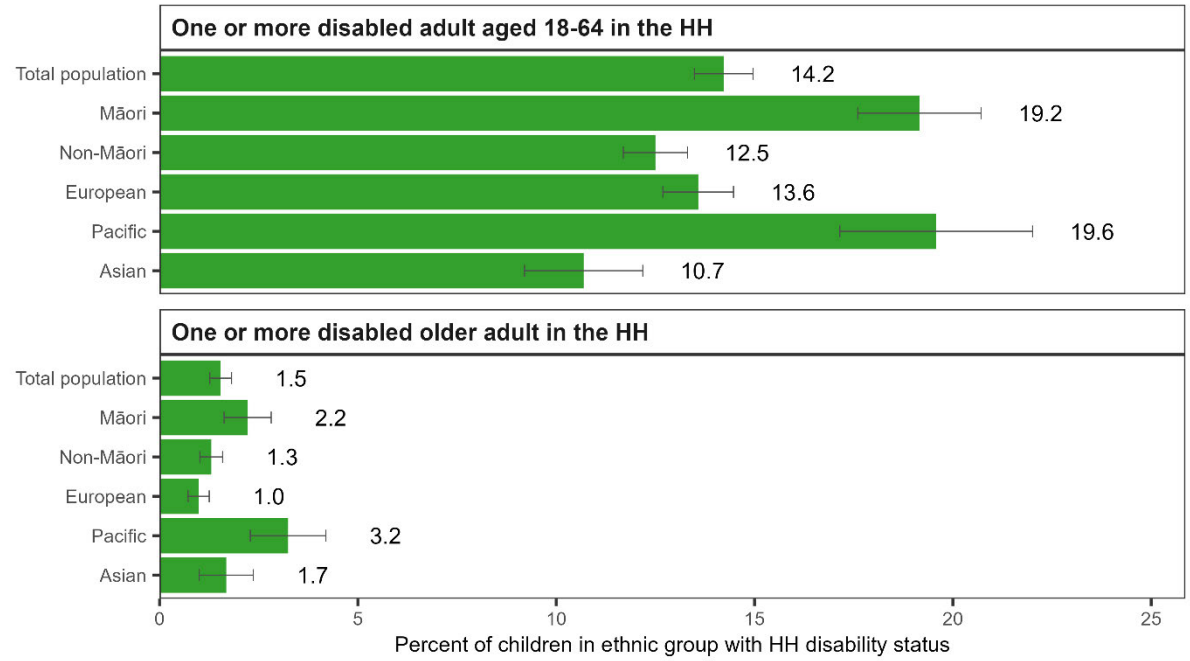
Of children overall:

- 14.2 percent lived in a household with one or more disabled adult aged 18-64
- 1.5 percent lived in a household with one or more disabled adult aged 65 or over (Figure 2).

Māori children were more likely than non-Māori children to live in a household with an older disabled person (2.2 percent compared with 1.3 percent). Māori children made up 37.3 percent of all children living in a household with an older disabled person.

Of Pacific children, 3.2 percent lived in a household with an older disabled person. Pacific children made up 27.1 percent of all children living in a household with an older disabled person.

Figure 2: Proportion of children in living households (HHs) with working age (18-64 years) and older (65+) disabled adults



Out of all children, around one in five lived in a household with a disabled child:

- 15.3 percent lived in a household with one disabled child
- 3.7 percent lived in a household with two or more disabled children
- 5.0 percent lived in a household with both a disabled child and a disabled adult (Figure 3).

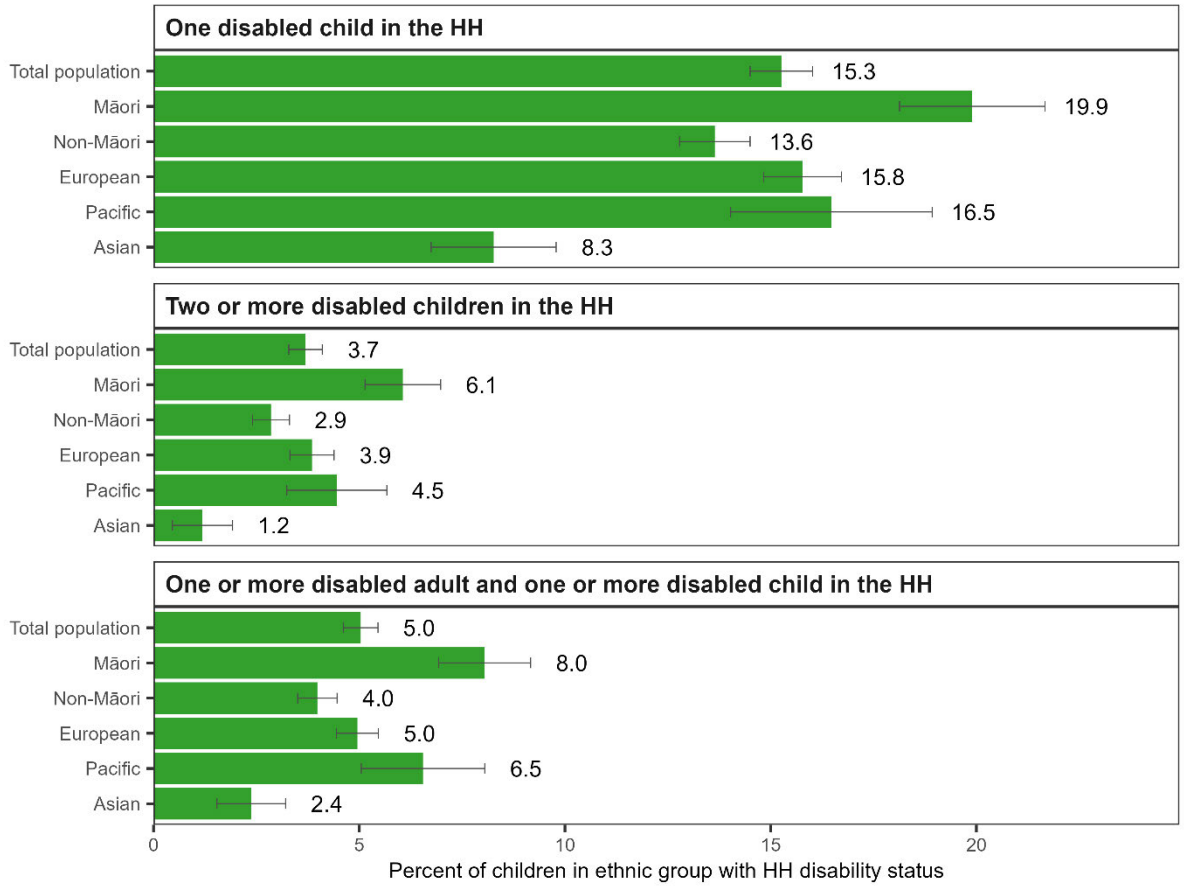
Māori children were more likely than non-Māori children to live in a household with one disabled child (19.9 compared with 13.6 percent) or two or more disabled children (6.1 percent compared with 2.9 percent).

Across ethnic groups, the proportion living in a household with a disabled child was lowest for Asian children.

Māori children were more likely than non-Māori children to live in a household with both a disabled adult and a disabled child (8.0 percent compared with 4.0 percent).

Of Pacific children, 6.5 percent lived in a household with both a disabled adult and a disabled child.

Figure 3: Proportion of children living in households (HHs) with a disabled child



Material hardship, income poverty, incomes, and housing costs for children with and without a disabled person in their household

This section examines the material hardship and income-poverty measures used to track progress on reducing child poverty, and the income and housing cost measures that sit behind the income-poverty measures.

The rate of material hardship

Consistent with Stats NZ's reporting for the year ended June 2023, the pooled data show children living in households where there was a disabled person had a higher rate of material hardship than those children living with no disabled person.

The survey respondents in households with a disabled person were also more likely to say they did not have enough money to meet their everyday needs.

Compared to children in households with no disabled person, children in households with a disabled person were:

- 3.1 times more likely to be in a household experiencing material hardship (21.2 percent compared to 6.9 percent) (Figure 4)
- 2.3 times more likely to be in a household where the survey respondent said they did not have enough money to meet their everyday needs (18.7 percent compared to 8.1 percent) (Figure 5).

There were higher-than-average rates of material hardship and income insufficiency among Māori and Pacific children in households with a disabled person.

There were also higher-than-average rates of material hardship among Māori and Pacific children in households with no disabled person. Compared to the total population, the difference in material hardship rates comparing those in and not in households with a disabled person was less pronounced for these ethnic groups:

- compared to Māori children in households with no disabled person, Māori children in households with a disabled person were 2.0 times more likely to be in a household experiencing material hardship, (28.8 percent compared to 14.1 percent)
- compared to Pacific children in households with no disabled person, Pacific children in households with a disabled person were 1.8 times more likely to be in a household experiencing material hardship, (35.8 percent compared to 19.8 percent) (Figure 4).

Figure 4: Proportion of children in material hardship by whether or not there is a disabled person in the household (HH)

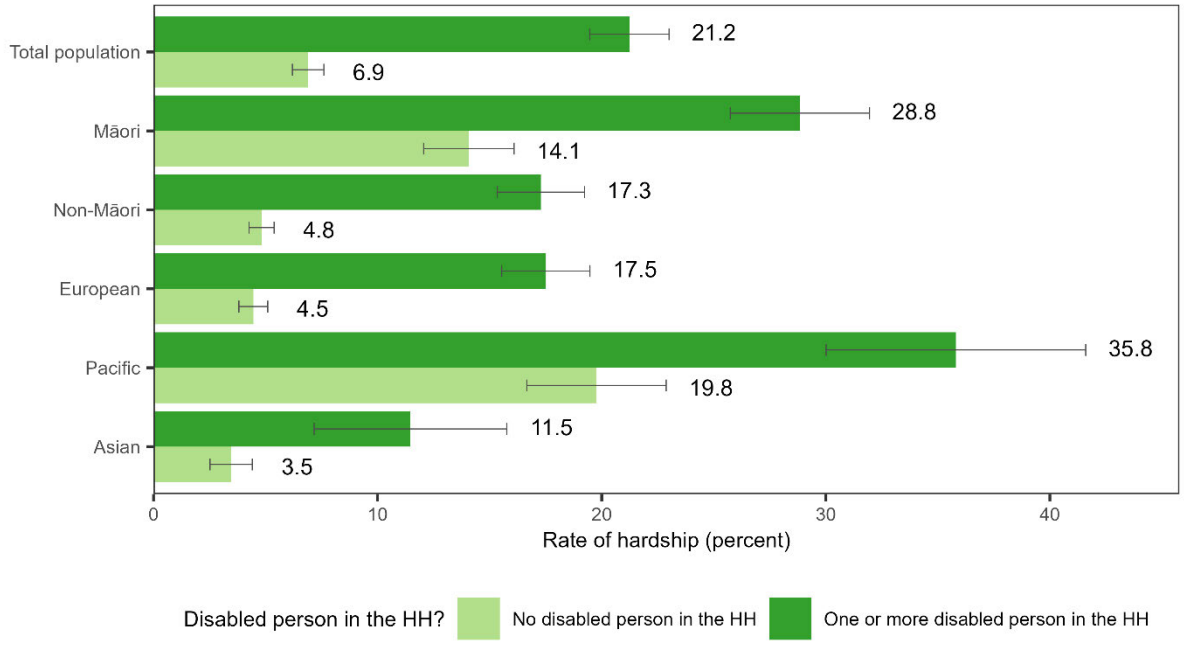
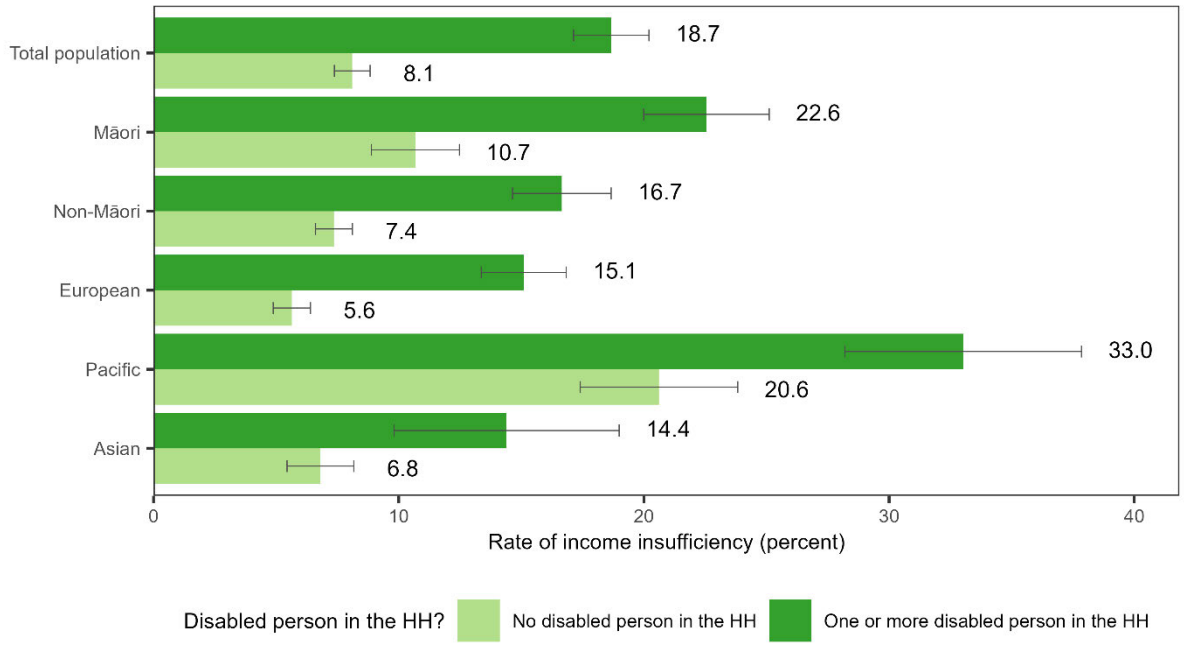


Figure 5: Proportion of children in a household reporting income insufficiency by whether or not there is a disabled person in the household (HH)



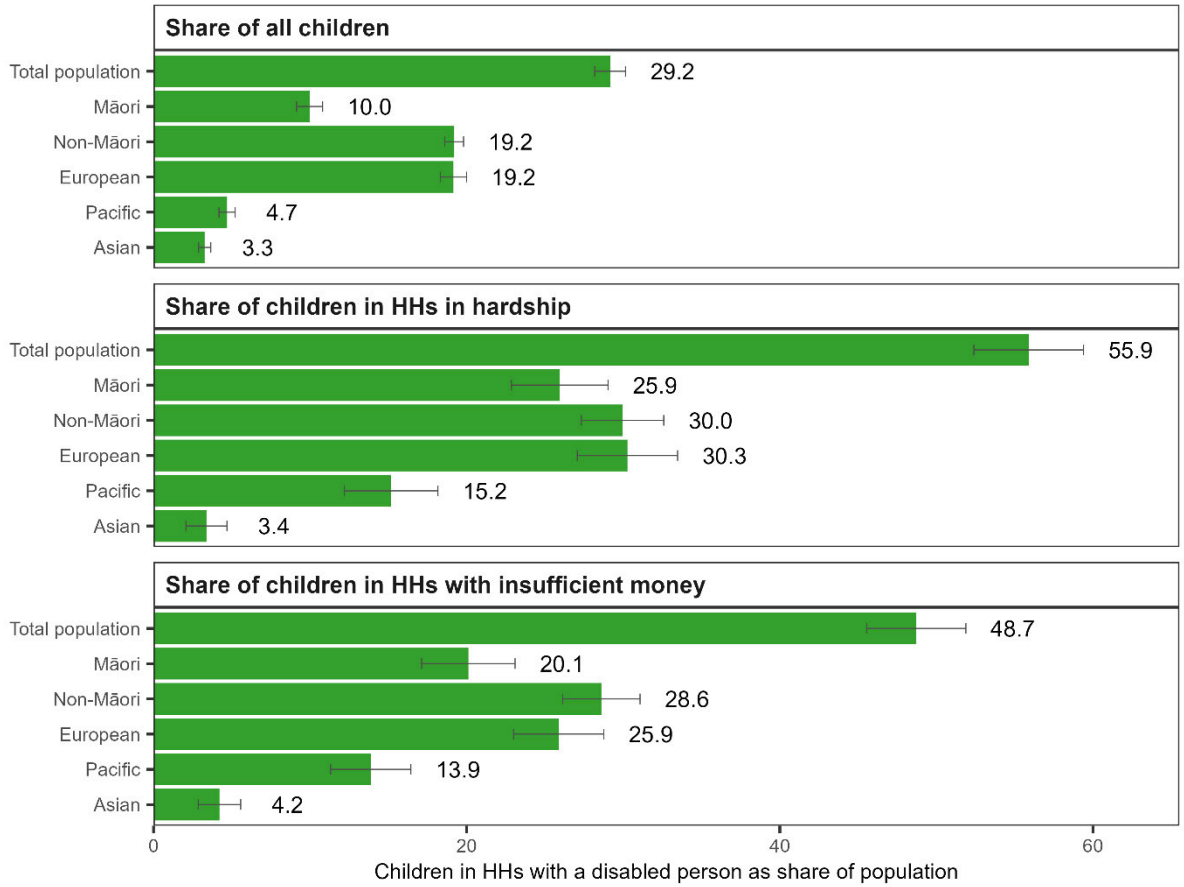
Children living in households with a disabled person were disproportionately represented among children in households experiencing material hardship and income insufficiency.

Children in households with a disabled person accounted for 29.2 percent of all children. However, they made up:

- 55.9 percent of all children in households experiencing material hardship
- 48.7 percent of all children in households where the survey respondent said they did not have enough money to meet their everyday needs (Figure 6).

The over-representation was most pronounced for Māori children and Pacific children in households with a disabled person.

Figure 6: Proportion (share) of all children, children in households (HH) in material hardship and children in HH reporting income insufficiency who are in HHs with a disabled person

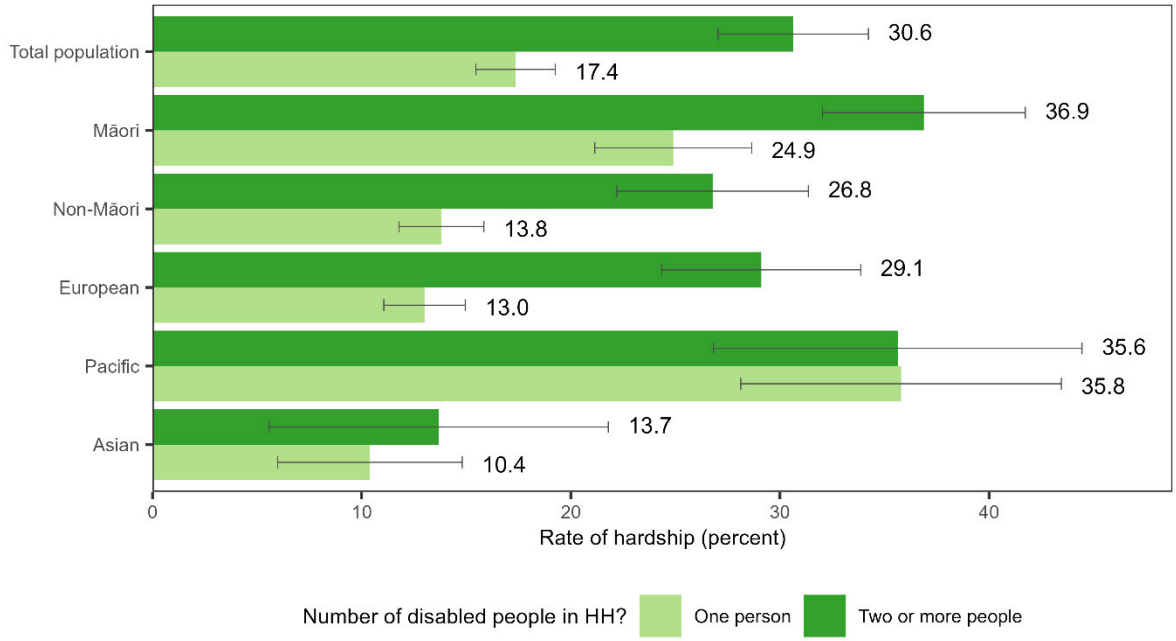


In general, the more disabled people there were in the child's household, the more likely it was that the child's household was in material hardship.

The proportions of children in material hardship were:

- 17.4 percent for children in households with one disabled person
- 30.6 percent for children in households with two or more disabled people (Figure 7)
- 18.6 percent for children in households with one disabled child
- 33.7 percent for children in households with two or more disabled children (Figure 8).

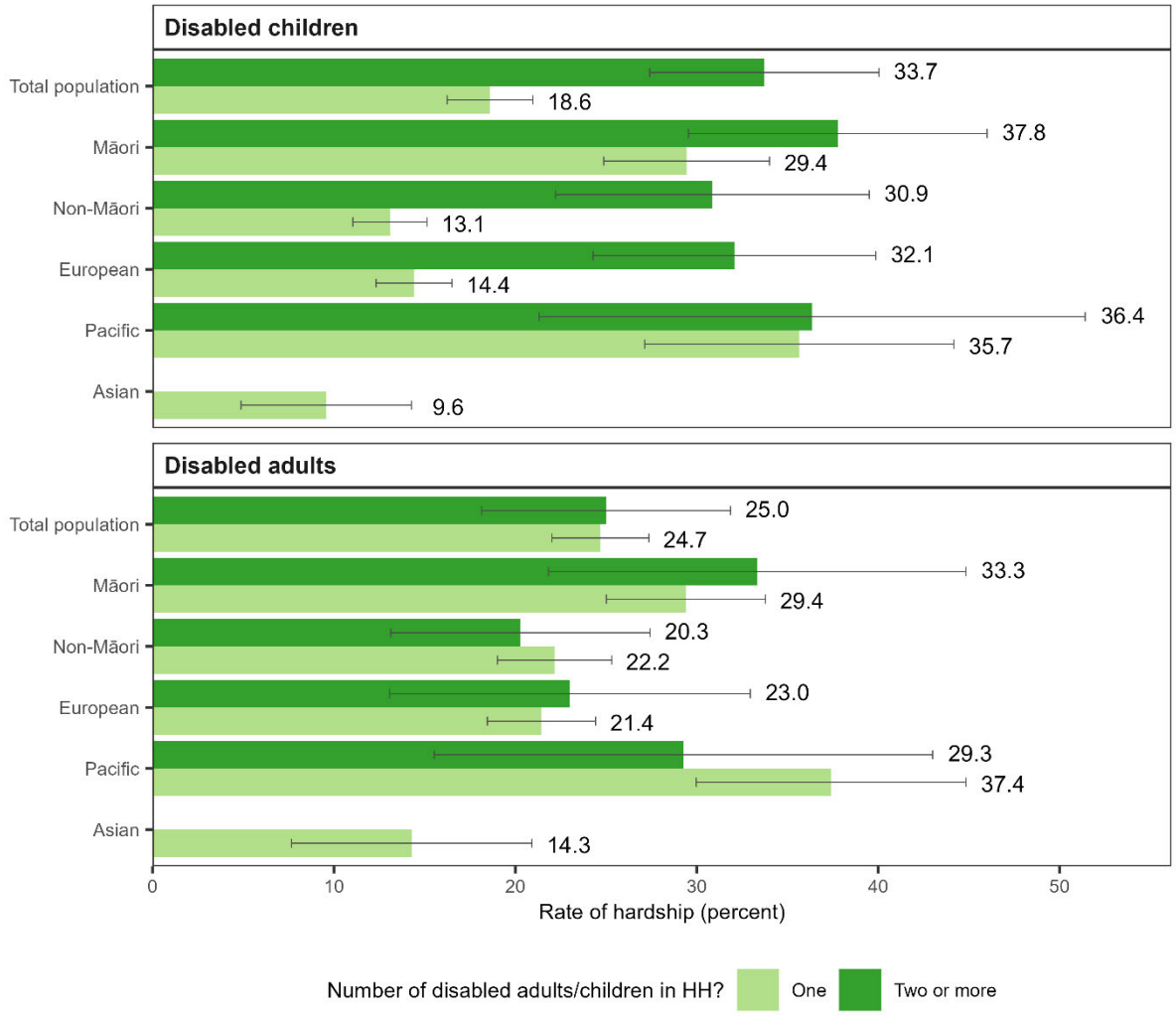
Figure 7: Proportion of children in material hardship by number of disabled people in the household (HH)



However, there was no significant difference between the proportions of children in material hardship where there was one disabled adult in the household and where there were two or more disabled adults. The proportions were:

- 24.7 percent for children in households with one disabled adult
- 25.0 percent for children in households with two or more disabled adults (Figure 8).

Figure 8: Proportion of children in material hardship by number of disabled adults and children in the household (HH)



Note: Hardship rates for Asian children living in households with two or more disabled adults or children were suppressed for confidentiality reasons.

Material hardship rates were high for children who lived in a household with both one or more disabled child and one or more disabled adult.

For children who lived in a household with both a disabled child and a disabled adult, the proportion in material hardship was:

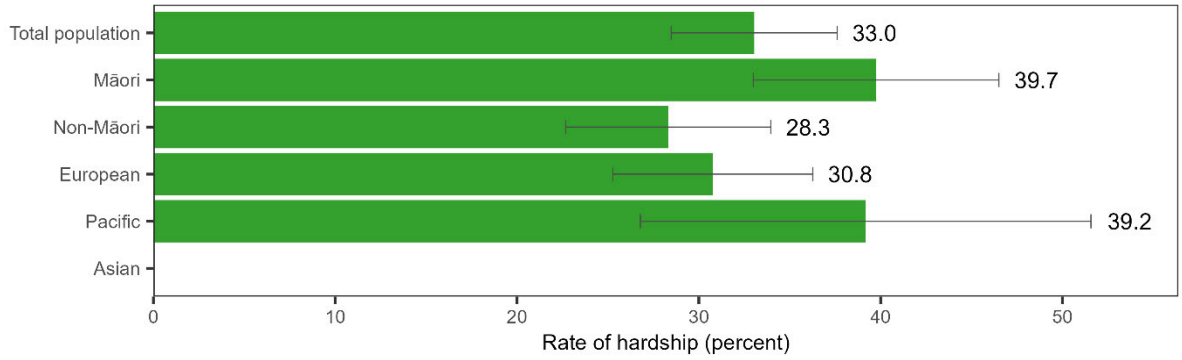
- 33.0 percent overall
- 42.5 percent for Māori children
- 30.8 percent for European children

- 39.2 percent for Pacific children (Figure 9).

Differences in these proportions across ethnic groups were not statistically significant.

For reference, for children who lived in a household with no disabled person, the proportion in material hardship was 6.9 percent.

Figure 9: Proportion of children in material hardship where there are both one or more disabled adult and one or more disabled child in the household



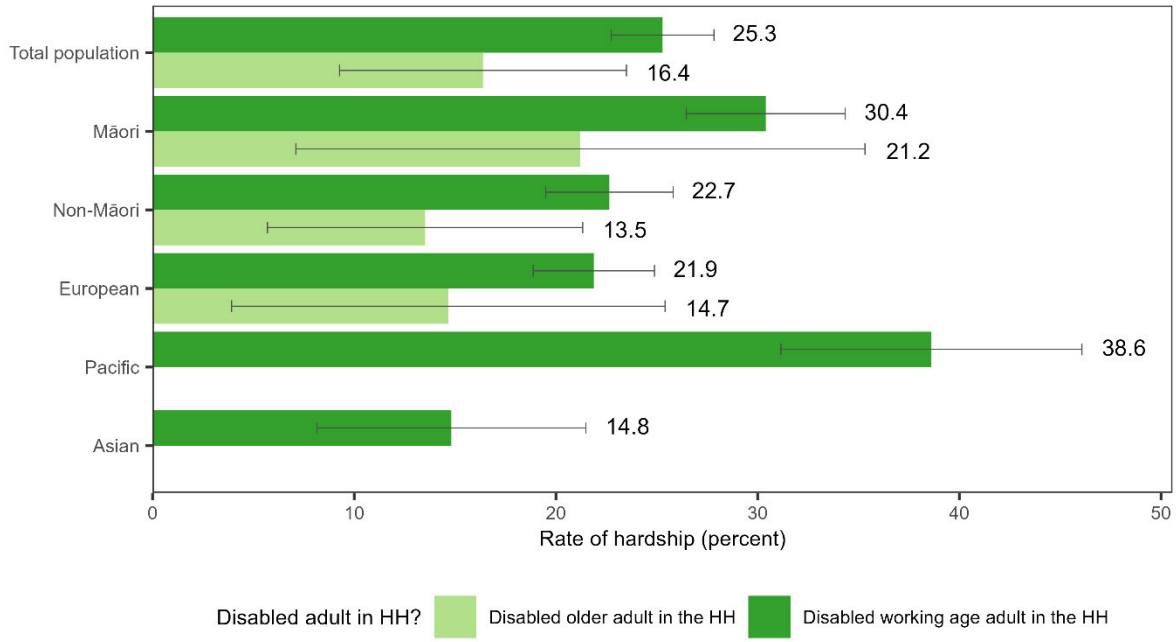
Note: Hardship rates for Asian children living in households with both a disabled adult and a disabled child were suppressed for confidentiality reasons.

Material hardship rates appeared lower for children who lived with older disabled adults than for children who lived with disabled adults in working age groups.

These differences were not statistically significant, however. The proportions in material hardship were:

- 16.4 percent for children in a household with one or more disabled adult aged 65 or over
- 25.3 percent for children in a household with one or more disabled adult aged 18-64 (Figure 10).

Figure 10: Proportion of children in material hardship by whether there are working age (18-64 years) and older (65+) disabled adults in the household (HH)



Note: Hardship rates for Asian and Pacific children living in households with one or more disabled older adult were suppressed for confidentiality reasons.

Children in households with a disabled person were more likely than other children to experience severe hardship.

Severe hardship is defined as experiencing nine or more of the 17 restrictions (Perry 2022).

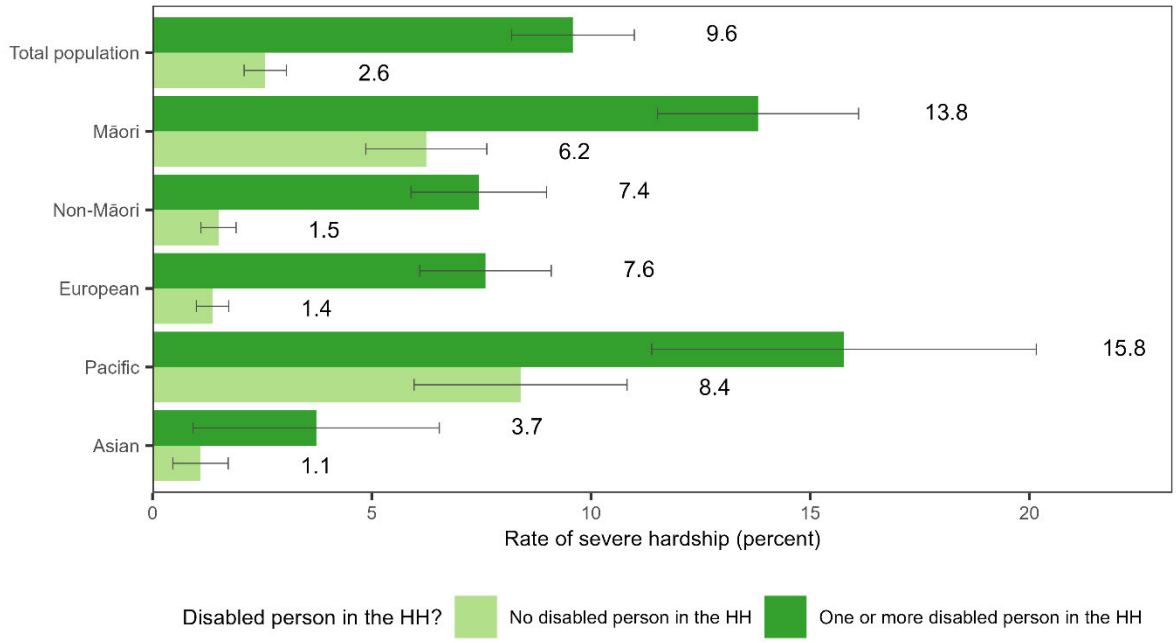
Compared with children in households with no disabled person, children in households with a disabled person were 3.7 times more likely to be in a household experiencing severe hardship (9.6 percent compared to 2.6 percent) (Figure 11).

The rate ratios were:

- 2.2 for Māori children (i.e. Māori children in households with a disabled person were 2.2 times more likely to be in a household experiencing severe hardship than Māori children in households with no disabled person) (13.8 percent compared to 6.2 percent)

- 4.9 for non-Māori children (7.4 percent compared to 1.5 percent)
- 5.5 for European children (7.6 percent compared to 1.4 percent)
- 1.9 for Pacific children (15.8 percent compared to 8.4 percent)
- 3.4 for Asian children (3.7 percent compared to 1.1 percent).

Figure 11: Proportion of children in severe hardship by whether or not there is a disabled person in the household (HH)



What material hardship looks like

Children in households with a disabled person were more likely than other children to be living in a household experiencing all of the 17 types of restrictions that are used to assess material hardship

Compared to children in households with no disabled person, children in households with a disabled person were, for example:

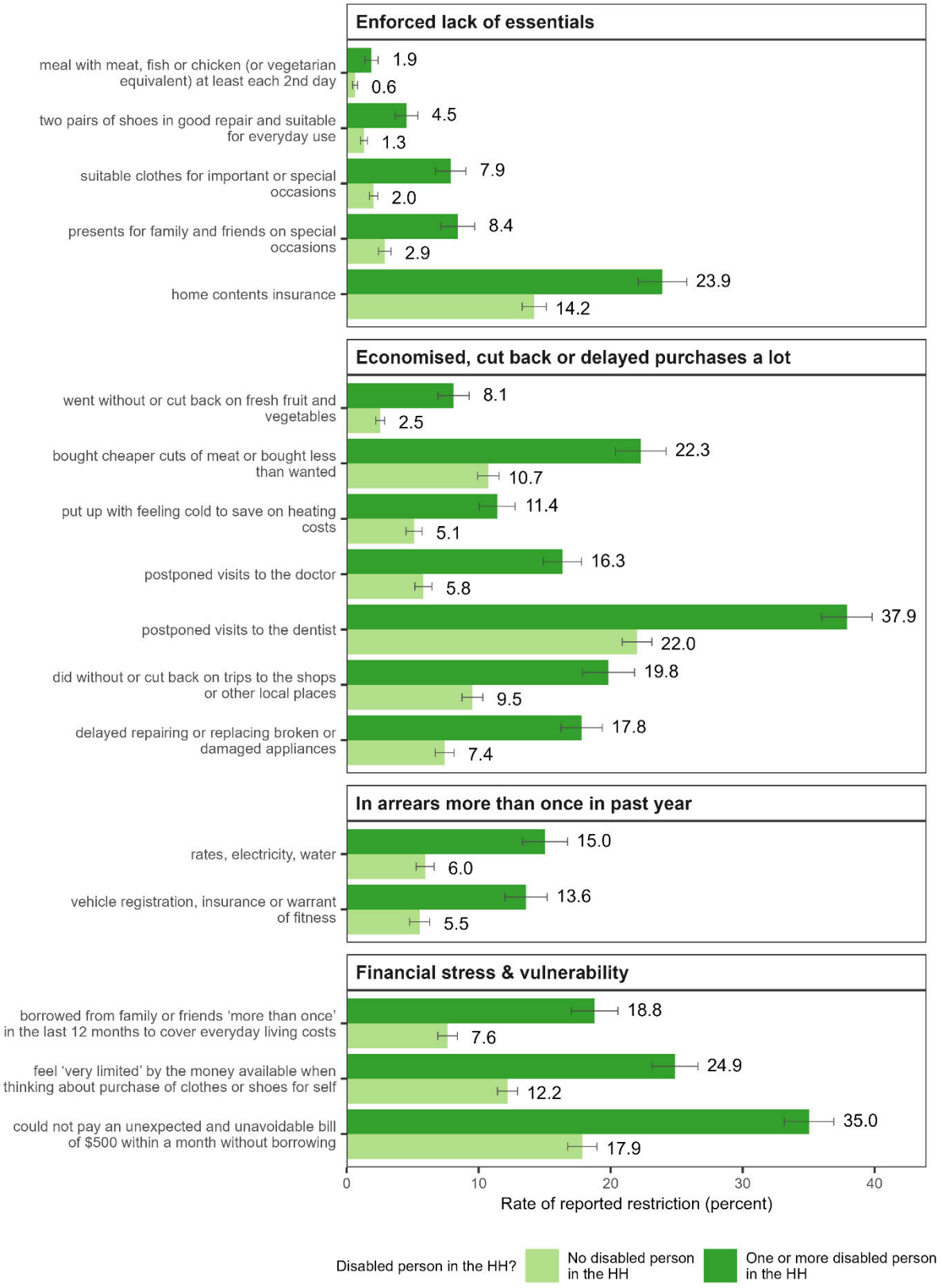
- 2.2 times more likely to be in a household reporting putting up with feeling cold a lot to keep costs down (11.4 percent compared to 5.1 percent)
- 2.8 times more likely to be in a household reporting putting off visits to the doctor a lot to keep costs down (16.3 percent compared to 5.8 percent)
- 1.7 times more likely to be in a household reporting putting off visits to the dentist a lot to keep costs down (37.9 percent compared to 22.0 percent)
- 2.5 times more likely to be in a household reporting not being able to pay electricity, gas, rates or water bills on time more than once in the last 12 months because of a shortage of money (15.0 percent compared to 6.0 percent)
- 2.5 times more likely to be in a household reporting borrowing from friends or family to meet everyday living costs (18.8 percent compared to 7.6 percent)
- 2.0 times more likely to be in a household reporting that they would be unable to pay an unexpected and unavoidable expense of $500 within a month of borrowing (35.0 percent compared to 17.9 percent) (Figure 12).

These rates are presented for Māori, non-Māori, European, Pacific and Asian children in Appendix 2. The patterning of results generally mirrors

the overall differences in hardship rates between the groups. For example, the proportions of children in households with a disabled person where the household reported putting off visits to the dentist a lot to keep costs down were:

- 37.9 percent overall
- 45.5 percent for Māori children
- 33.9 percent for non-Māori children
- 35.9 percent for European children
- 54.9 percent for Pacific children
- 23.7 percent for Asian children.

Figure 12: Proportion of children in households (HHs) reporting each of the 17 items used to measure material hardship by whether or not there is a disabled person in the household



Children aged 6-17 in households with a disabled person faced more disadvantages because of child-related expenditure restrictions and economising than other children.

Child-specific questions in the Household Economic Survey are asked in reference to children aged between 1 and 17. Because some are more relevant to school aged children, we only report results for this age group. This aligns with the approach taken in Perry (2022).

Based on the responses of the respondent in their household to questions about their children, they were, for example:

- 3.0 times as likely to not have fresh fruit and vegetables daily (7.9 percent compared to 2.6 percent).
- 2.5 times as likely to have had to go without music, dance, kapa haka, art, swimming or other special interest lessons a lot to keep down costs (7.5 percent compared to 3.0 percent) (Figure 13).

These rates are presented for Māori, non-Māori, European, Pacific and Asian children in Appendix 3. The proportions of children aged 6-17 in households with a disabled person where children did not have fresh fruit and vegetables daily were:

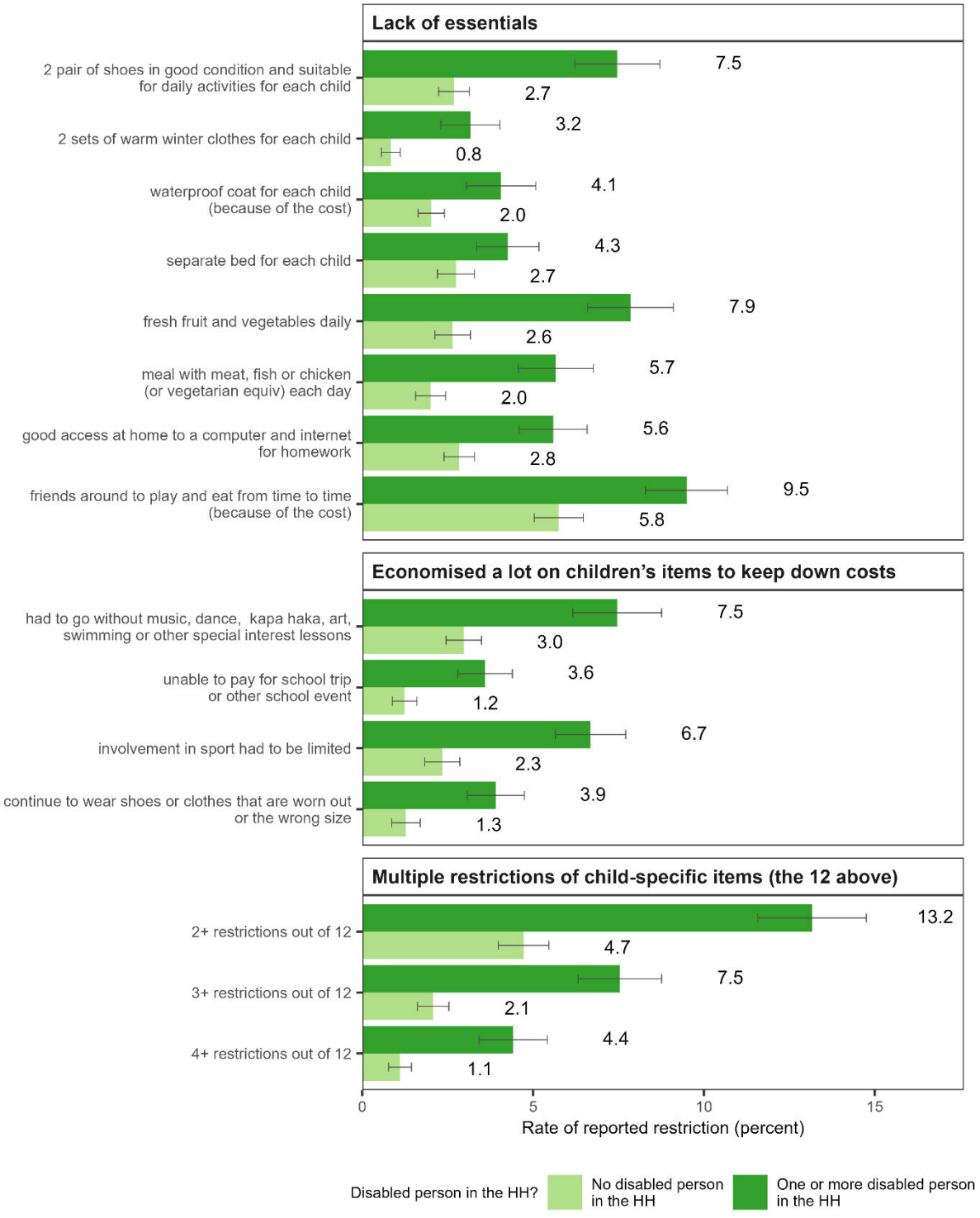
- 7.9 percent overall
- 11.3 percent for Māori children
- 6.0 percent for non-Māori children
- 5.1 percent for European children
- 17.2 percent for Pacific children
- 5.2 percent for Asian children.

The proportions of children aged 6-17 in households with a disabled person where children had to go without music, dance, kapa haka, art, swimming or other special interest lessons a lot to keep down costs were:

- 7.5 percent overall
- 9.2 percent for Māori children

- 6.6 percent for non-Māori children
- 6.5 percent for European children
- 11.3 percent for Pacific children
- Not reported for Asian children due to small numbers.

Figure 13: Proportion of children aged 6-17 in households (HHs) reporting restrictions on child-related items by whether or not there is a disabled person in the household



Income-based poverty rates

The proportions with income below income-based poverty lines were higher for children in households with a disabled person than for other children.

Compared to children in households with no disabled person, children in households with a disabled person were:

- 1.5 times more likely to be in a household with income below the before-housing-costs poverty line (15.7 percent compared to 10.3 percent) (Figure 14)
- 1.2 times more likely to be in a household with income below the after-housing-costs poverty line (20.7 percent compared to 16.6 percent) (Figure 15).

However, the size of the gap in income-based poverty rates was not as large as the gap in material hardship rates, particularly for the after-housing-costs measure.

In fact, the percentage with income below the after-housing-costs income-based poverty lines was slightly lower for Pacific children in households with a disabled person than for other Pacific children (but with no statistically significant difference) (Figure 15).

Figure 14: Proportion of children in a household (HH) with income below the before-housing-costs poverty line by whether or not there is a disabled person in the HH

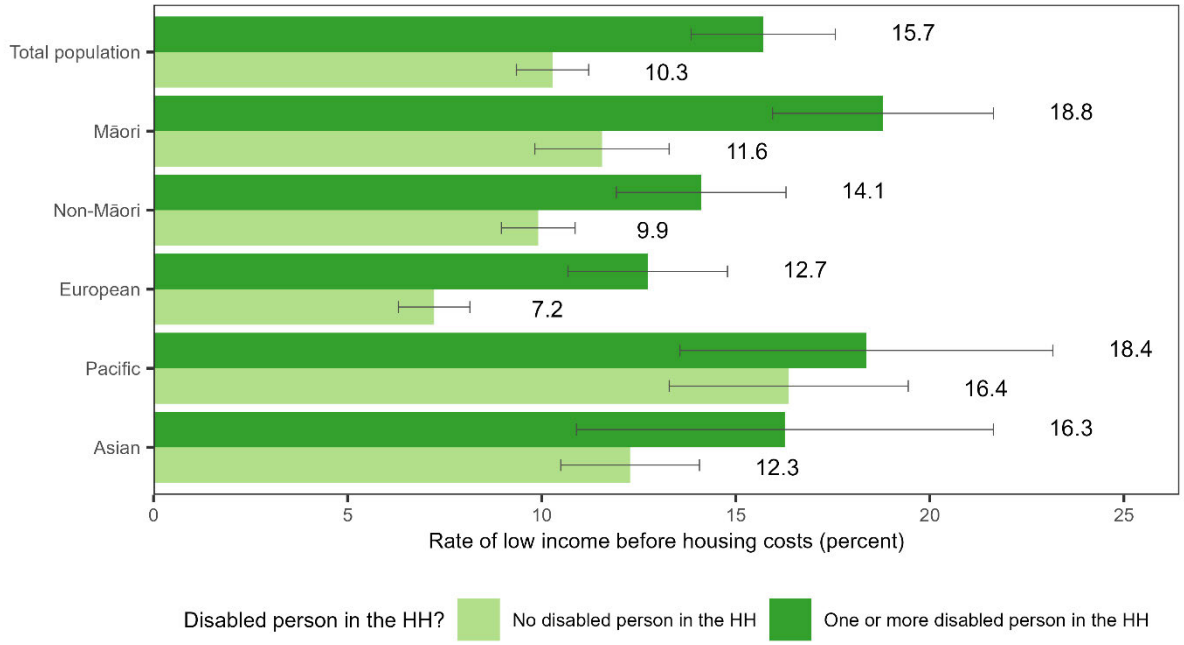
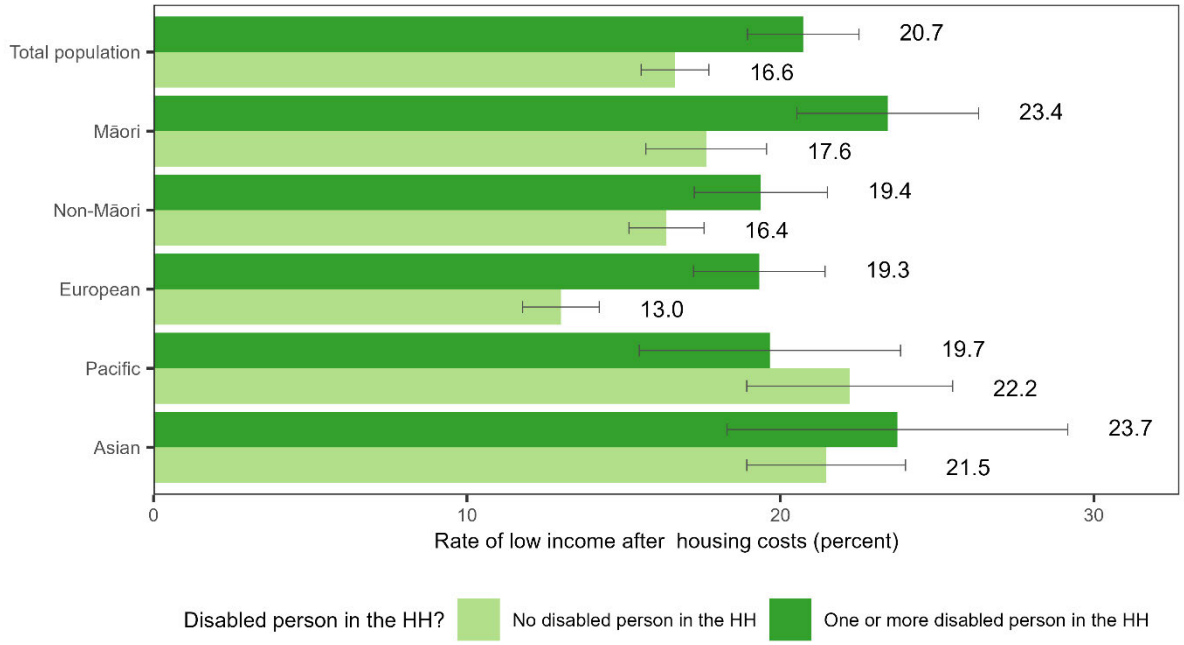


Figure 15: Proportion of children in a household (HH) with income below the after-housing-costs poverty line by whether or not there is a disabled person in the HH



Children living in households with a disabled person were disproportionately represented among children in households with income below income-based poverty lines, but this over-representation was not as marked as it was for material hardship.

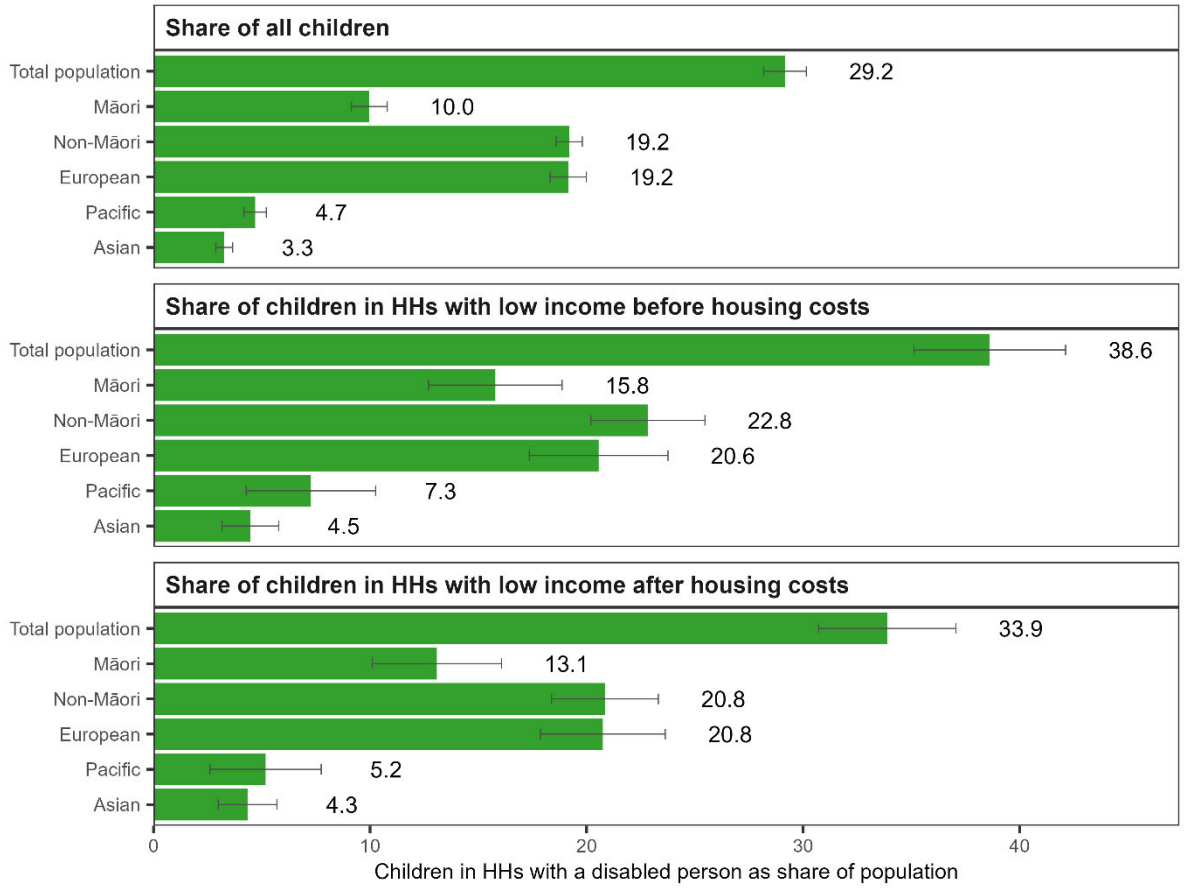
Children in households with a disabled person accounted for:

- 38.6 percent of all children in households with low equivalised household disposable income before housing costs were taken out
- 33.9 percent of all children in households with low equivalised household disposable income after housing costs were taken out (Figure 16).

This compared with children in a household with a disabled person accounting for:

- 29.2 percent of all children
- 55.9 percent of all children in households experiencing material hardship.

Figure 16: Proportion (share) of all children and children in households (HH) with income below before- and after-housing-cost poverty lines who are in HHs with a disabled person

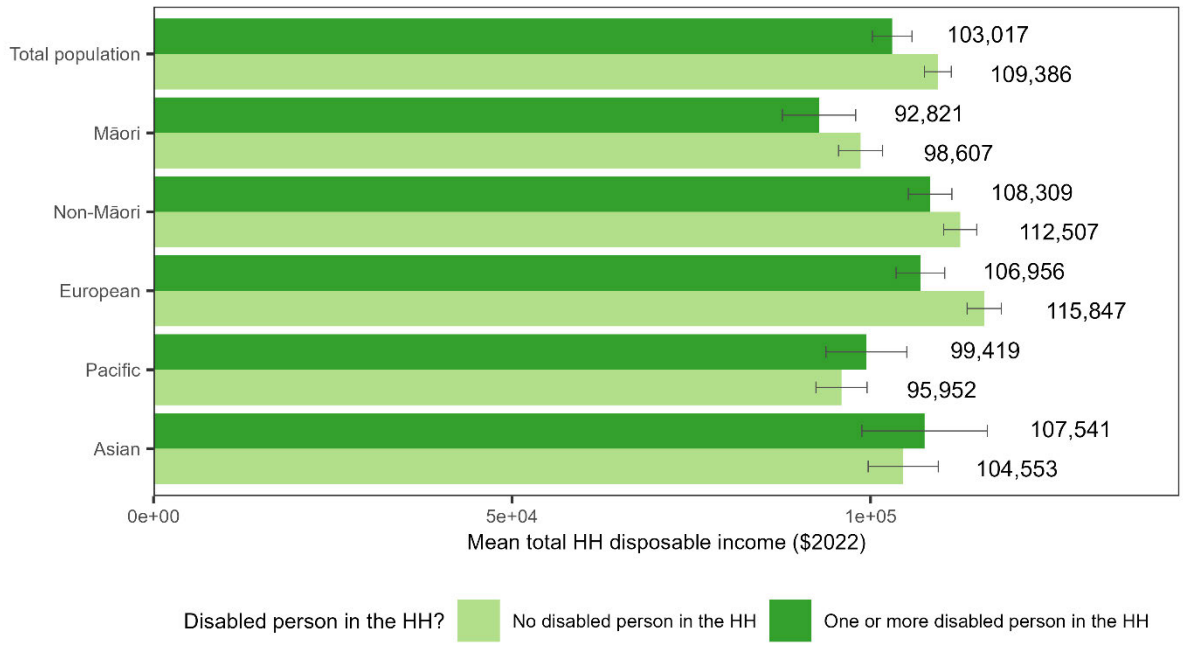


Incomes and housing costs

Average household disposable income was only slightly lower for households of children living with a disabled person, compared to households of other children.

Average household disposable income (after tax and transfers such as benefits and Working for Families tax credits) for children in a household with a disabled person was 94.2 percent of that for other children ($103,017 compared with $109,386 in 2022-dollar terms) (Figure 17).

Figure 17: Mean household (HH) disposable income ($2022) for children by whether or not there is a disabled person in the HH



However, the effect of equivalisation on income was larger (indicating the income needed to meet the needs of more people in households with a disabled person).

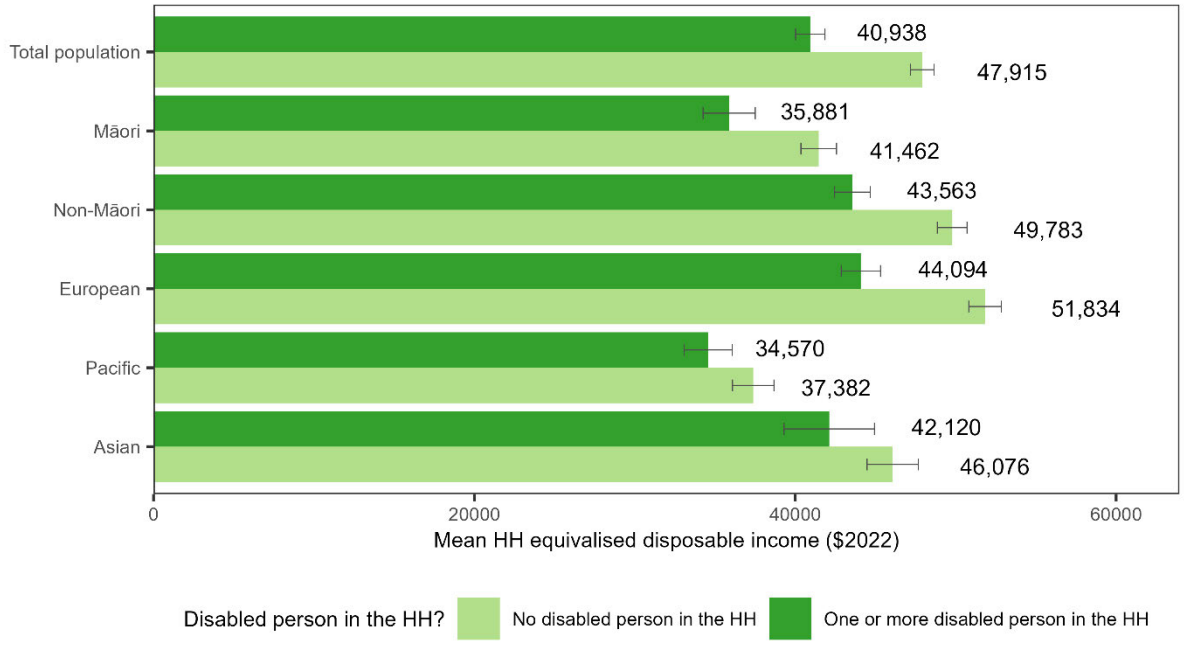
Average equivalised household disposable income (after tax and transfers *and* after adjusting for household size and composition) for children in a household with a disabled person was 85.4 percent of that for other children ($40,938 compared with $47,915 in 2022-dollar terms) (Figure 18).

For context, one-person households are the reference point for equivalisation. This means that $40,938 should be thought of relative to the needs of a one-person household in terms of value.

It is important to note that while income support payments that help with additional costs experienced by households with a disabled person are included in income, equivalisation does not adjust for these costs.

This means that less of the equivalised disposable income is available for spending on other everyday needs in households with a disabled person, on average.

Figure 18: Mean equivalised household (HH) disposable income ($2022) for children by whether or not there is a disabled person in the HH



Average housing costs were lower in households with a disabled person.

Compared to children in households with no disabled person, children in households with a disabled person had:

- lower average household housing costs ($21,548 compared with $24,629 per annum) (Figure 19)

- lower average equivalised household housing costs ($9,120 compared with $11,252 per annum) (Figure 20).

This will partly reflect higher proportions living in social housing (see 'Housing' below).

Figure 19: Mean household (HH) housing costs ($2022) for children by whether or not there is a disabled person in the HH

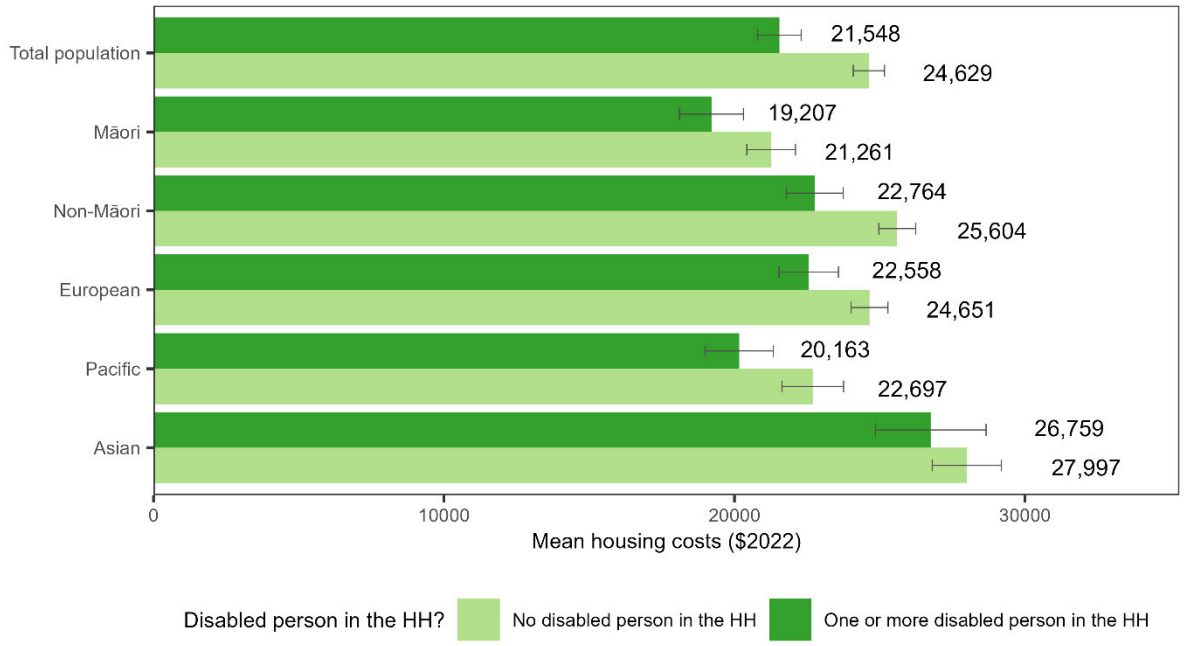
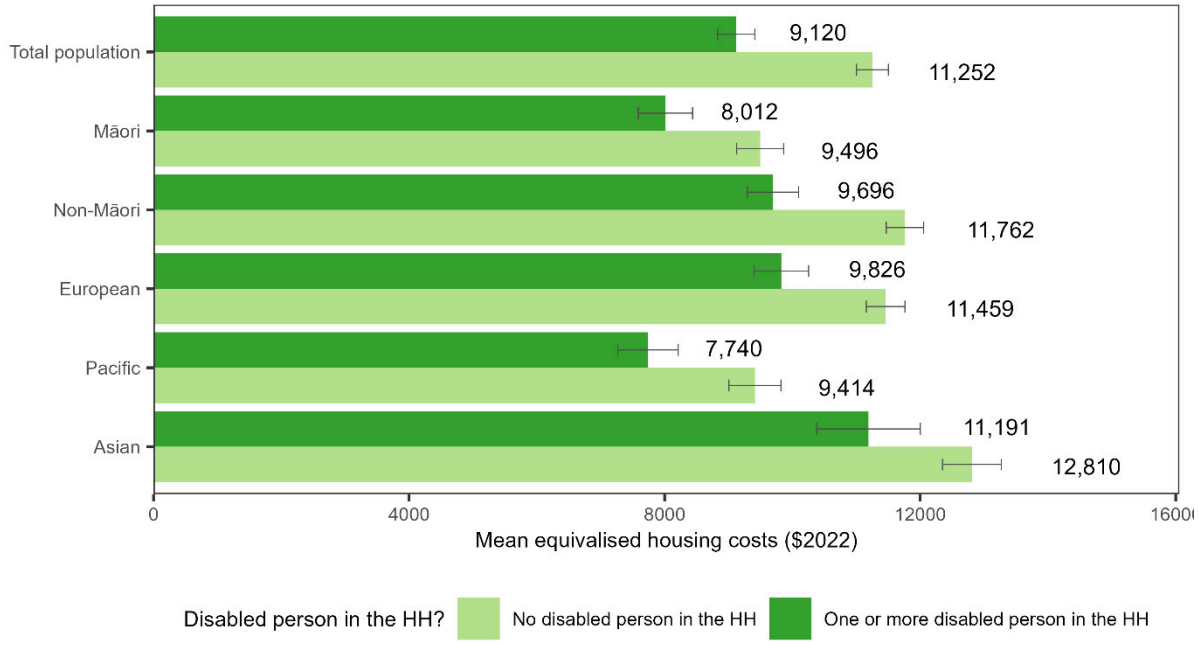


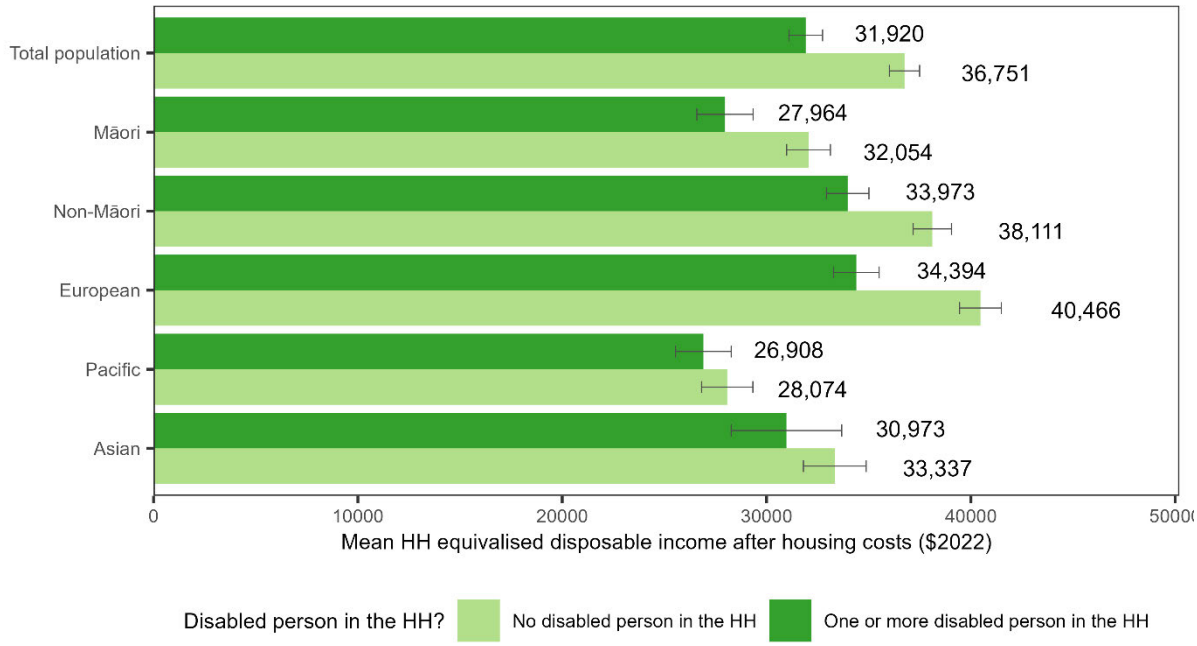
Figure 20: Mean equivalised household (HH) housing costs ($2022) for children by whether or not there is a disabled person in the HH



Combined, these factors led to a smaller difference in average equivalised household disposable income after housing costs were taken out than in average household disposable income.

Average equivalised household disposable income, after housing costs, for children in a household with a disabled person was 86.9 percent of that for other children ($31,920 compared with $36,751 in 2022-dollar terms) (Figure 21).

Figure 21: Mean equivalised household (HH) income after housing costs ($2022) for children by whether or not there is a disabled person in the HH



Household and other characteristics for children with and without a disabled person in their household

This section compares the household and other characteristics of children in households with a disabled person and children in households with no disabled person.

Accompanying tables allow readers to look in more detail at the data behind the results and examine material hardship rates broken down by household and other characteristics.

Household size and composition

For children in households with a disabled person, household size was larger on average, and the household was more likely to include older people.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to:

- have five or more people (adults and children) in the household (50.3 percent compared to 36.4 percent)
- have three or more adults in the household (26.7 percent compared to 16.8 percent)
- have three or more children in the household (43.2 percent compared to 30.8 percent)
- have one or more person aged 65 or over (7.9 percent compared to 4.3 percent) (Figure 22).

This was the case across all ethnic groups.

Pacific children in households with a disabled person were the most likely to have five or more people (adults and children) in the household (68.3 percent) and three or more children in the household (58.4 percent).

Pacific and Asian children in households with a disabled person were the most likely to have three or more adults in the household (40.6 and 39.2 percent respectively) and to have an older person in the household (14.7 and 13.1 percent respectively).

Children in households with a disabled person were more likely than average to live in a household made up of a sole parent and their children, and less likely than average to be living with two parents. Compared to children in households with no disabled person, children in households with a disabled person were less likely to live in a household made up of a two-parent family with their dependent children only (Figure 23).

They were more likely to:

- live in a household made up of a sole parent and their dependent children only (20.6 percent compared to 13.4 percent)
- live in a household made up of another combination of people (including multiple families, or families with dependent children living with adult children, elders, or other adults (21.3 percent compared to 13.0 percent) (Figure 23).

Figure 22: Proportion of children with different household (HH) size and composition by whether or not there is a disabled person in the HH

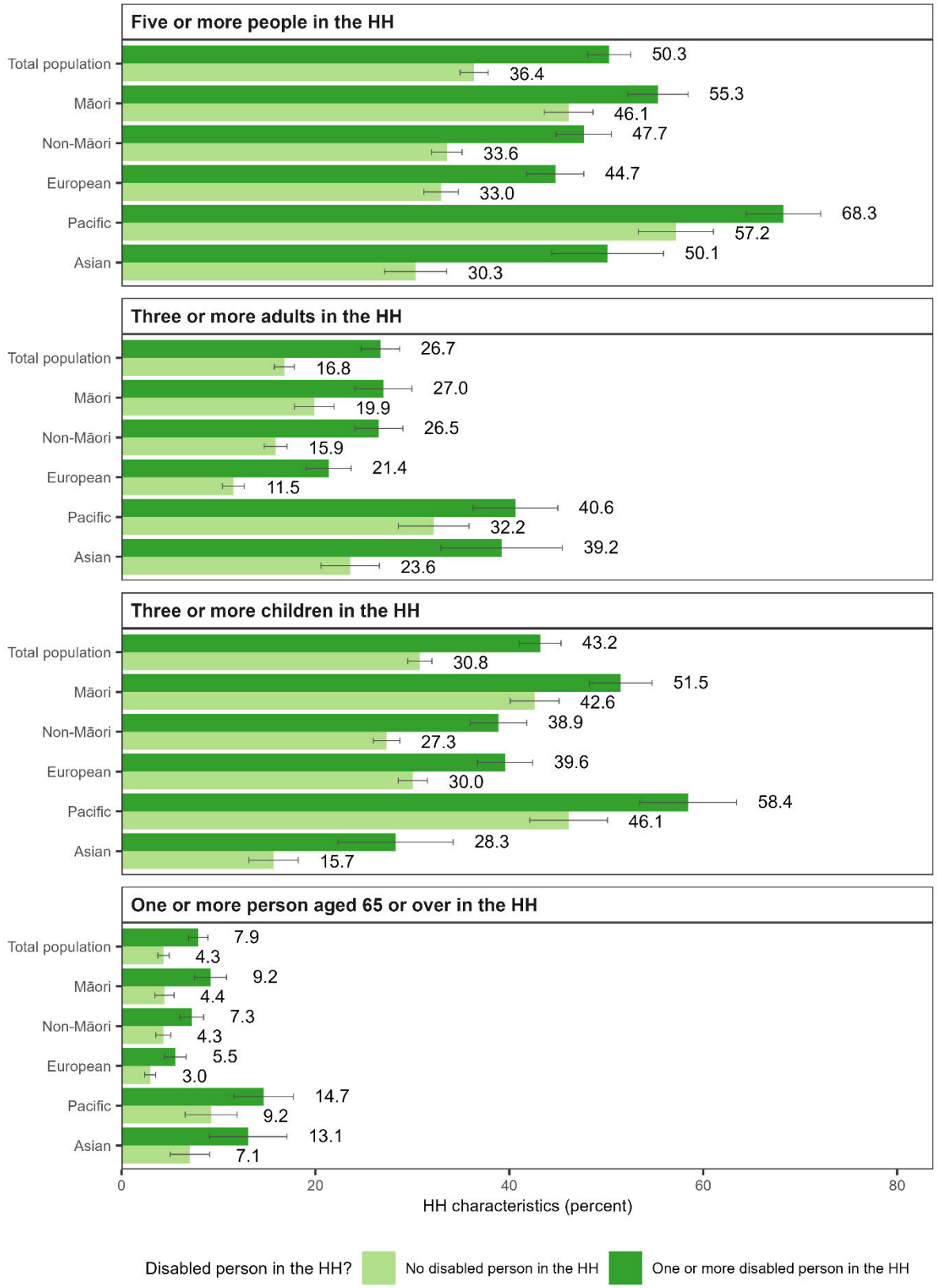
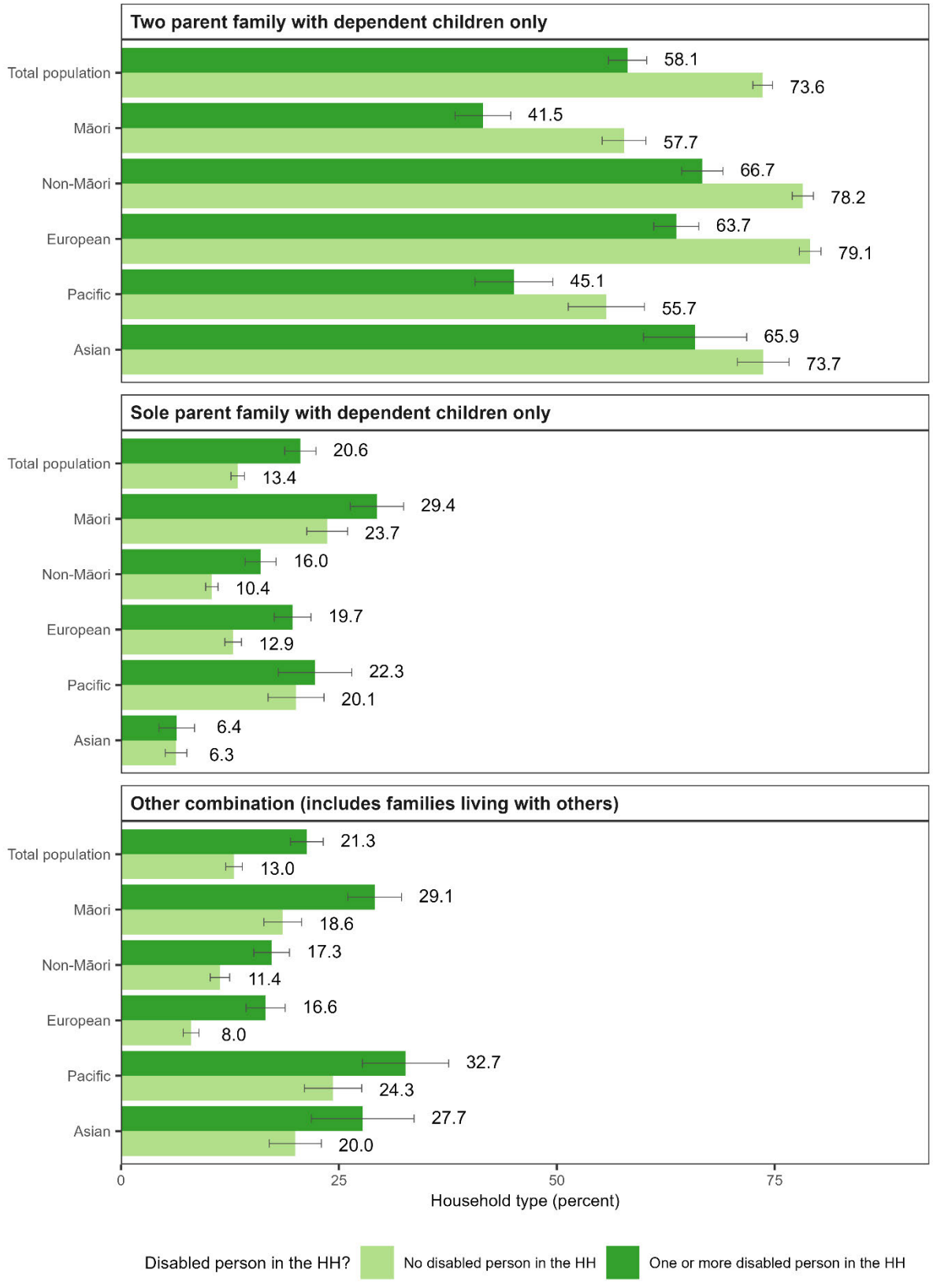


Figure 23: Proportion of children in two-parent, sole parent, and other household (HH) types by whether or not there is a disabled person in the HH

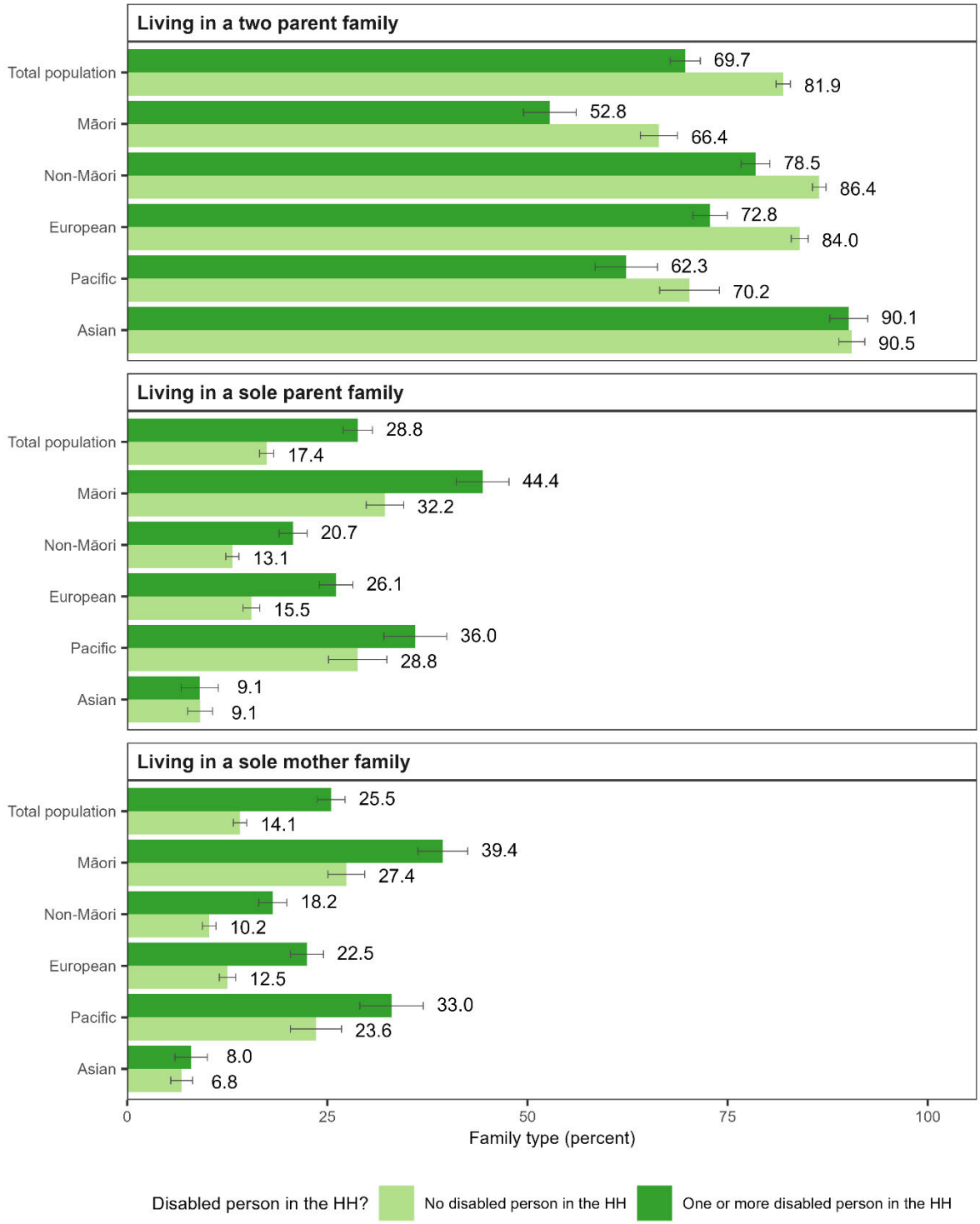


Across all ethnic groups, and across both children in households with a disabled person and other children, most children lived in a family with two parents (Figure 24). The data available from the Household Economic Survey do not let us explore differences by whether there are shared care arrangements for children.

The proportions living in a sole-parent family (either living in their own household or living with others) were higher for children in households with a disabled person than for other children (28.8 percent compared to 17.4 percent). This was the case across all ethnic groups, except for Asian children (for whom the proportions were the same) and Pacific children (for whom the higher rate among children in households with a disabled person was not statistically significant).

In most cases, children in households with a disabled person living in a sole parent family lived with a sole mother – 25.5 percent lived with a sole mother, compared with 14.1 percent of children in households with no disabled person).

Figure 24: Proportion of children in two- and sole parent families and living with a sole mother by whether or not there is a disabled person in the household (HH)



Housing

For children in households with a disabled person, the household was more likely to be crowded, to be renting, and to be living in social housing.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to:

- have accommodation that was crowded or severely crowded (1 or more extra bedrooms needed) (19.6 percent compared to 10.5 percent)
- have accommodation that was severely crowded (2 or more extra bedrooms needed) (6.3 percent compared to 2.5 percent)
- be renting (48.7 percent compared to 36.9 percent)
- be in social housing (11.7 percent compared to 4.8 percent) (Figure 25).

The proportions living in a crowded household, renting, and living in social housing were highest for Māori children and Pacific children.

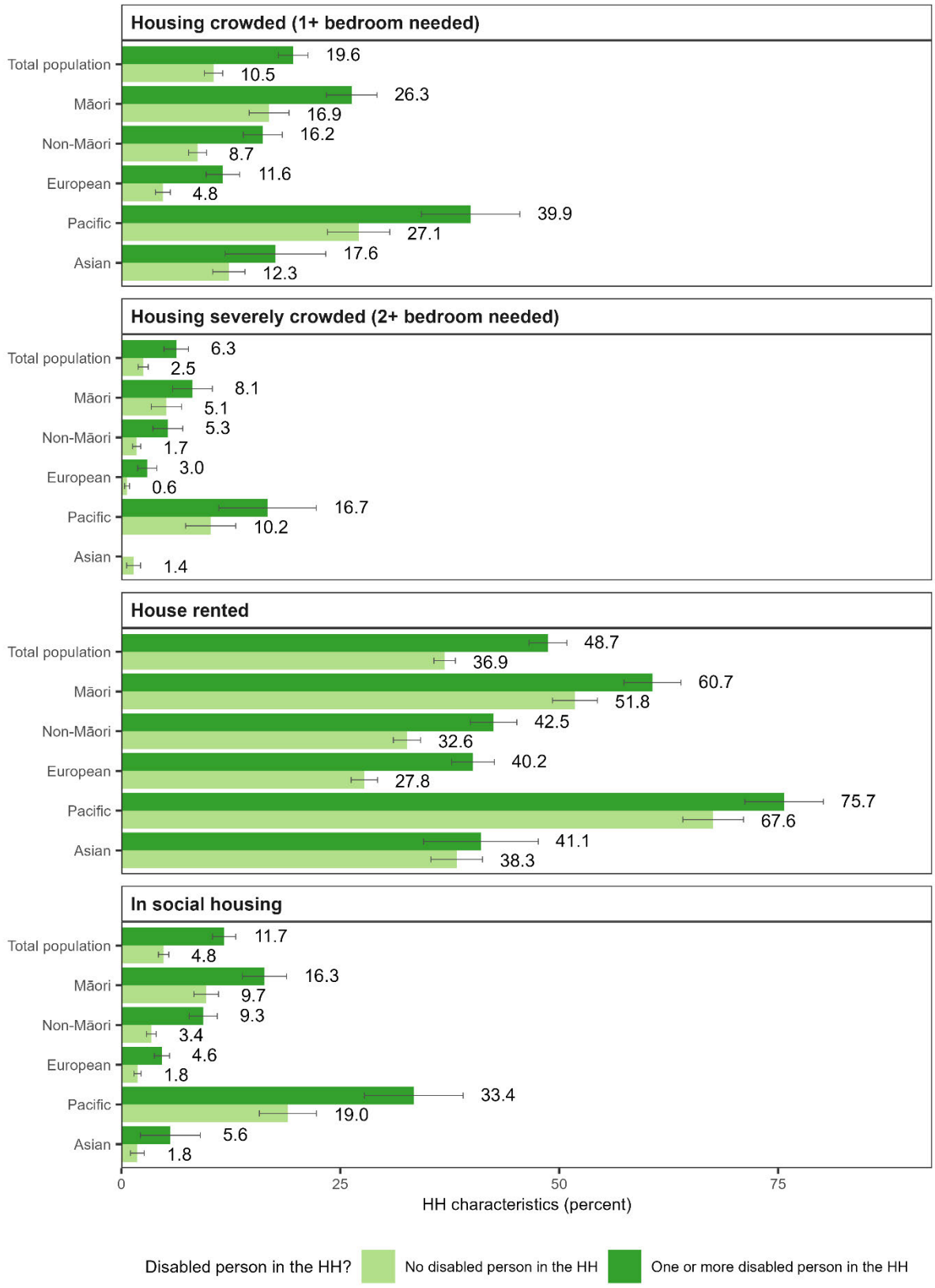
Compared to Māori children in households with no disabled person, Māori children in households with a disabled person were more likely to:

- have accommodation that was crowded or severely crowded (1 or more extra bedrooms needed) (26.3 percent compared to 16.9 percent)
- have accommodation that was severely crowded (2 or more extra bedrooms needed) (8.1 percent compared to 5.1 percent)
- be renting (60.7 percent compared to 51.8 percent)
- be in social housing (16.3 percent compared to 9.7 percent).

Compared to Pacific children in households with no disabled person, Pacific children in households with a disabled person were more likely to:

- have accommodation that was crowded or severely crowded (1 or more extra bedrooms needed) (39.9 percent compared to 27.1 percent)
- have accommodation that was severely crowded (2 or more extra bedrooms needed) (16.7 percent compared to 10.2 percent)
- be renting (75.7 percent compared to 67.6 percent)
- be in social housing (33.4 percent compared to 19.0 percent).

Figure 25: Proportion of children with crowded housing, rented housing and social housing by whether or not there is a disabled person in the household (HH)



Geographic location and neighbourhood deprivation

Children in households with a disabled person were more likely to live outside regions containing the main centres, and more likely to live in a more deprived neighbourhood.

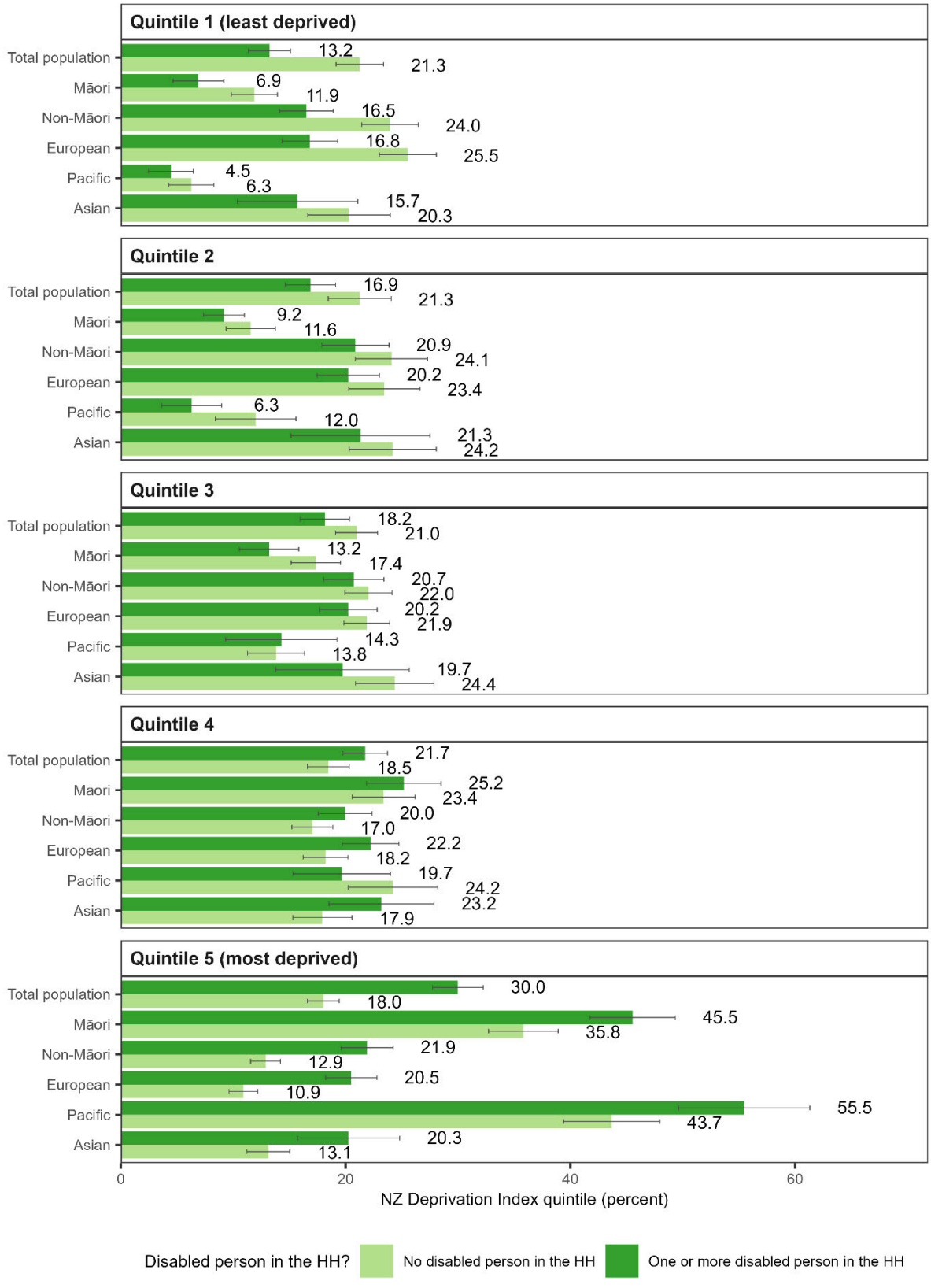
Compared to children in households with no disabled person, children in households with a disabled person were more likely to live:

- outside regions containing the main centres (i.e. outside the Auckland, Wellington, Canterbury and Waikato regions) (37.1 percent compared to 31.9 percent) (refer to accompanying tables)
- in a neighbourhood with high deprivation (based on being in a neighbourhood in the top New Zealand Index of Deprivation (NZDep) quintile (Atkinson et al., 2018)) (30.0 percent compared to 18.0 percent) (Figure 26).

There were no statistically significant differences in the proportions living in major, large, medium or small urban areas, or in rural settlements or other rural areas (Appendix 4).

Māori and European children in households with a disabled person were more likely than Pacific and Asian children in households with a disabled person to live outside regions containing the main centres (refer to accompanying tables).

Figure 26: Proportion of children in each NZDep quintile by whether or not there is a disabled person in the household



The circumstances of adults in the household

Adults in the households of children living with a disabled person were more likely than those of children living with no disabled person to have characteristics associated with low earnings or low earning potential.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to live:

- with an adult with no qualifications (49.5 percent compared to 29.3 percent)
- in a 'jobless' household with no adult in paid employment (15.9 percent compared to 8.4 percent)
- with no adult with employment income in at least 48 of the last 60 months (i.e. four out of five years) – indicating long-term joblessness (32.3 percent compared to 24.9 percent) (Figure 27).

Proportions living with adults with these characteristics were higher among Māori and Pacific children.

Among Māori children, the households of children with a disabled person were more likely than those with no disabled person to live:

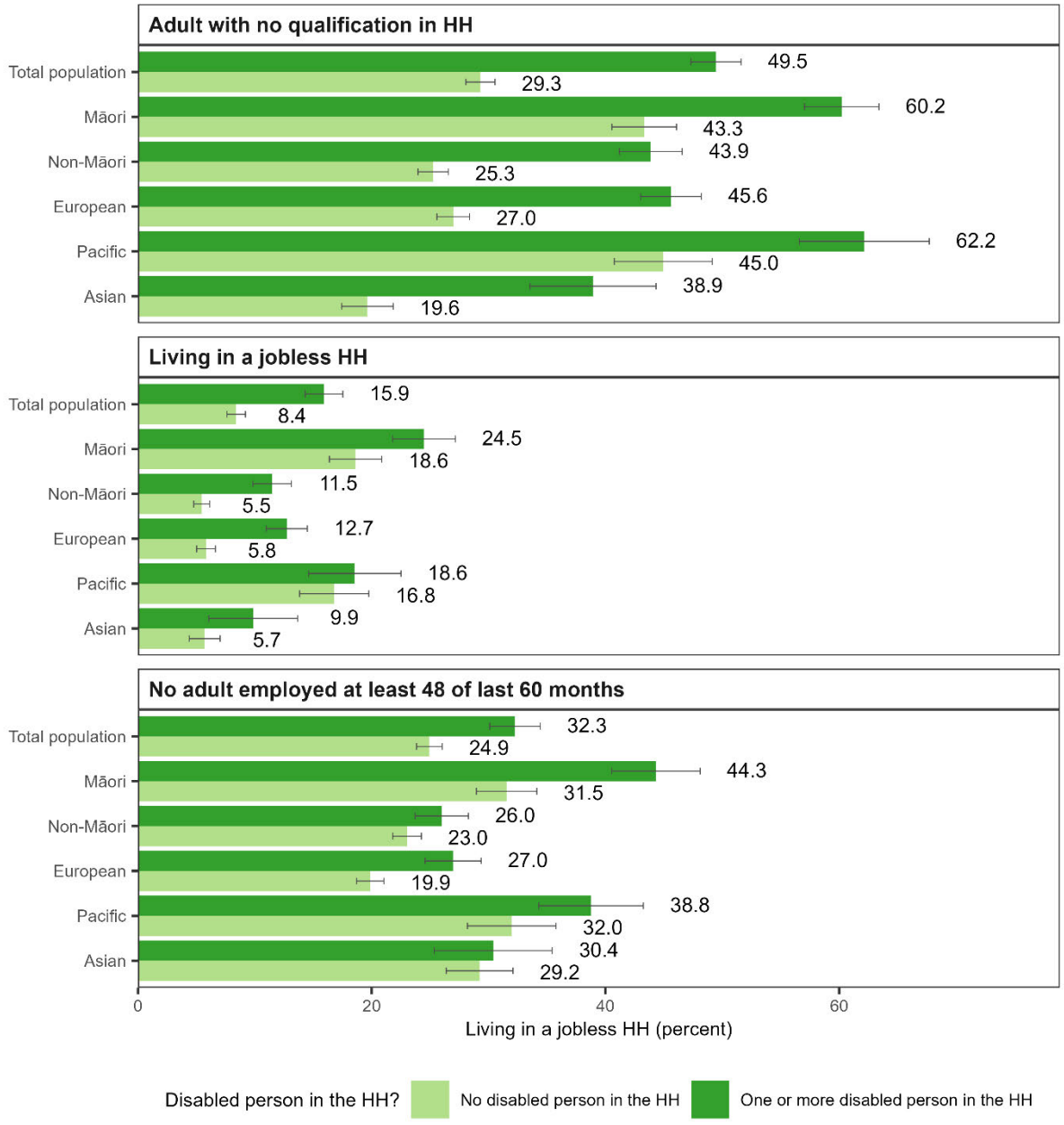
- with an adult with no qualifications (60.2 percent compared to 43.3 percent)
- in a jobless household with no adult in paid employment (24.5 percent compared to 18.6 percent)
- with no adult with employment income in at least 48 of the last 60 months (44.3 percent compared to 31.5 percent).

Among Pacific children, the households of children with a disabled person were more likely than those with no disabled person to live:

- with an adult with no qualifications (62.2 percent compared to 45.0 percent)

- in a jobless household with no adult in paid employment (18.6 percent compared to 16.8 percent – but this was not a statistically significant difference)
- with no adult with employment income in at least 48 of the last 60 months (38.8 percent compared to 32.0 percent – but this was not a statistically significant difference).

Figure 27: Proportion of children with adults in the household (HH) with no qualifications, who are jobless, and who are jobless long-term, by whether or not there is a disabled person in the HH



Receipt of Disability Support Services

Receipt of Disability Support Services was examined using linked data from SOCRATES.[12] This is a national database of Whaikaha's Disability Support Services clients and service providers. Information for SOCRATES is supplied by Needs Assessment and Service Co-ordination agencies. Whaikaha-funded Disability Support Services are available to people who have a physical, intellectual or sensory disability (or a combination of these) where:

- the disability is likely to continue for at least six months
- the person needs ongoing support to live independently, to the extent that ongoing support is required.

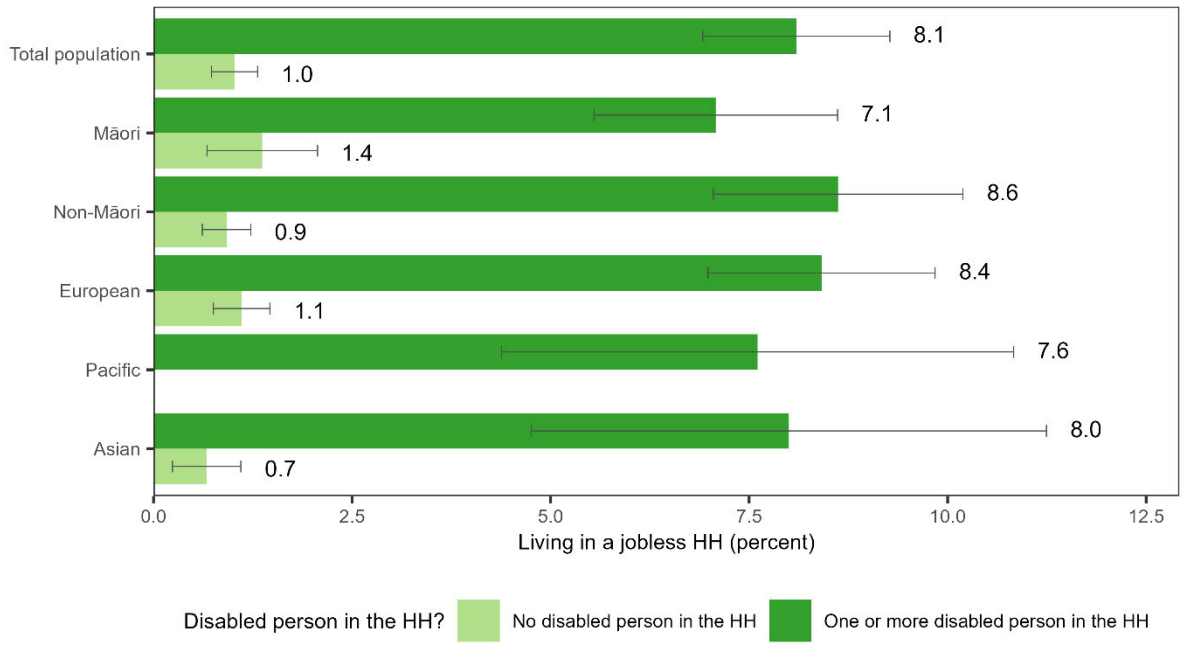
Limitations of the Washington Group questions on functioning mean some households that appear to have no disabled person according to the Washington Group indicators receive Disability Support Services. The Washington Group questions do not identify all disabled people. For example, people with neurodivergence such as Autism and people who have an intellectual disability may be excluded (see Appendix 1).

Of children in households with a disabled person, 8.1 percent lived with a person (child or adult) who had received Disability Support Services – indicating high support needs (Figure 28).

Although the data suggest lower rates of receipt of Disability Support Services by disabled people in the households of Māori and Pacific children, the differences were not statistically significant.

[12] SOCRATES does not include information on people older than 65 years of age. Disability supports for this age group and people with mental health needs are in most cases, funded by Te Whatu Ora (formerly District Health Boards).

Figure 28: Proportion of children in a household (HH) where an adult or child has received Disability Support Services by whether or not there is a disabled person in the HH



Note: Defined as ever having been assessed as eligible for Disability Support Services. Receipt of Disability Support Services for Pacific children living in households with no disabled people were suppressed for confidentiality reasons.

Receipt of benefits and other transfers

Adults in the households of children living with a disabled person were more likely than those of children living with no disabled person to be receiving main benefits and ACC weekly compensation, but most did not receive these payments. One in four had transfer payments as their main source of annual household income.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to live:

- in a household where transfer payments (which include all benefits, pensions and Working for Families tax credits but exclude ACC weekly compensation) were the main source of annual income (25.3 percent compared to 11.5 percent)
- with an adult in the household receiving ACC weekly compensation – indicating injury-related incapacity for work (7.9 percent compared to 5.1 percent)
- with an adult in the household receiving a main working-age benefit (37.8 percent compared to 18.2 percent) (Figure 29).

Among Māori children, the households of children living with a disabled person were more likely than those with no disabled person to have:

- transfer payments as the main source of annual income (40.4 percent compared to 24.4 percent)
- an adult in the household receiving a main working-age benefit (55.7 percent compared to 38.7 percent).

Among Māori children, the households of children with a disabled person were not significantly more likely than those with no disabled person to live with an adult in the household receiving ACC weekly compensation (7.5 percent compared to 7.6 percent).

Among Pacific children, 56.8 percent of the households of children living with a disabled person had an adult in the household receiving a main working-age benefit (compared to 37.8 percent for children living with a disabled person overall). However only 35.4 percent had transfer payments as the main source of annual income (compared to 25.3 percent for children living with a disabled person overall).

For close to half of the children in households with a disabled person where an adult received a main benefit, the benefit received was Sole Parent Support. Receipt of health- and disability-related benefits was less common.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to live with an adult receiving:

- Sole Parent Support (17.8 percent compared to 9.7 percent)
- Job-seeker support – Work ready (13.3 percent compared to 6.8 percent)
- Job-seeker support – Health Conditions and Disability (6.7 percent compared to 2.0 percent)
- Supported Living Payment as a person with a health condition, injury or disability (4.7 percent compared to 1.2 percent)
- Supported Living Payment as a carer (1.9 percent compared to 0.3 percent) (Figure 30).

Few people on benefits other than Sole Parent Support have children.

Figure 29: Proportion of children with transfer payments the main source of household (HH) income, with adults receiving ACC weekly compensation, and with adults receiving a main working-age benefit, by whether or not there is a disabled person in the HH

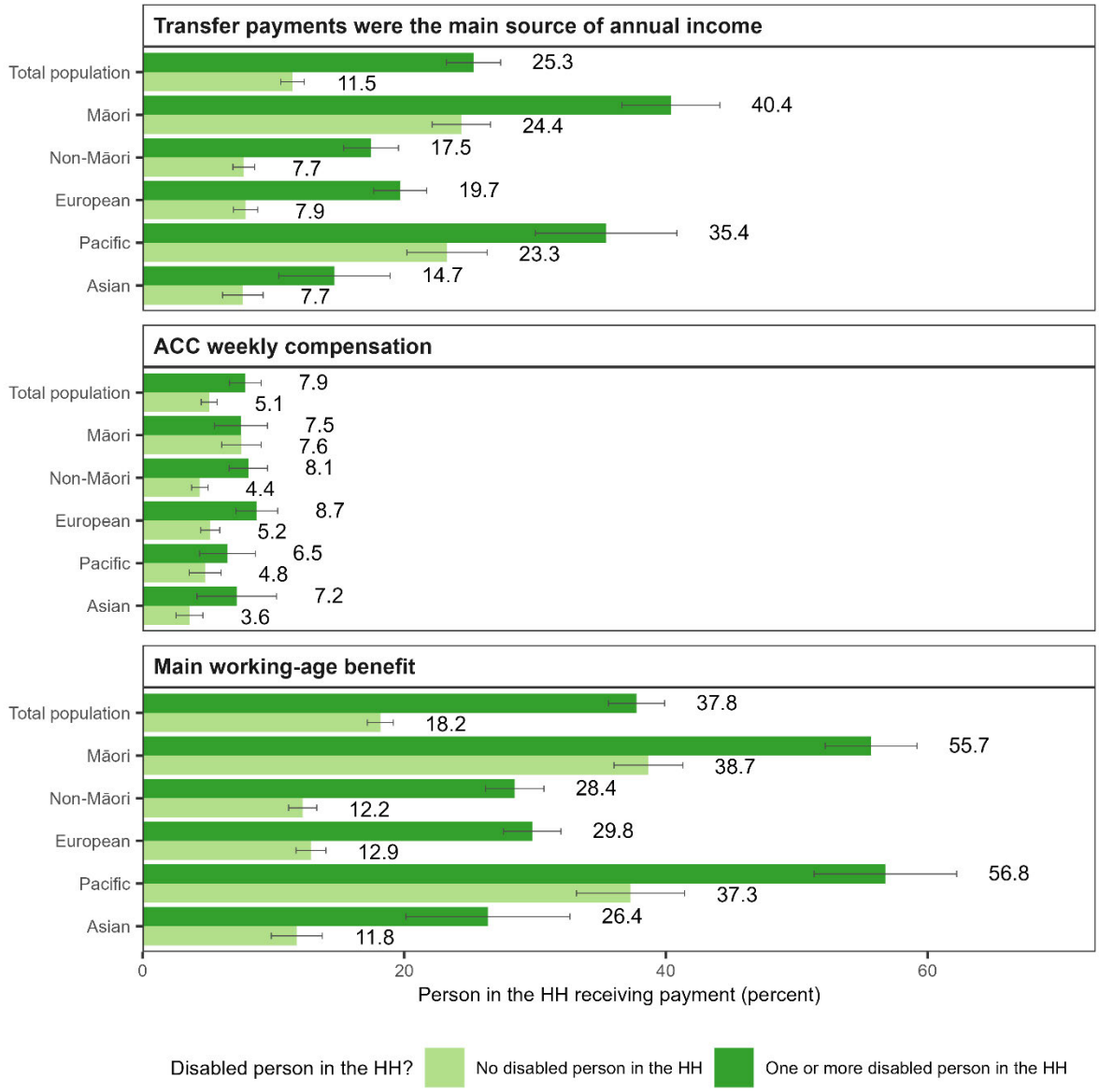
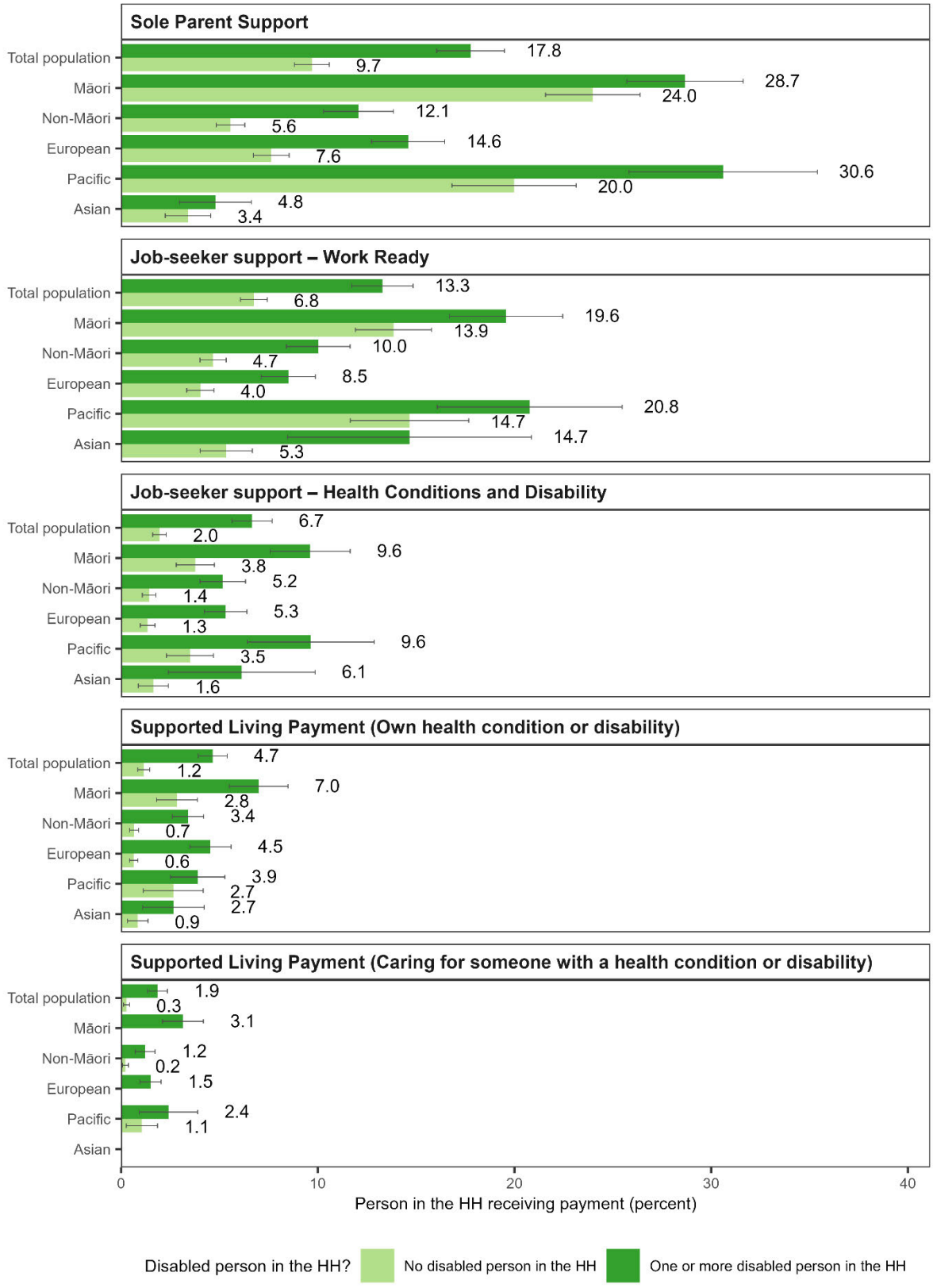


Figure 30: Proportion of children with adults in the household (HH) receiving main working-age benefits by whether or not there is a disabled person in the HH

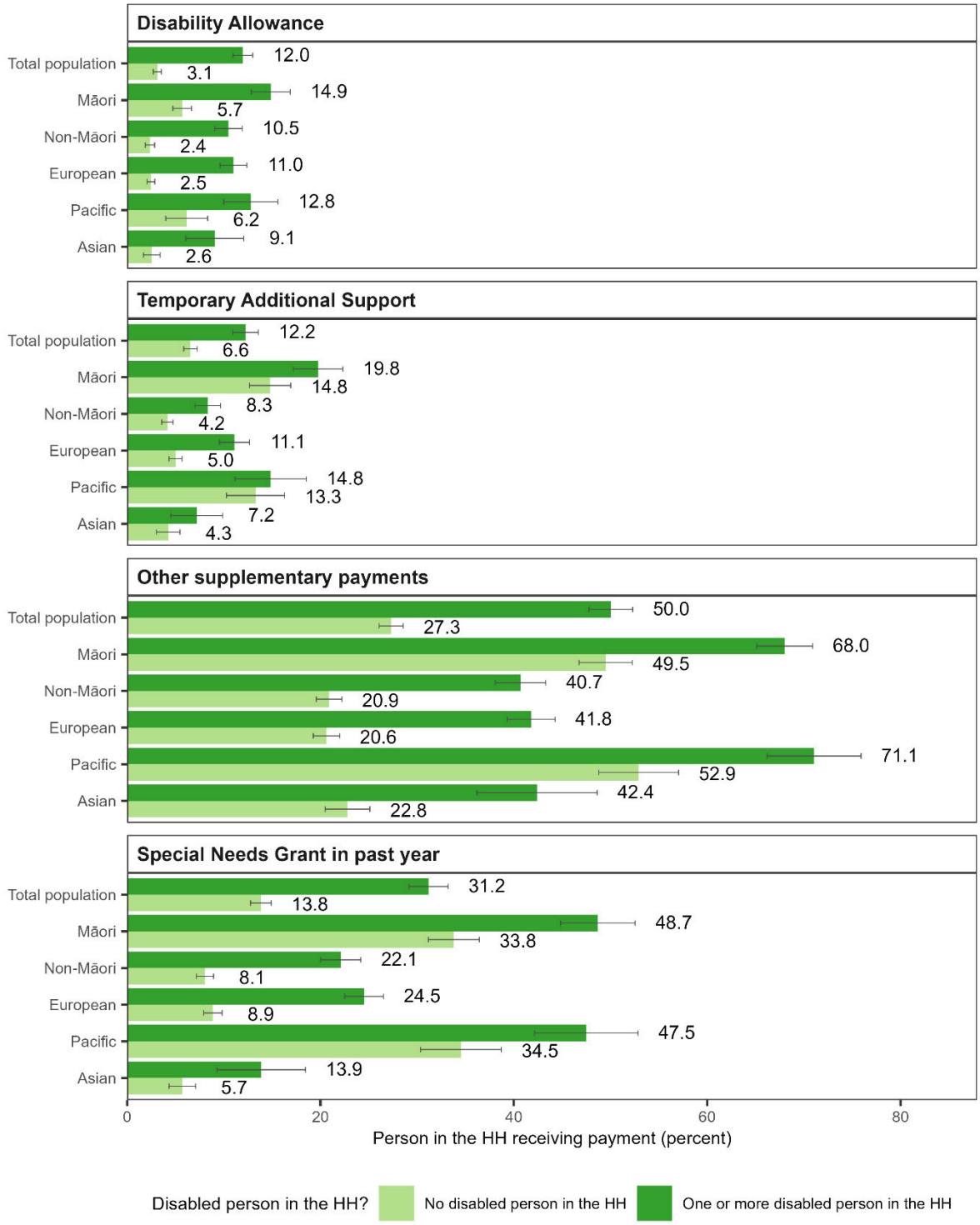


Adults in the households of children with a disabled person were more likely than those of children living with no disabled person to receive supplementary income support payments and hardship assistance.

Compared to children in households with no disabled person, children in households with a disabled person were more likely to live with an adult receiving:

- Disability Allowance (12.0 percent compared to 3.1 percent)
- Temporary Additional Support (12.2 percent compared to 6.6 percent)
- other supplementary payments (these include Working for Families tax credits paid by MSD and Accommodation Supplement, but do not include Working for Families tax credits paid by Inland Revenue) (50.0 percent compared to 27.3 percent)
- at least one Special Needs Grant in the last 12 months to pay an essential or emergency cost (31.2 percent compared to 13.8 percent) (Figure 31).

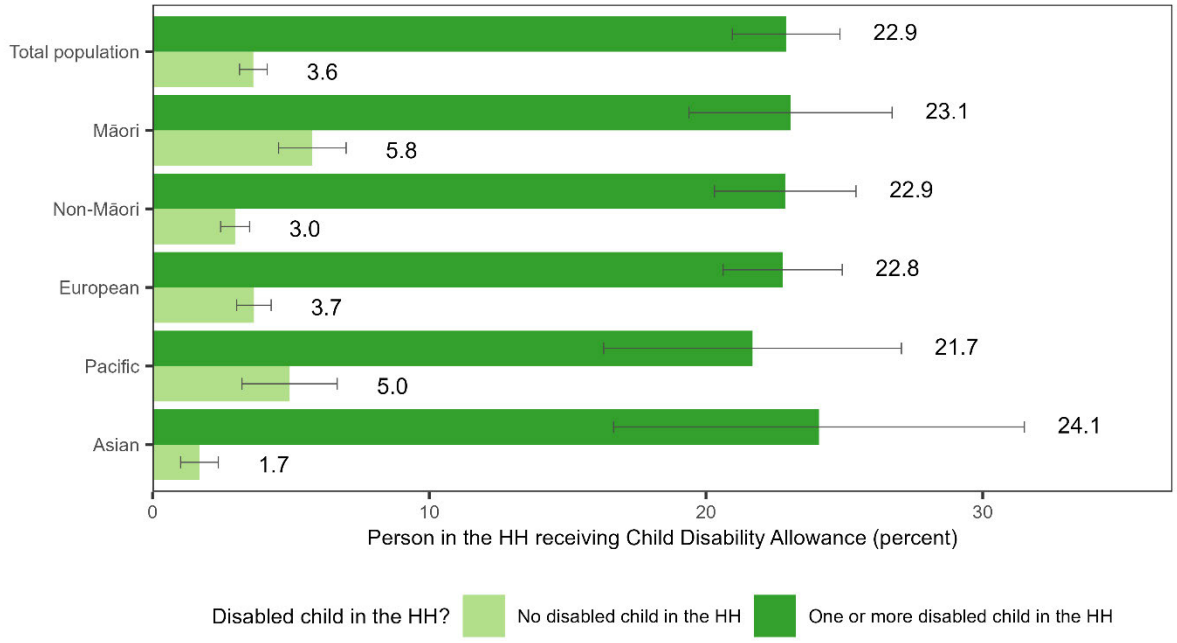
Figure 31: Proportion of children with adults in the household (HH) receiving supplementary and hardship payments by whether or not there is a disabled person in the HH



Looking just at children in households with a disabled child, 22.9 percent were in a household where Child Disability Allowance was received

There were no statistically significant differences in the proportion receiving Child Disability Allowance across ethnic groups for children in households with a disabled child (Figure 32). However, there were some statistically significant differences in the small amount of receipt in households where no child was disabled according to the Washington Group indicator. These could reflect, for example, a higher rate of disability and health conditions not captured by the indicator among Māori children.

Figure 32: Proportion of children in a household (HH) where someone receives Child Disability Allowance by whether or not there is a disabled child in the HH

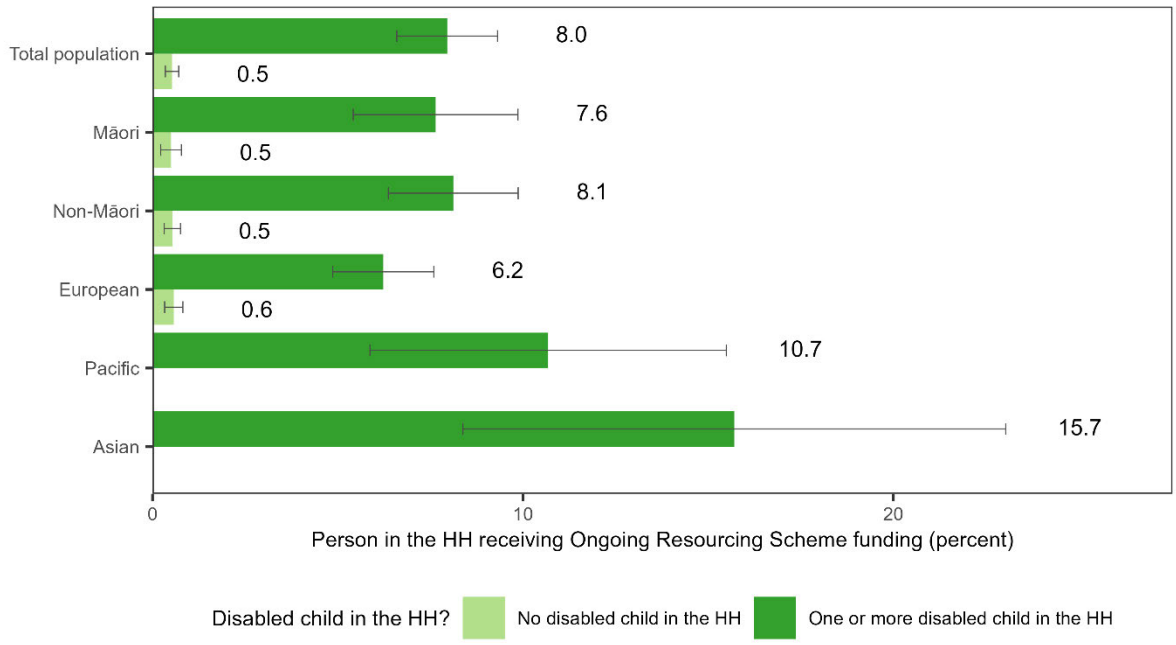


Receipt of Ongoing Resource Scheme funding

Looking at children in households with a disabled child, 8.0 percent were in a household where Ministry of Education Ongoing Resource Scheme funding was received in respect of a child.

There were no statistically significant differences in the rate of receipt of Ongoing Resource Scheme funding across ethnic groups, with the exception of a higher rate among Asian than European children (Figure 34).

Figure 34: Proportions of children in a household (HH) where at least one person has Ongoing Resource Scheme funding by whether or not there is a disabled child in the HH



Note: Receipt of Ongoing Resourcing Scheme funding for Pacific and Asian children living in households with no disabled people were suppressed for confidentiality reasons.

Children's characteristics

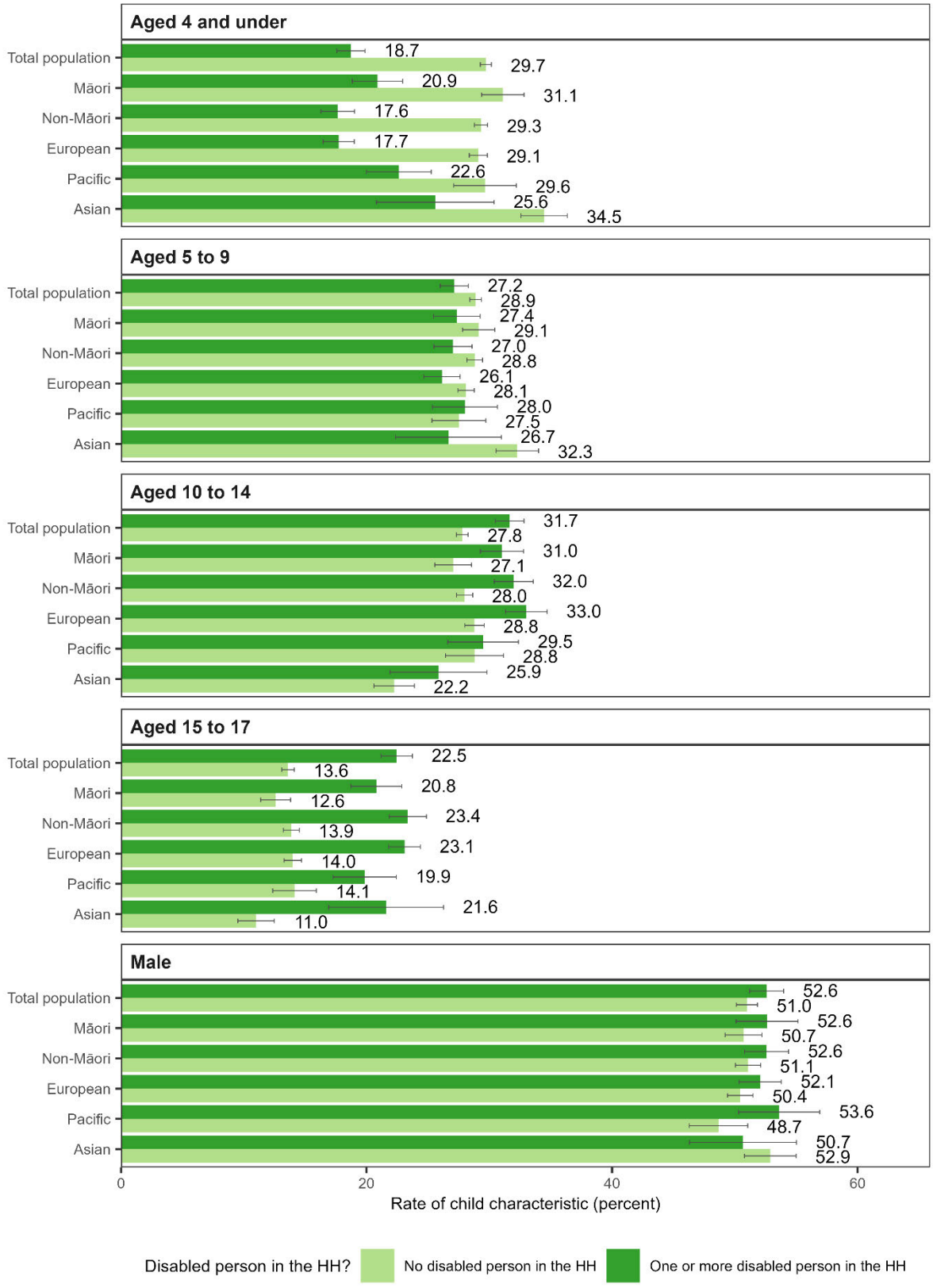
Compared to children in households with no disabled person, children in households with a disabled person were more likely to be in older age groups.

The proportion of children aged 10 to 14 was 31.7 percent for children in households with a disabled person compared to 27.8 percent for children in households with no disabled person. The proportion of children aged 15 to 17 was 22.5 percent compared to 13.6 percent.

The proportions of children who were male were similar (52.6 percent and 51.0 percent respectively).

These general patterns were apparent for most ethnic groups (Figure 33).

Figure 33: Proportions of children in different age groups and male by whether or not there is a disabled by whether or not there is a disabled person in the HH



Material hardship rates by adults' paid employment and sources of income

Non-employment and/or transfers the main source of income

The proportion in a household experiencing material hardship was particularly high for children in households where no adults were employed and where transfer payments were the main source of income.

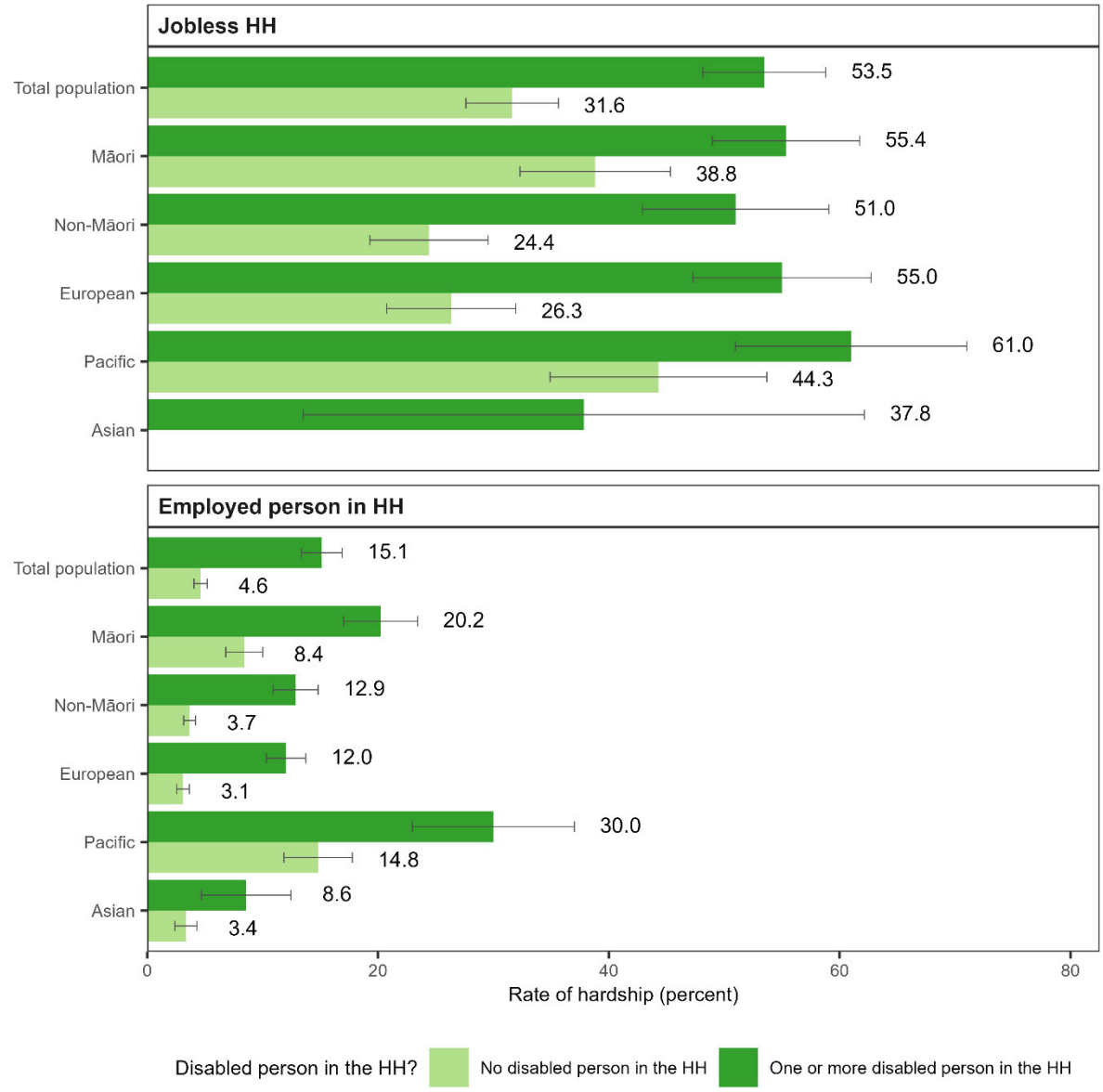
Children in a jobless household (with no adult in paid employment) with a disabled person had a material hardship rate of 53.5 percent compared with 31.6 percent for other children in jobless households (Figure 35). Children in a jobless household with a disabled person made up:

- 15.9 percent of children in a household with a disabled person
- 40.1 percent of children in a household with a disabled person in material hardship
- 22.4 percent of all children in material hardship.

Children in a household with a disabled person where transfer payments were the main source of annual income had a material hardship rate of 46.0 percent compared with 29.7 percent for other children in a household where transfer payments were the main source of annual income (Figure 36). Children in a household with a disabled person where transfer payments were the main source of annual income made up:

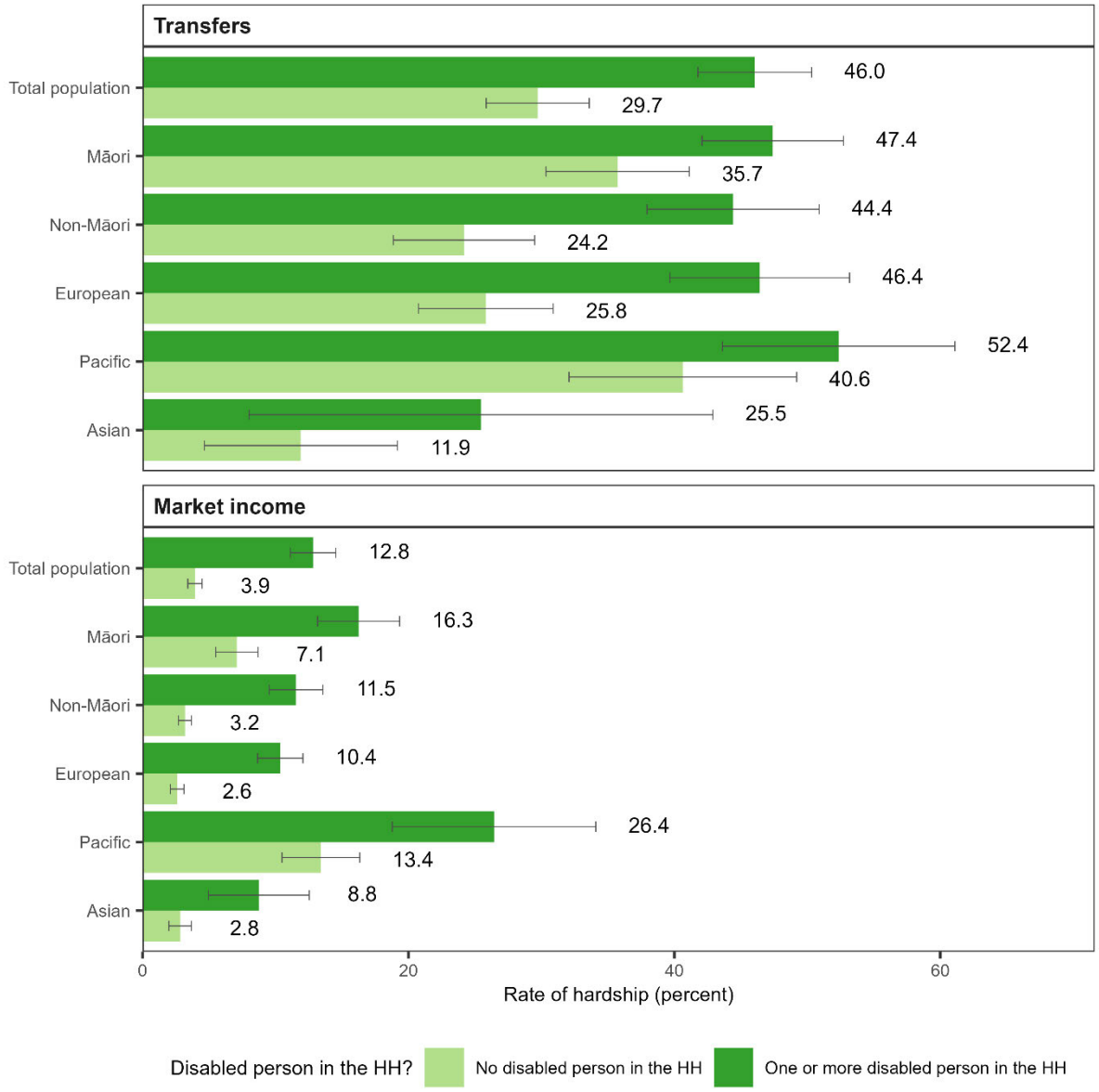
- 25.3 percent of children in a household with a disabled person
- 54.9 percent of children in a household with a disabled person in material hardship
- 30.7 percent of all children in material hardship.

Figure 35: Proportion of children in households (HH) in material hardship by whether all adults jobless or one or more employed, by whether or not there is a disabled person in the HH



Note: Rate of hardship for Asian children living in jobless households with no disabled people were suppressed for confidentiality reasons.

Figure 36: Proportion of children in households (HHs) in material hardship by main source of annual household income, by whether or not there is a disabled person in the HH



Note: Rate of hardship for Asian children living in households with one or more disabled people and transfers as the main source of income were suppressed for confidentiality reasons.

Employment and/or market income the main source of income

But even among children in households where adults were employed and market income was the main source of income, being in a household with a disabled person substantially increased the risk of material hardship.

In addition, children in these circumstances where material hardship rates were lower accounted for a larger share of children in material hardship than children in circumstances where material hardship rates were high.

Children in a household with a disabled person where at least one adult was employed had a material hardship rate of 15.1 percent compared with 4.6 percent for other children in a household where at least one adult was employed (Figure 35). Children in a household with a disabled person where at least one adult was employed made up:

- 84.1 percent of children in a household with a disabled person
- 59.9 percent of children in a household with a disabled person in material hardship
- 33.5 percent of all children in material hardship.

Children in a household with a disabled person where market income was the main source of annual income had a material hardship rate of 12.8 percent compared with 3.9 percent for other children in a household where market income was the main source of annual income (Figure 36). Children in a household with a disabled person where market income was the main source of annual income made up:

- 74.7 percent of children in a household with a disabled person
- 45.1 percent of children in a household with a disabled person in material hardship
- 25.2 percent of all children in material hardship.

Comparing children in different ethnic groups living in households with a disabled person, the differences in material hardship rates were less marked in circumstances where material hardship rates were high.

For children in jobless households, the material hardship rate was above 50 percent across children in all ethnic groups with the exception of Asian children, with no statistically significant differences in rates (Figure 35).

For children in households where adults were employed, material hardship rates were higher for Māori and Pacific children than for children in other ethnic groups.

For children in households where transfers were the main source of annual income, the material hardship rate was high across most ethnic groups, with the only statistically significant difference being between the material hardship rates of Asian and Pacific children (Figure 36).

Main benefit receipt compared with ACC receipt

Children in households with a disabled person where at least one adult received a main benefit had higher rates of material hardship than those in households where an adult received ACC weekly compensation.[13]

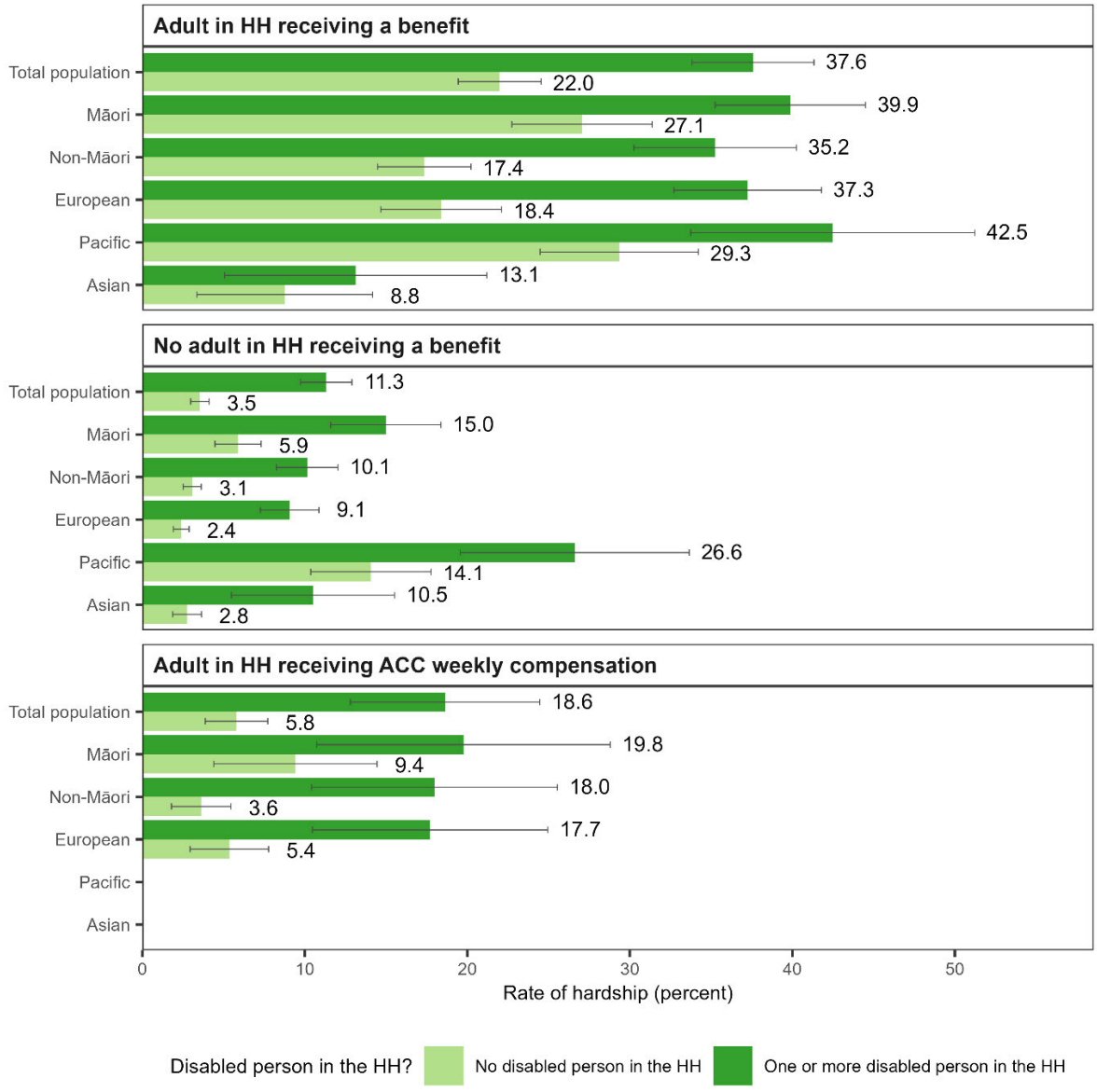
Children in a household with a disabled person where an adult received a main benefit had a material hardship rate of 37.6 percent (compared with

[13] ACC weekly compensation pays an injured person 80 percent of their previous earnings. As at 1 April 2024 the minimum rate of weekly compensation payable was 80% of the adult minimum wage and the maximum rate payable was $2,257.17.

22.0 percent for other children in a household where an adult received a main benefit) (Figure 37).

Children in a household with a disabled person where an adult received ACC weekly compensation had a material hardship rate of 18.6 percent (compared with 5.8 percent for other children in a household where an adult received ACC weekly compensation).

Figure 37: Proportion of children in households (HHs) in material hardship by main benefit receipt and receipt of ACC weekly compensation by adults in the HH, by whether or not there is a disabled person in the HH



Insights for policy and research

This section outlines key insights for policy and research.

Policies that improve support for paid employment and increased earnings of disabled adults and adults who care for disabled children and adults, will reduce income-based child poverty rates, so long as they lead to improved income after factoring in the costs of working.

In households with children where there is a disabled person, there are higher than average rates of receipt of main benefits, and a greater proportion live with no adults in paid employment.

In qualitative interviews undertaken in 2023 and 2024 in parallel with this study, disabled people and people in families and whānau with a disabled person talked about how disability limited their hours of work and earnings, about wanting more paid employment, and about the financial and other barriers to employment they face.

Supporting employment and increasing earnings can reduce income-based child poverty and material hardship rates. However, this will only be the case if it is associated with improved income after any increased costs from moving into paid work or increasing hours of paid work are taken into account (such as increased transport costs, or any increased costs of caring for the disabled child or adult).

The income from work would also need to cover health- and disability-related costs. This is because most people receiving Disability Allowance would lose this payment when they move into work. They may also be no longer eligible for the Community Services Card.

Such policies need to be mindful that many children living in households with a disabled person are in families where there is only one parent to meet the family's care and economic needs.

Consistent with other data and research, our results show an association between children having a disabled family or household member, and

being in a sole parent family. Almost three in ten children in households with a disabled person live with a sole parent, usually a sole mother. This association likely reflects the unique financial, time, and relationship stressors associated with being disabled, or having a disabled child (Murray, 2018).

New research shows that New Zealand sole parents who have disabled children are less likely than other sole parents to have shared care arrangements for their children (Prickett and Bennet, 2024). Evidence from other countries shows that children living full time with a single parent are more likely to experience poor economic conditions, social relations and health outcomes compared to those in shared care arrangements (Nieuwenhuis, 2021).

Sole parent families are diverse. Some have support from children's other parents or from whānau or family living in the same or another household that enables employment. Others are the sole adult available to meet the family's care and economic needs.

Support for employment needs to be flexible and tailored. Employment may not always be possible or economically feasible, especially where caring needs are high and/or the parent has a health condition or disability.

Supporting increased employment, on its own, will not fully address the high rates of material hardship among children in households with a disabled person.

Most children in households with a disabled person and in material hardship live with adults who do not receive main benefits, and in most cases their households already have market income as their main source of annual income.

The rate of material hardship is 3.1 times higher for children in households with a disabled person than other children, despite their average household incomes being above 85 percent of the average household incomes of other children.

An important factor likely to contribute to high rates of material hardship among children in households with a disabled person is the extra costs households with a disabled person face.

There is a larger gap in material hardship than in average incomes and income-based poverty rates comparing children in households with a disabled person with other children.

This indicates that other factors, in addition to lower incomes, contribute to the higher rates of material hardship among children in households with a disabled person.

Additional costs associated with disability are likely to be an important factor. International and New Zealand evidence points toward households with a disabled person having extra costs that can be sizeable (Mitra et al., 2017; Godfrey and Brunning, 2009; Disability Resource Centre, 2010). These costs reduce the resources available to spend on other essential items.

In the qualitative interviews undertaken in parallel with this study, disabled people and people in families and whānau with a disabled person talked about the costs they face. These costs range from disability-related care and equipment and health costs, to extra costs associated with transport, housing that meets accessibility needs and special food. People talked about the ways these costs limited the amount they can spend on other essentials, including other food, other healthcare (including dental treatment) and educational resources and activities for children.

Households with a disabled person economise on housing costs in a way that is likely to be harmful to children's health and development, and to the health and wellbeing of other household members.

For children in households with a disabled person, there is more likely to be economising on home heating. In addition, housing is more likely to be crowded for these children compared to children in households with no disabled person (19.6 percent compared to 10.5 percent). For Māori

children in households with a disabled person, the proportion in crowded housing is 26.3 percent. For Pacific children in households with a disabled person, the proportion is 39.9 percent.

There can be many positive aspects to living in large households. These include enabling culturally valued living arrangements, increasing access to relationships of care and natural supports, and reducing social isolation for disabled people. However, there can be negative aspects if housing is crowded or of poor quality, and if households cannot afford to heat their homes adequately. These include risks to health and wellbeing (Howden-Chapman et al., 2023).

Improving income support payments such as Disability Allowance and Child Disability Allowance and Whaikaha-funded supports that help with the additional costs of disability for people both in and out of work would be a useful focus for future child poverty reduction efforts.

These are likely to be useful policies for reducing rates of material hardship among children and addressing inequities in material hardship rates.

They are also likely to be important mechanisms for improving the health and wellbeing of disabled people and their families and whānau.

Results from this study suggest that targeting additional help only to groups with the highest material hardship (such as those whose income comes mainly from transfer payments or those with no employed adult in the household) would miss many of those in material hardship and miss many of those for whom disability imposes additional costs. Even for sub-groups of the population with low average rates of material hardship, being in a household with a disabled person increases the risk of material hardship.

It is notable that for most children in households with a disabled person, there is no receipt of disability-related income support payments (such and Disability Allowance and Child Disability Allowance) and support

services (such as Disability Support Services and Ongoing Resource Scheme funding) in the household.

This is important because it implies that simply increasing the generosity of these payments and supports for people currently in receipt would not be enough to address the over-representation of children in households with a disabled person among children in material hardship.

More research on rates of receipt of health- and disability-related income support payments and support services would be useful.

Rates of receipt can vary for a range of reasons. These include differences in access to natural supports within the household or community, and differences in cultural preferences. But they also include barriers to service access, such as those related to lack of awareness and understanding of what is available, financial or transaction costs of seeking support and diagnoses, racism, and negative experiences engaging with services. These barriers are of policy concern where they exist.

In this report, we examine the proportion of households who received Disability Allowance, Child Disability Allowance, Disability Support Services, and Ongoing Resource Scheme funding. In addition to finding that for most children in households with a disabled person there is no receipt of these payments, we find few statistically significant differences across ethnic groups in rates of receipt.

However, our analysis does not account for the rate of receipt for each potentially qualifying disabled person in the household, or control for the nature and severity of impairments or whether people meet the income test requirements for Disability Allowance. Estimating rates of receipt for each potentially eligible disabled person is important given that Māori and Pacific children would be expected to have more potentially eligible people in their households.

More quantitative research with a larger sample, and more detailed information on responses to Washington Group questions would be useful.

This would allow better estimates of rates of receipt of payments and services to be derived and provide a better basis for examining equality of these rates. It could examine whether disabled people living with others receive services at the same rate as disabled people living in other situations.

This would help build understanding of whether increasing receipt and improving equality of receipt of these payments and supports could contribute to meeting child poverty reduction goals.

Addressing other drivers of inequities is also important.

There are very high rates of material hardship for Pacific children in households with a disabled person, and a high proportion of Pacific children live in households with a disabled person. Policies that address housing, educational, employment, and health and disability inequalities experienced by Pacific people will help address inequities in children's experiences of material hardship. This includes policies that are Pacific-led and targeted for the unique cultural needs of different Pacific ethnic groups.

The results from this study also highlight high rates of material hardship for Māori children in households with a disabled person, and the high proportion of Māori children who live in households with a disabled person.

The drivers of these differences have historical roots, including the legacy of colonialism and loss of lands and other resources (Jones et al., 2023). Inter-related contemporary inequities also play a role. These include lower educational participation and attainment, greater vulnerability to unemployment, concentration in regions and neighbourhoods with fewer economic opportunities, higher rates of sole parenthood, and inequities in health service access. They also include employment barriers and challenges to physical and mental health that are associated with high rates of early removal from whānau and justice system involvement (Gibson et al, 2017).

Policies that address these inequities will help address inequities in children's experiences of material hardship. These include, for example, enabling Māori-led employment strategies and policies that improve equality of outcomes in education, employment, housing quality and tenure, justice, disability and health and improve access to services.

The over-representation of children in households with a disabled person among children in material hardship could be explored further.

Our results highlight associations between whether there is a disabled person in a household and factors such as adults' education levels, employment and housing. These factors also have independent associations with material hardship. Further research could seek to disentangle the independent effects of having a disabled person in the household on children's risk of material hardship from the effects of these other factors and explore causal relationships.

In addition, detailed expenditure data collected in the Household Economic Survey could be analysed to explore the relationship between costs incurred by households with and without a disabled person, their income levels, and their experiences of material hardship.

The next step for our research is to look at the feasibility of estimating how much extra income households with a disabled person would need to have the same living standards as households with no disabled person, on average.

Internationally, research studies have estimated the scale of the additional costs of disability using statistical methods (Mitra et al., 2017; Solmi et al, 2017). These studies aim to provide estimates that can help inform:

- policy settings for income support payments and other publicly-funded supports
- methods used to equivalise incomes when tracking income-based poverty measures.

The statistical methods used in international studies look at how much more income families with a disabled person would need to have the same standard of living as similar families without a disabled person. The amount arrived at can be taken as an indication of the average additional costs families with a disabled person have.

We will look at the feasibility of producing such estimates for New Zealand.

When interpreting the estimates, it will be important to be mindful that they may partly capture other possible differences between families with and without a disabled person that we are not able to take account of given the data available to us. These could include, for example, lower savings and fewer assets (which may be associated with the effect of having a disabled person in the family on employment over a period of time).

References

Atkinson, J., Salmond, C., & Crampton P. (2019). *NZDep2018 Index of Deprivation: interim research report*. University of Otago. https://www.otago.ac.nz/__data/assets/pdf_file/0025/327481/nzdep2018-index-of-deprivation-research-report-interim-dec-2019-730394.pdf

Beltran-Castillon, L., & McLeod, K. (2023). *From Data to Dignity: Health and Wellbeing Indicators for New Zealanders with Intellectual Disability*. IHC. https://www.ihc.org.nz/publications/from-data-to-dignity-health-and-wellbeing-indicators-for-new-zealanders-with-intellectual-disability

Jones, B., King, P.T., Baker, G., Nikora, L, W., Hickey, H., Perry, M., Pouwhare, R., & Ingham, T. R. (2023). Karanga rua, karanga maha: Māori with lived experience of disability self-determining their own identities. *Kōtuitui: New Zealand Journal of Social Sciences Online*. https://doi.org/10.1080/1177083X.2023.2224422

Department of Prime Minister and Cabinet. (2022). *Reducing child Poverty.* https://www.dpmc.govt.nz/our-programmes/reducing-child-poverty .

Disability Resource Centre. (2010). The Cost of Disability - Final Report. Report prepared for the Ministry of Social Development and the Office for Disability Issues. https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fcarers.net.nz%2Fwp-content%2Fuploads%2F2013%2F02%2F2010Cost-of-Disability-Report.doc&wdOrigin=BROWSELINK

Expert Advisory Group on Solutions to Child Poverty. (2012). *Working paper no.21: child poverty and disability* (Report No. 21). Expert

Advisory Group on Solutions to Child Poverty working paper no.21 | Mana Mokopuna

Gibson, K., Abraham, Q., Asher, I., Black, R., Turner, N., Waitoki, W., & McMillan, N. (2017). *Child poverty and mental health: A literature review.* researchcommons.waikato.ac.nz/bitstream/handle/10289/11484/170516 CPAGChildPovertyandMentalHealthreport-CS6_WEB.pdf?sequence=2&isAllowed=y

Godfrey, J.R., & Brunning, D.M. (2009). Reconciling True and Incurred Costs of Blindness in New Zealand. Social Policy Journal of New Zealand, 36, 208-216. https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj36/36-reconciling-true-and-incurred-costs.html

Himona, P., Talamaivao, N., Yeh, L., & Paterson, L. (2019). *Māori Health Disability Statistical Report.* Report prepared for the Waitangi Tribunal (Report No, Wai 2575, #B24). https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_151847905/Wai%202575%2C%20B024.pdf

Howden-Chapman, P. Viggers, H., Keall, M., Bierre, S., Grimes, A., & Pierse, N. (2023). Research-informed Public Policy a case study of housing. *Policy Quarterly,* 19(4), 3-9. https://doi.org/10.26686/pq.v19i4.8649

Ingham, T.R., Jones, B., Perry, M., von Randow, M., Milne, B., King, P.T., Nikora, L.W., Sporle, A., Te Ao Mārama Study Group. (2023). Measuring Māori Health, Wellbeing, and Disability in Aotearoa Using a Web-Based Survey Methodology. *Int J Environ Res Public Health,* 20(18):6797. doi: 10.3390/ijerph20186797. PMID: 37754656; PMCID: PMC10530808.

King, P, T. (2019). *Māori With Lived Experience of Disability Part I*. Report prepared for the Waitangi Tribunal (Report No. Wai 2575, #B22).

https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_150437272/Wai%202575%2C%20B022.pdf

Marks, E.J., Tait, J., Miller, D., Liang, R., Bullen, P., Fenaughty, J., Grant, C., & Paine S. (2023). *Growing up in New Zealand. Now we are 12. Life in early adolescence. Disability – The impact of disability on young people and their family.* The impact of disability on young people and their family (growingup.co.nz)

Milne, B.J., Atkinson, J., Blakely, T., Day, H., Douwes, J., Gibb, S., Nicolson, M., Shackleton, N. Sporle, A. & Teng, A. (2019). Data resource profile: the New Zealand Integrated Data Infrastructure (IDI). *International Journal of Epidemiology*, 48(3), 677–677e. https://doi.org/10.1093/ije/dyz014

Ministry of Health (2023). *New Zealand Health Survey Annual Data Explorer*. minhealthnz.shinyapps.io/nz-health-survey-2022-23-annual-data-explorer/

Mitra, S., Palmer, M., Kim, H., Mont D., & Groce, N. (2017). Extra costs of living with a disability: a review and agenda for research. *Disability and Health Journal*, 10(4), 475-484. https://doi.org/10.1016/j.dhjo.2017.04.007

Murray, S. (2018). Breaking the link between disability and child and whānau poverty. Policy Quarterly, 14(4), 68-77. https://doi.org/10.26686/pq.v14i4.5151

Nieuwenhuis, R. (2021). Directions of thought for single parents in the EU. *Community, Work & Family*. 24(5), 559-566.

Office of Disability Issues (2022). *Disability data and evidence resources*. Disability data and evidence resources - Office for Disability Issues (odi.govt.nz)

Perry, B. (2022). *Child Poverty in New Zealand.* Ministry of Social Development. Child Poverty in New Zealand - Ministry of Social Development (msd.govt.nz)

Prickett, K.C., & Bennett, P. (2024) Shared care arrangements and wellbeing among families in Aotearoa New Zealand. Victoria University of Wellington.

Solmi, F., Melnychuk, M. & Morris, S. (2017). The cost of mental and physical health disability in childhood and adolescence to families in the UK: findings from a repeated cross-sectional survey using propensity score matching. *BMJ Open* en 2018;8:e018729. https://doi.org/10.1136/bmjopen-2017-018729

Stats NZ. (2014). *Disability Survey: 2013.* Disability-Survey-2013 (1).pdf

Stats NZ. (2020). *Measuring inequality for disabled New Zealanders: 2018*. https://www.stats.govt.nz/reports/measuring-inequality-for-disabled-new-zealanders-2018

Stats NZ. (2023). *Child Poverty Statistics – Year ended June 2022.* https://www.stats.govt.nz/information-releases/child-poverty-statistics-year-ended-june-2022/

Stats NZ. (2024). *How we measure child poverty.* https://www.stats.govt.nz/infographics/how-we-measure-child-poverty#text

Stephens, M. (2022). *Insights from New Zealand child poverty data.* Treasury Analytical Note 22/04. https://www.treasury.govt.nz/publications/an/an-22-04

Washington Group on Disability Statistics (2020a). *The Washington Group Short Set on Functioning – Enhanced (WG-SS Enhanced).* https://www.washingtongroup-disability.com/resources/the-

washington-group-short-set-on-functioning-enhanced-wg-ss-enhanced-167/

Washington Group on Disability Statistics (2020b). *The Washington Group / UNICEF Child Functioning Module (CFM) – Ages 5-17 years.* Child Functioning Module (CFM) – Ages 5-17 years - The Washington Group on Disability Statistics (washingtongroup-disability.com)

Washington Group on Disability Statistics (2020c). *The Washington Group / UNICEF Child Functioning Module (CFM) – Ages 2-4 Years.* https://www.washingtongroup-disability.com/resources/the-washington-group-/-unicef-child-functioning-module-cfm-ages-2-4-years-169/

Wynd, D. (2015). *'It shouldn't be this hard': children, poverty and disability*. Auckland: Child Poverty Action Group. https://static1.squarespace.com/static/60189fe639b6d67b861cf5c4/t/619336e5be00373d34f77df6/1637037798624/150317ChildDisability.pdf

Appendix 1: Strengths and limitations

The Household Economic Survey data

The Household Economic Survey is a survey of people living in private households. Its strengths include a large sample size and a consistent question set over time.

The survey is cross-sectional so a key limitation is that it cannot provide information on the length of time households have been in material hardship or income poverty.

As with all surveys, estimates are based on sample data and are therefore subject to sampling error which introduces imprecision, particularly for small population groups. Confidence intervals presented in the paper show the extent of this error for different estimates.

In addition, a proportion of households selected to participate in the Household Economic Survey do not take part. Non-response bias may be present if participation is uneven across groups.

Although weighting seeks to address uneven participation across groups, some detailed counts (eg. by main benefit type) may be affected by differences in response rates for which the weighting is unable to correct.[14]

[14] The accompanying tables should not, therefore, be used as a data source for counts of children included in main benefits. Ministry of Social Development data are the official source for these counts. (See the 'Other – last 5 years' table in National Level Data Tables available at https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/benefit/index.html.)

Restriction of the survey coverage to people living in private households means people who are sleeping rough or living in, for example, boarding houses, motels or institutions are excluded.

Questions in the Household Economic Survey focus on the household based on co-residence. This misses relationships of care and financial support for disabled people who do not reside in the household, or reside in the household part of the time. This includes care and financial support for a whānau or family member who is in residential support or long-term hospital care, for a relative who lives in another household, or for a child whose care is shared.

Within our study window, the 2021/22 period was a time of peak disruptions to caring arrangements, access to services, mental health, and economic life due to Covid-19 and the associated lockdowns. It was also a period in which Stats NZ was restricted in its ability to conduct face-to-face interviewing. We include data from this period to maximise the sample size for analysis. A downside of this choice is that the findings may to some extent capture a specific set of circumstances, and not be generalisable to the current period. In future, an update of our analysis excluding 2021/22 and including new 2022/2023 data would be a useful check on this.

More generally, our results relate to a particular period of time (July 2019 to June 2022). They therefore reflect the economic, social and service landscape of that period and may not be generalisable to other periods. For example, this was a period of high employment when labour force participation and employment of non-disabled people increased faster than that of disabled people.

Despite pooling data, sample size was not large enough to present results for children in different Pacific ethnic groups, or for children in Middle Eastern, Latin American, African, or other ethnic groups, or to examine whether households included children in care.

Data in the Household Economic Survey provide a rich source of information on the composition of households and their economic circumstances and whether any household members are disabled. However, there are some data gaps that limit this study.

- It includes no information, for example, on whether people in the household are carers, or connection to culture for Māori.
- It does not capture factors such as attitudes, spending priorities, or debt repayments which can influence measured poverty rates.
- As noted, it includes no information about how long material hardship or income poverty has been experienced by the household.
- While it includes information on the nature and severity of functional limitations as indicated by answers to the Washington Group question set, these data are not made available for analysis in the Integrated Data Infrastructure.

Linkage with administrative data in the Integrated Data Infrastructure

A particular strength of our study was the ability to examine characteristics and receipt of income support payments and services not captured by the Household Economic Survey, using linked administrative data in the Integrated Data Infrastructure. These data allow a longitudinal perspective (in examination of long-term joblessness), and avoid non-response and recall bias.

Integrated Data Infrastructure data linking is generally probabilistic. Some errors and missed links are inevitable in this process. Health data for Pacific and Asian people and older Māori are linked to the Integrated Data Infrastructure spine at a lower-than-average rate, for example. This suggests inconsistent rates of missing data due to missed links across population sub-groups (Milne et al., 2019), and these may affect some of our results.

Data linkage does not provide us with all the measures we are interested in. For example we are not able to examine assets.

The poverty measures

The Stats NZ income poverty and material hardship measures relate to the household. Implicit in this is an assumption that resources are pooled across household members. This will not always be the case.

For example, the Stats material hardship measure relies on the responses of a single randomly selected adult in the household who is asked questions about their own situation and that of their household. The material hardship score is then applied to all household members, including children. In generalising their responses to the children in the household, there is an assumption that people in the household share resources and have similar material wellbeing. This will not always be the case.

Equivalence scales take account of household size and composition, but do not take account of other factors that influence how the demands on household income vary across households, including disability-related costs.

Limitations of the measurement of material hardship are that the questions are developed within a non-disabled world view. Results presenting material hardship measures, and results from the question asked about how well income meets people's everyday needs, may be subject to some bias depending on how different socio-cultural groups and disabled versus non-disabled people conceive of everyday consumption needs and normal spending constraints.

The measures of disability

The Washington Group question set aims to define disability in a culturally neutral way. This informs its focus on a person's functions rather than the presence of impairment or self-identification as disabled.

A key strength of using standardised definitions based on the Washington Group questions is that it allows comparisons with other statistics and research, including international comparisons. It also allows replication and updating at a later date using a consistent measure.

At the same time, it means the definitions used have not been developed to capture concepts of disability that are relevant to a Māori world view (Jones et al., 2023) or to the world views of Pacific or ethnic groups.

This limits our ability to explore possible differences in experiences in the New Zealand context. These might occur, for example, due to different cultural norms and practices that could influence both the way that people conceive of disability and the way that people respond to the Washington Group questions set which may be influenced by attitudes and the way that disabled people are supported within whānau, aiga and families.

Due to different cultural or age or gender-related norms, people in different groups may respond differently to the Washington Group questions. This may affect the proportion appearing as disabled using the Washington Group indicators and influence our results.

The Washington Group indicator we analyse for adults is good at picking up age-related impairments.

However, it does not capture data on those with mental health issues that do not include anxiety and depression, or those who have long-term but intermittent impairment, neurodivergence such as Autism, are culturally deaf, or have an intellectual disability (unless they have one of the functional limitations that is captured by the questions).

It may not include people who have or are frequently affected by disabling health conditions (e.g. children with frequent respiratory conditions) or people who have experienced significant trauma and have complex health and social needs.

Where there is flux in people’s impairment, the Washington Group indicator gives us a view of that impairment at a point in time, but no information on whether impairment is permanent or transient.

Differences by age of onset and severity of disability are not captured. Onset during childhood, for example, can affect educational attainment and therefore employment prospects and lifetime income and asset accumulation. In contrast if disability has onset at older ages then it has less of an impact on education and employment trajectories, and lifetime income and asset accumulation may be less affected.

Our analysis

Our analysis provides a new descriptive data resource exploring the rate and experience of material hardship for different groups, and fills some information gaps identified in the WAI2575 stage 2 inquiry to date (Ministry of Justice, 2019).

A key limitation is that we are unable to say anything about causal relationships behind the differences found.

Another limitation is that we do not explore the independent associations between, for example, ethnic group and the experience of material hardship for children in households with a disabled person after holding all other observable factors (such as parental employment and household composition) constant.

Appendix 2: What material hardship looks like by ethnic group

Figure A2.1: Proportion of Māori children in households reporting each of the 17 items used to measure material hardship by whether there is a disabled person in the household

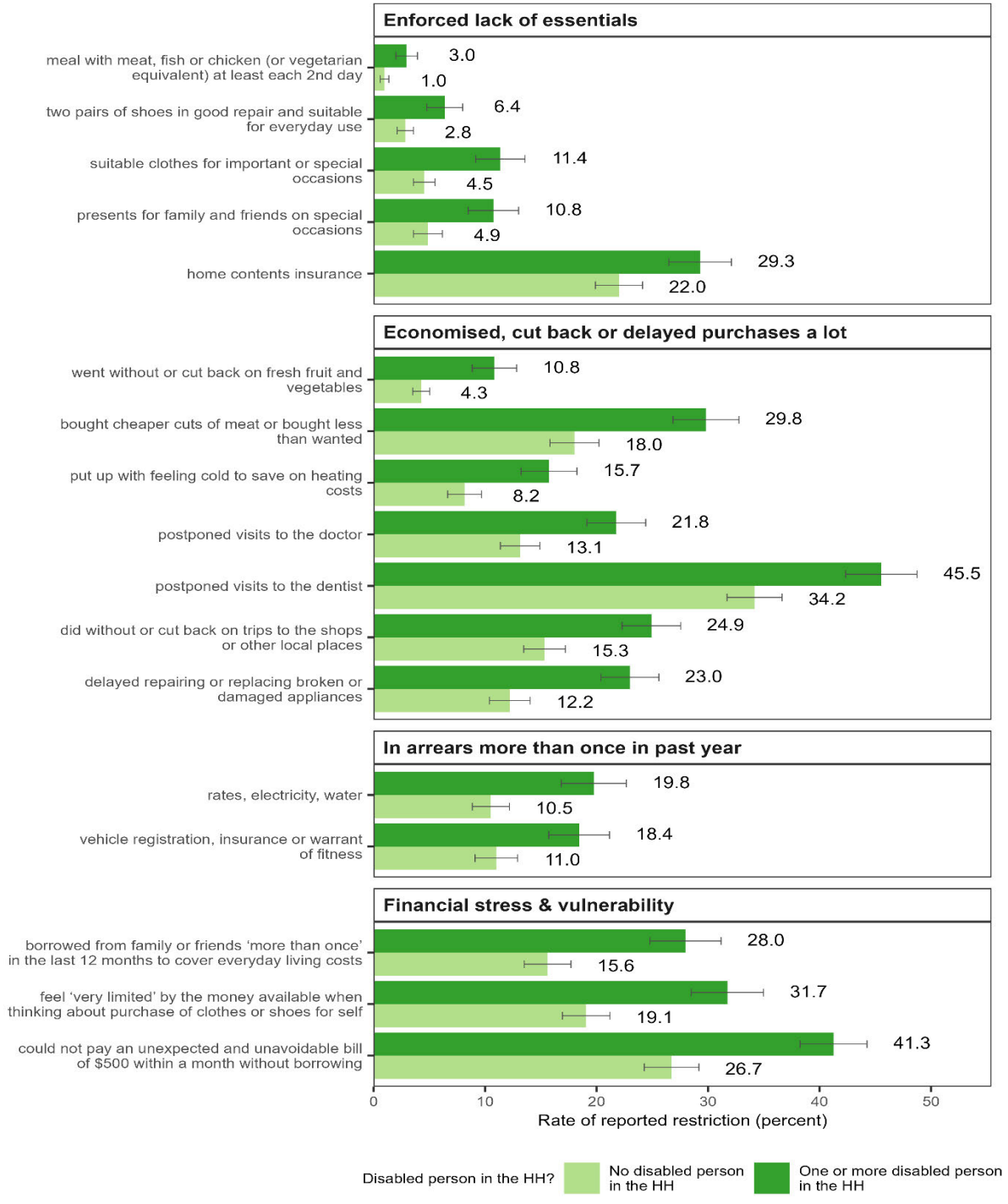


Figure A2.2: Proportion of non-Māori children in households reporting each of the 17 items used to measure material hardship by whether there is a disabled person in the household

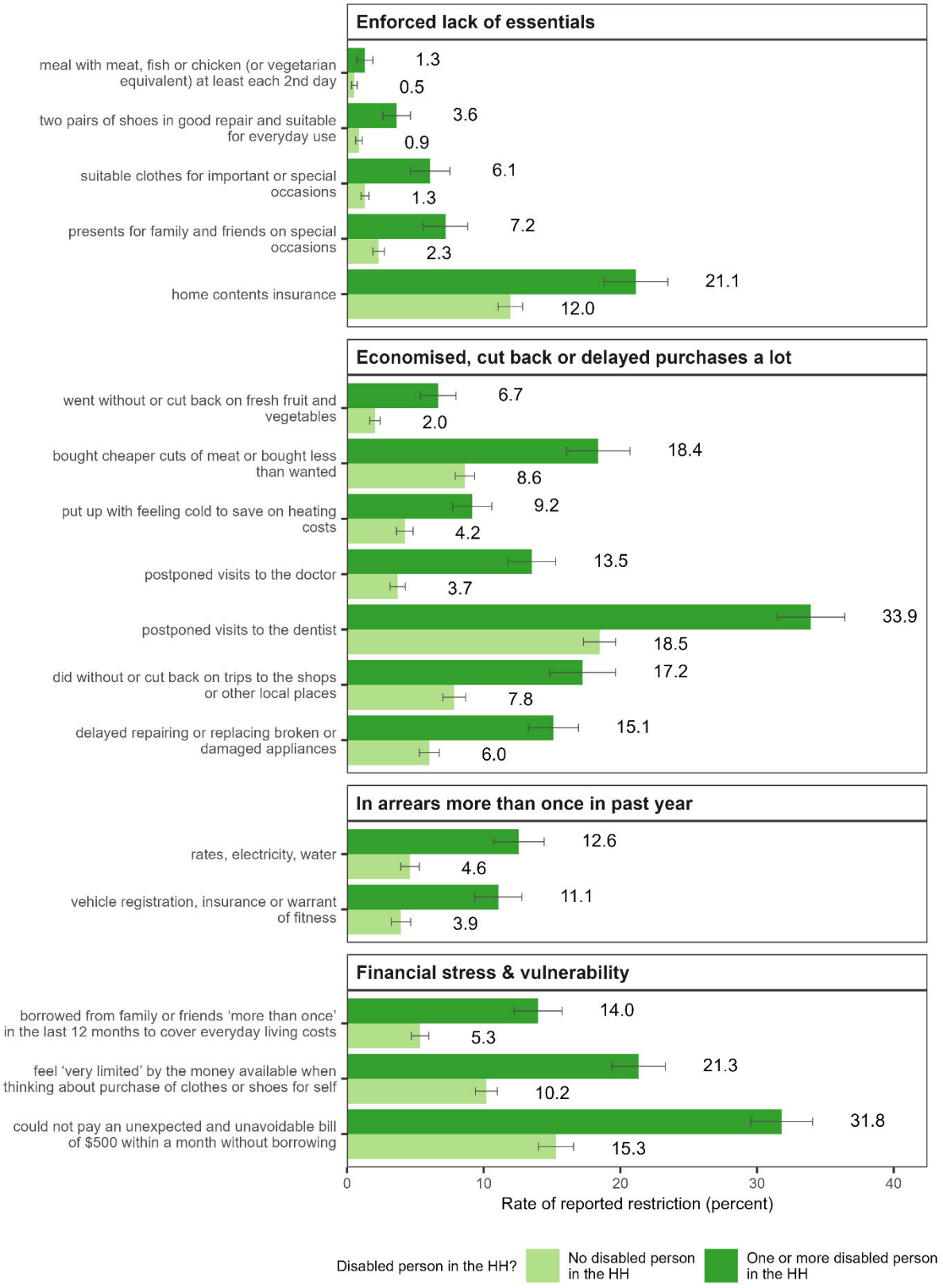


Figure A2.3: Proportion of European children in households reporting each of the 17 items used to measure material hardship by whether there is a disabled person in the household

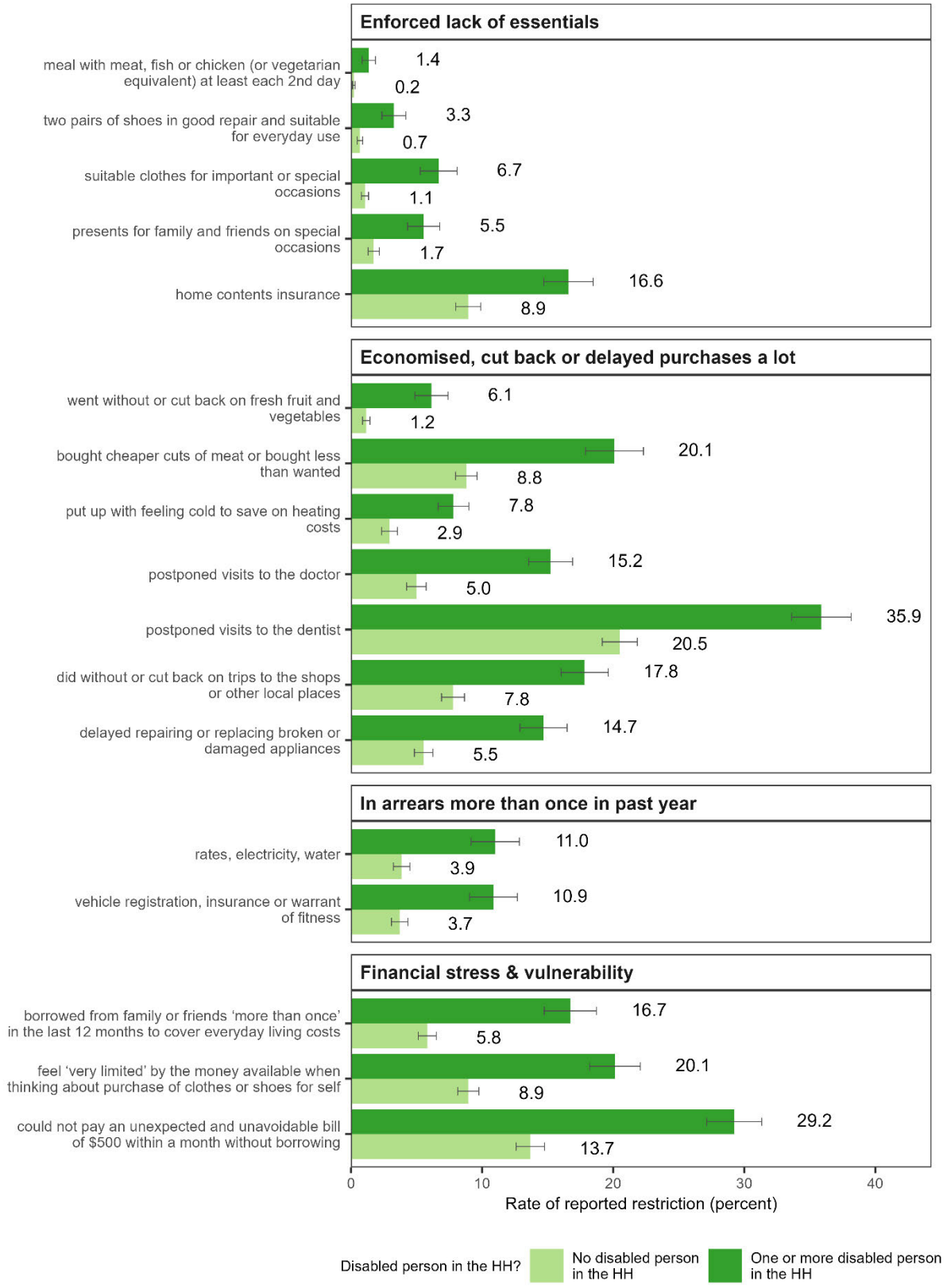


Figure A2.4: Proportion of Pacific children in households reporting each of the 17 items used to measure material hardship by whether there is a disabled person in the household

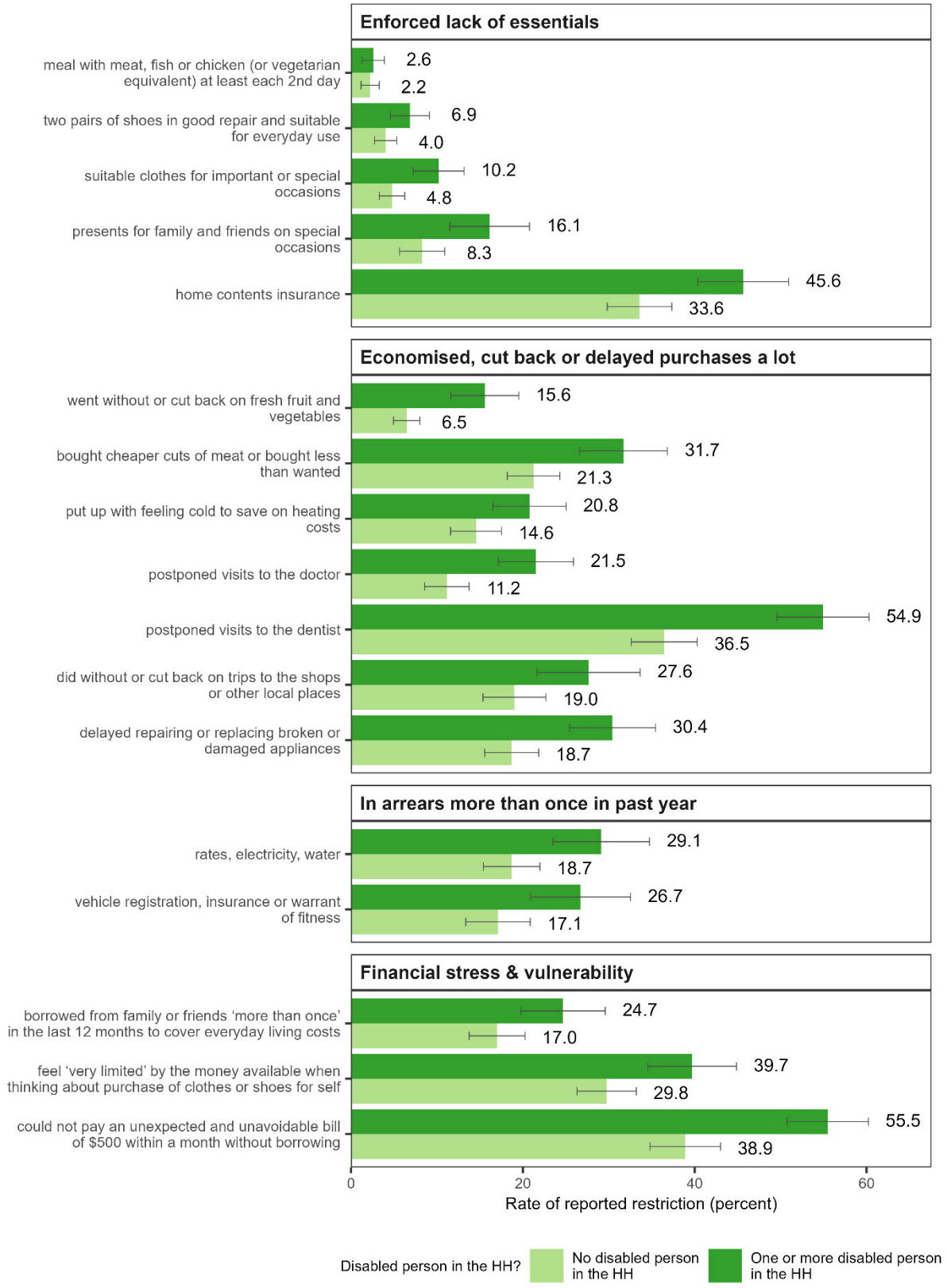
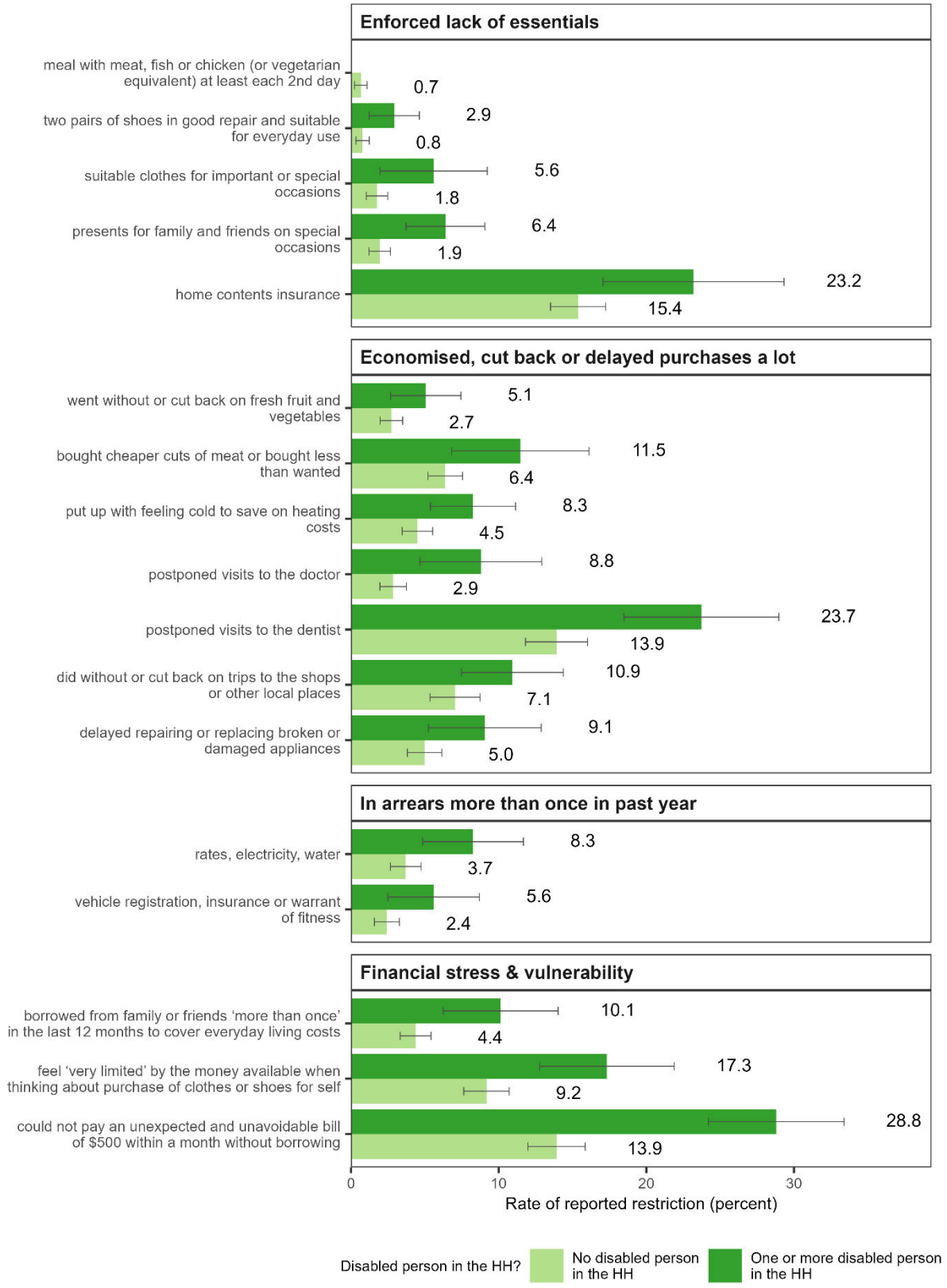


Figure A2.5: Proportion of Asian children in households reporting each of the 17 items used to measure material hardship by whether there is a disabled person in the household



Note: Some rates for Asian children were suppressed for confidentiality reasons.

Appendix 3: Child-related restrictions by ethnic group

Figure A3.1: Proportion of Māori children aged 6-17 in households reporting restrictions on child-related items by whether there is a disabled person in the household

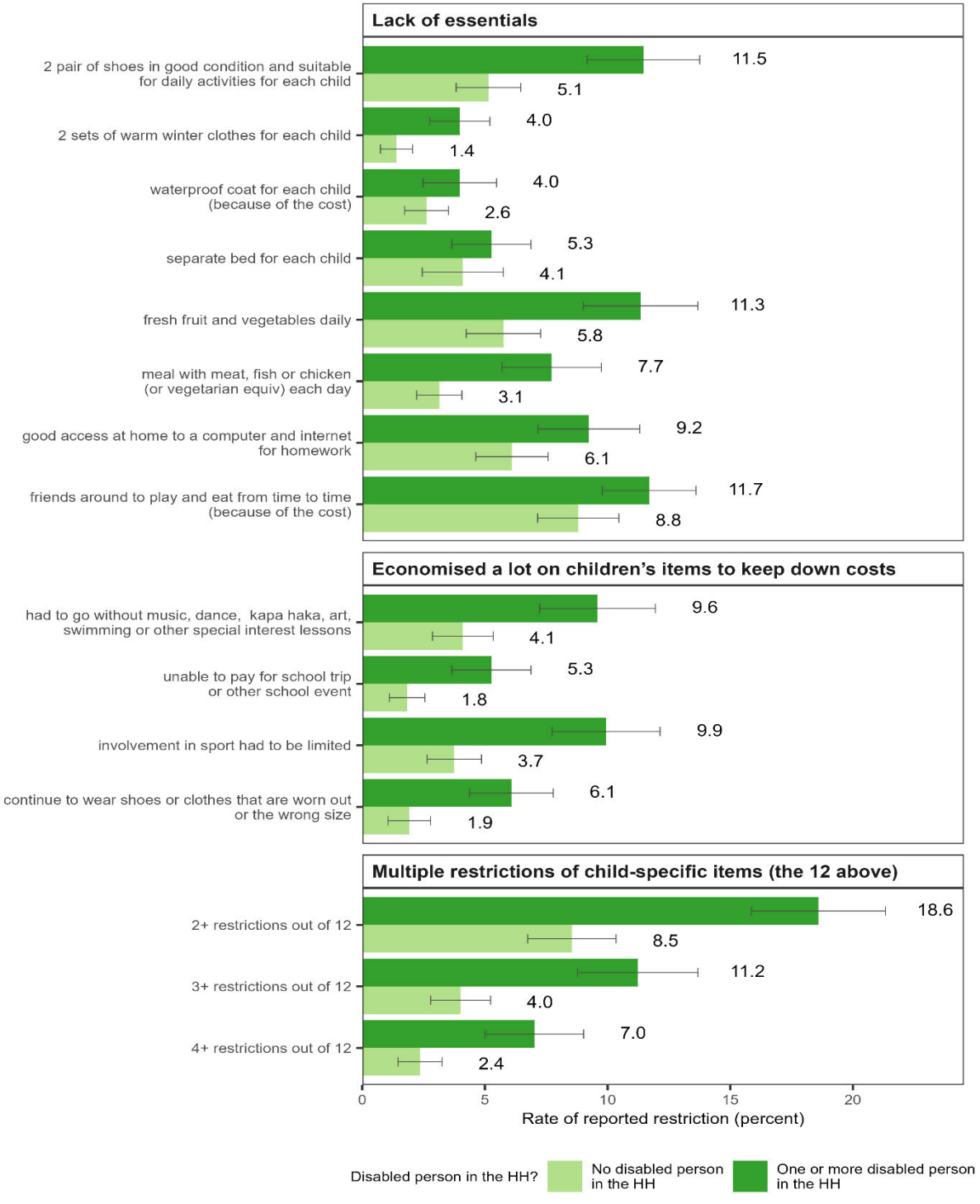


Figure A3.2: Proportion of non-Māori children aged 6-17 in households reporting restrictions on child-related items by whether there is a disabled person in the household

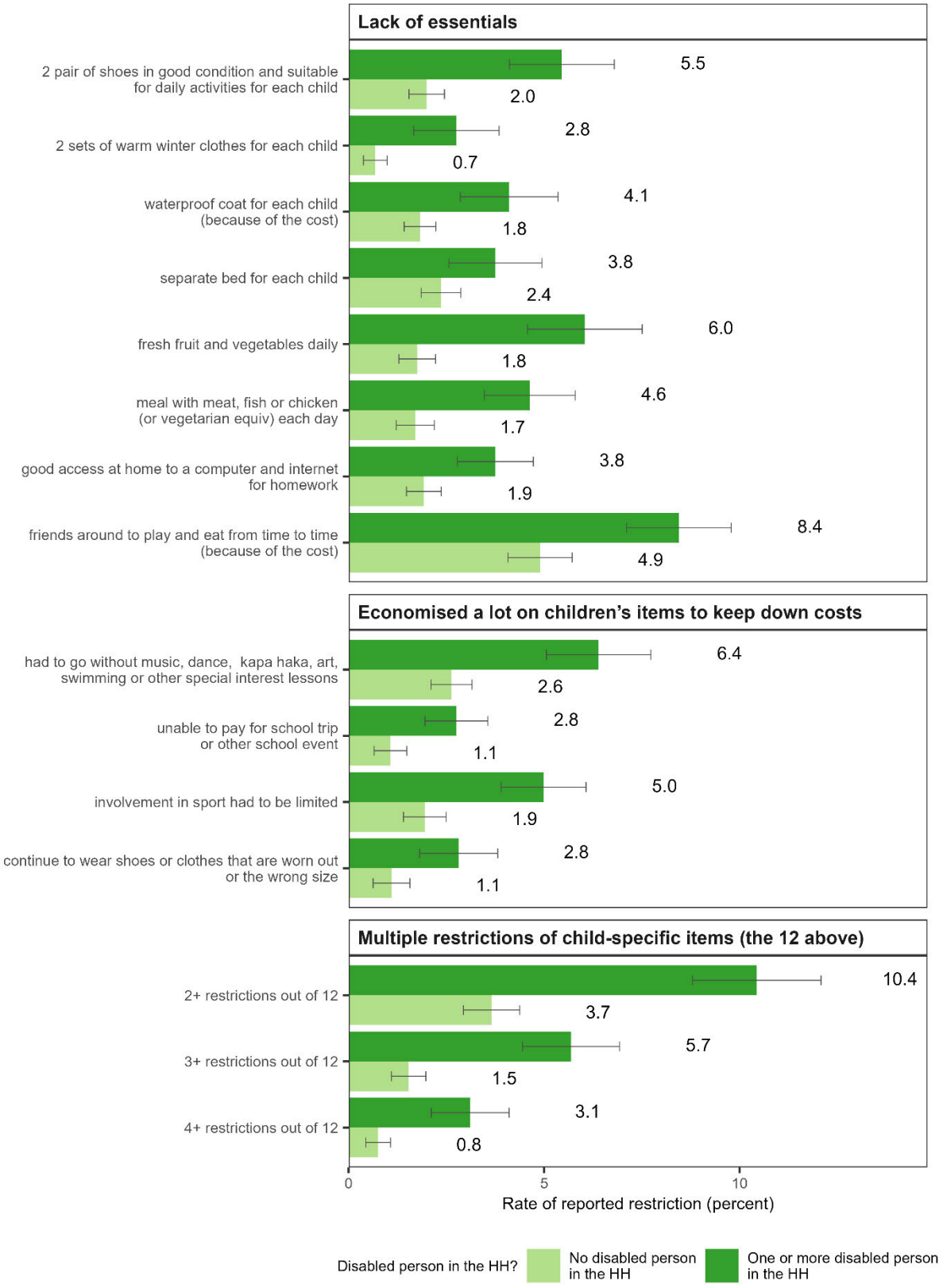


Figure A3.3: Proportion of European children aged 6-17 in households reporting restrictions on child-related items by whether there is a disabled person in the household

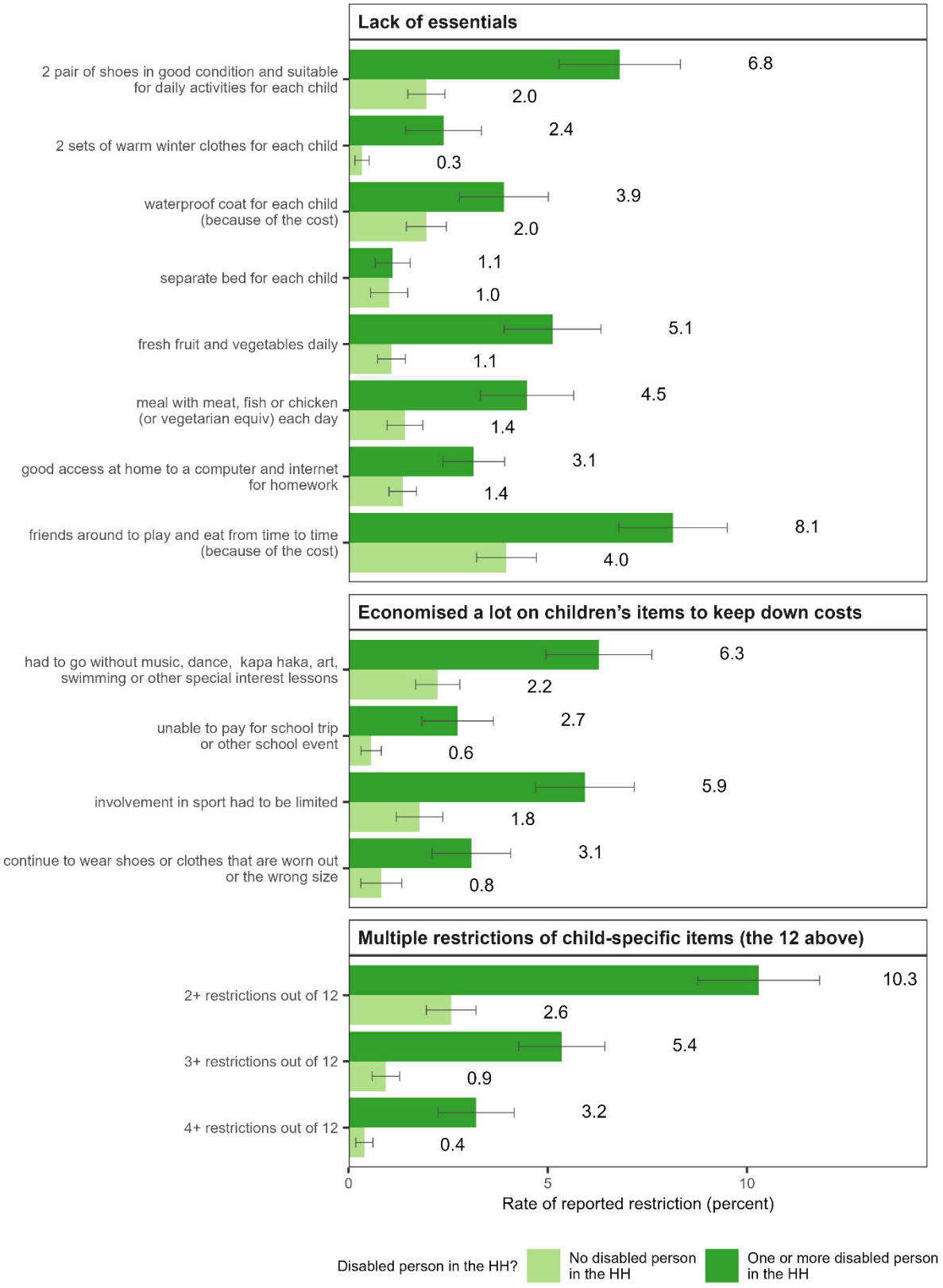


Figure A3.4: Proportion of Pacific children aged 6-17 in households reporting restrictions on child-related items by whether there is a disabled person in the household

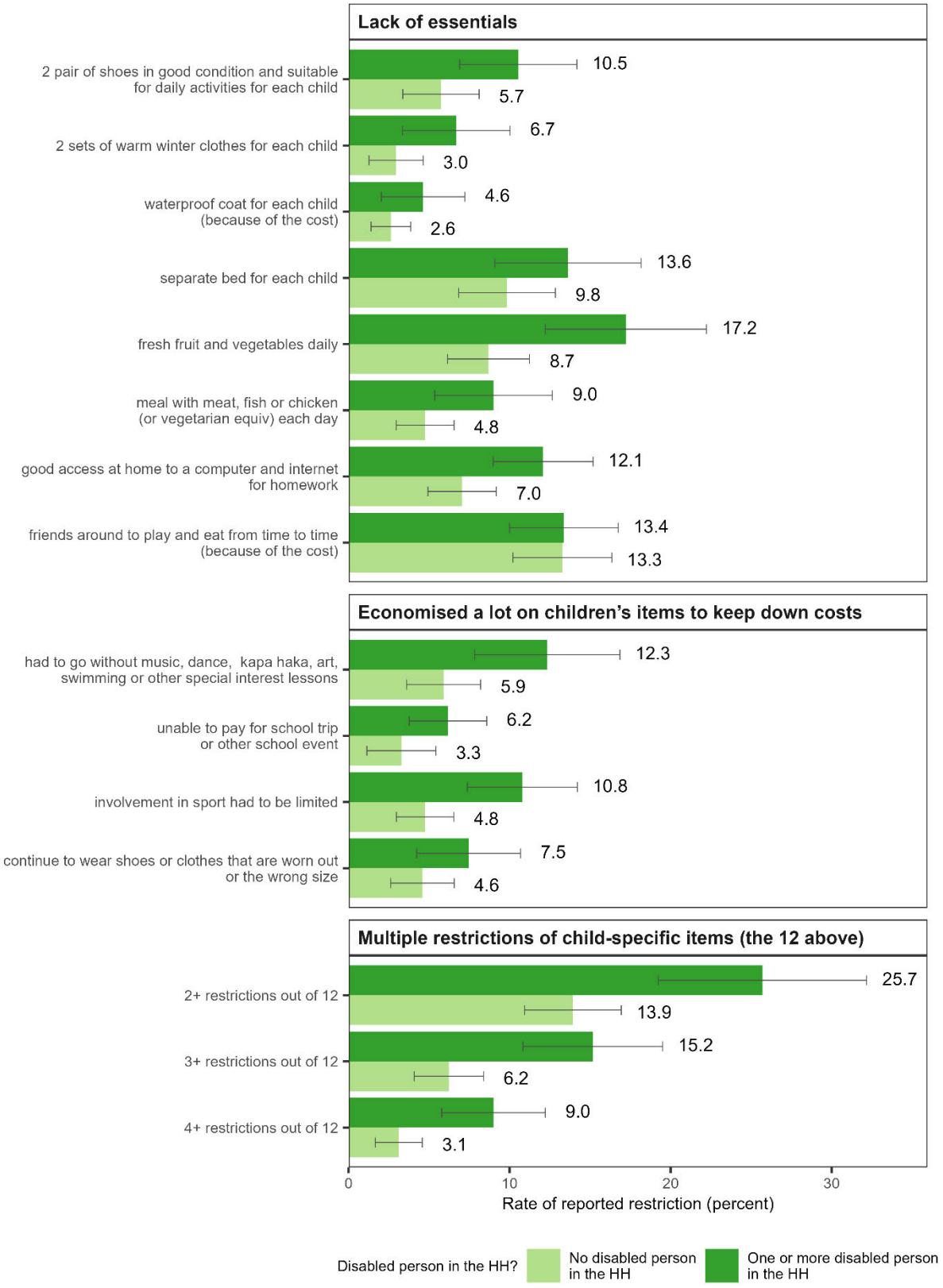
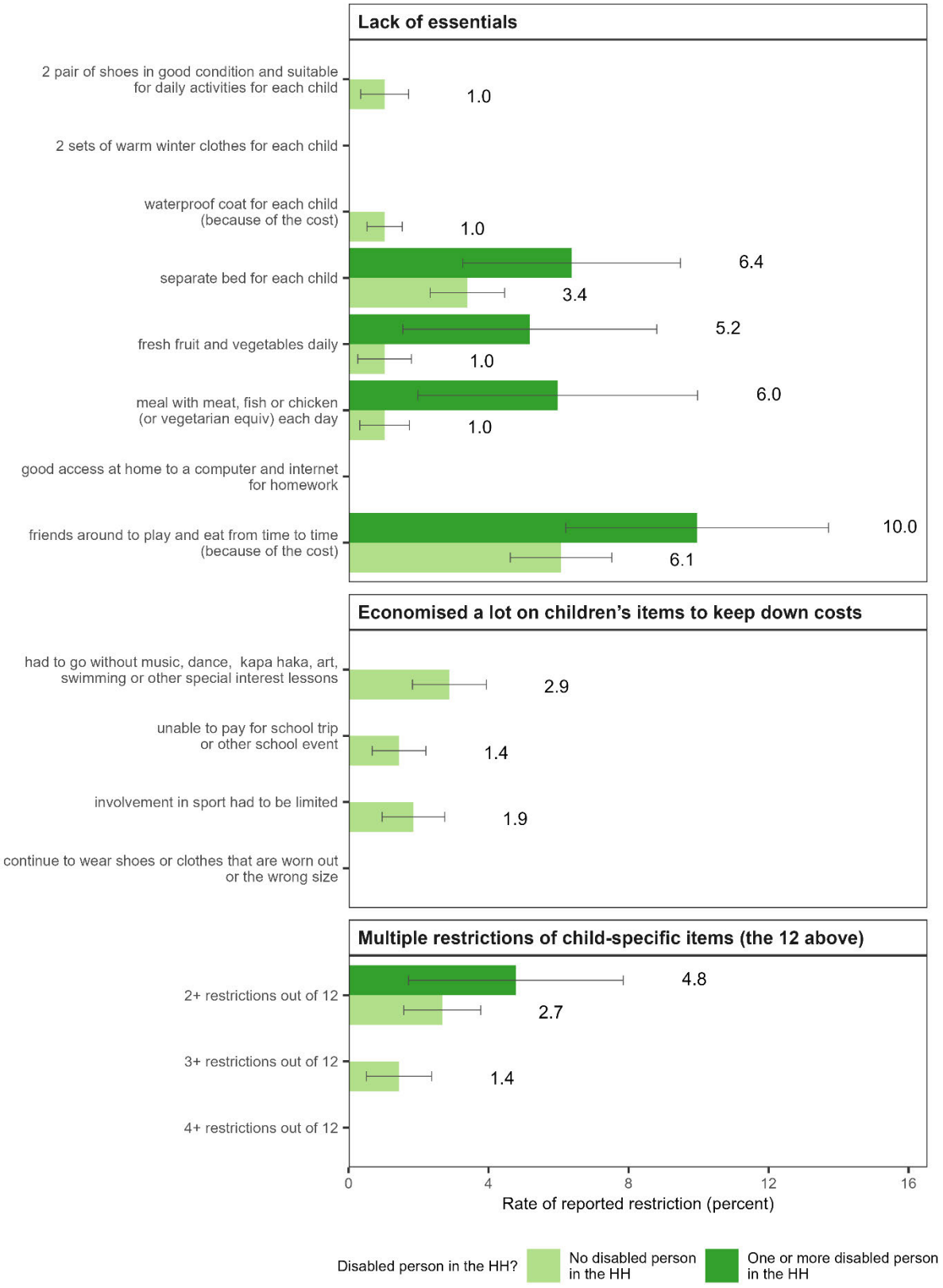


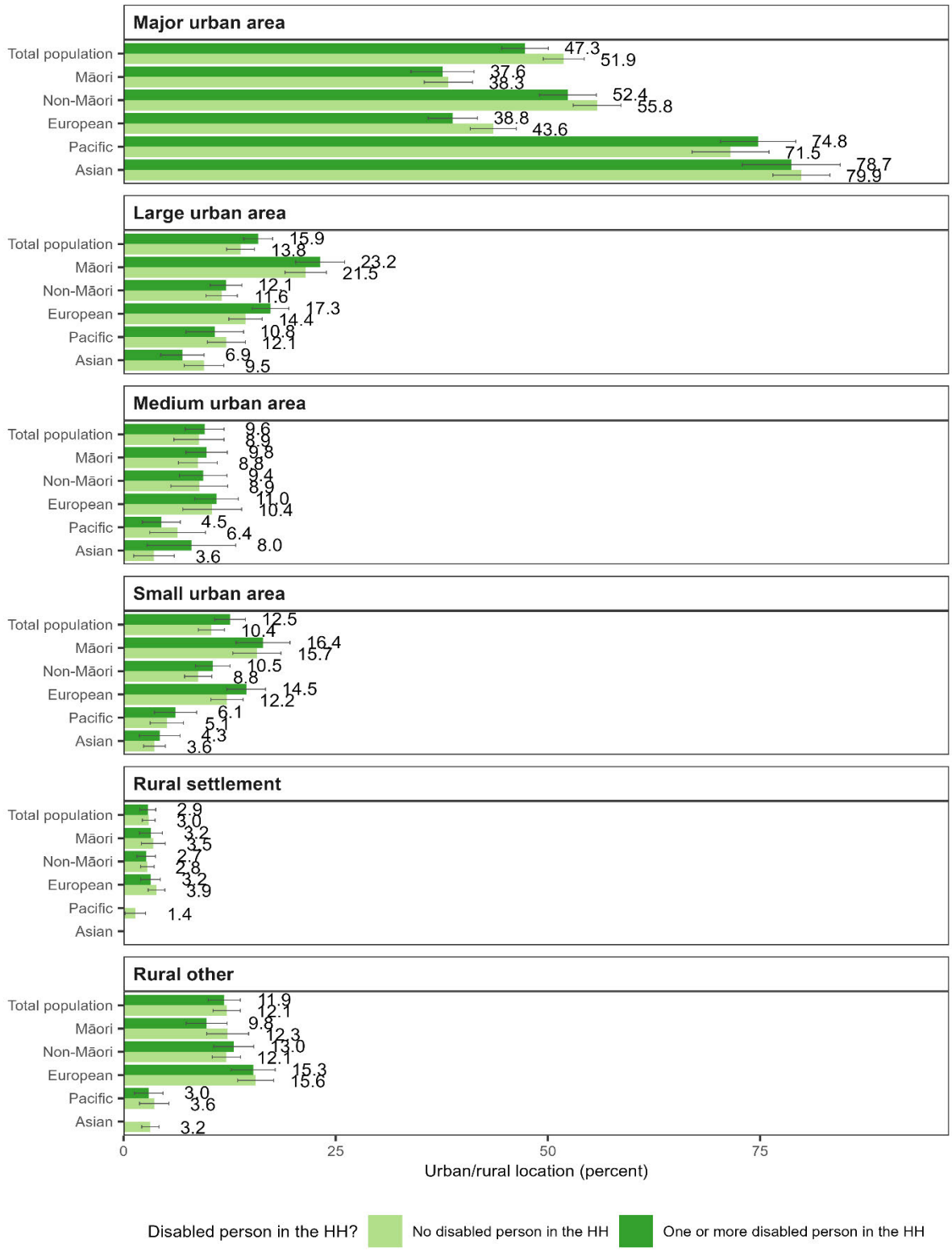
Figure A3.5: Proportion of Asian children aged 6-17 in households reporting restrictions on child-related items by whether there is a disabled person in the household



Note: Some rates for Asian children were suppressed for confidentiality reasons.

Appendix 4: Rural-urban location

Figure A4.1: Rural-urban location of children's households (HH) by whether or not there is a disabled person in the HH



How much additional income is needed to address higher deprivation levels of children in households with disabled people?

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Abstract

Children living in households with disabled people have a rate of material hardship three times that of children living in households with no disabled people. The rate of severe material hardship is almost four times higher. This paper aims to improve the evidence base to inform policy responses to these inequities. It uses pooled Household Economic Survey data to estimate how much additional income is needed to reduce levels of deprivation to match those of households with children with no disabled people. Examples of the estimated additional income needed range from $8,400 to $24,000 per annum on an equivalised income basis and vary depending on where the household's income sits in the income distribution. The additional income needed is higher when there are two or more disabled people in the household than when there is one disabled person.

Acknowledgements

We are grateful to members of an Expert Reference Group, the Disability Data and Evidence Community of Practice and the Disabled People's Organisations Coalition for helpful discussions. Officials from the Ministry of Health, the Ministry of Social Development, the Social Investment Agency, Stats NZ, Whaikaha – the Ministry of Disabled People and the Treasury provided insightful and constructive comments on earlier drafts. Particular thanks are due to Sarah Crichton (the Treasury) and Diane Anderson (Ministry of Social Development) for helpful peer review.

Disclaimer

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure which is carefully managed by Stats NZ. For

more information about the Integrated Data Infrastructure please visit https://www.stats.govt.nz/integrated-data/.

The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the Integrated Data Infrastructure for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

The views, opinions, findings, and recommendations expressed in this report are those of the authors. They do not necessarily reflect the views of the Ministry of Social Development, or people involved in advisory or peer review process. Any errors or omissions are our own.

Introduction

Disabled people and the families, whānau and carers of disabled people can face significant additional costs and unmet needs that stem from the interaction of impairment and an inaccessible society (Disability Resource Center, 2010; Mitra et al., 2017). Additional disability-related costs can include the direct out-of-pocket costs required for health service visits, transport, special diets, medication, help with daily activities, and disability-related equipment and aids. They can also include indirect 'opportunity costs', including additional time and energy costs for daily living and limits on participation in paid employment.

In Aotearoa New Zealand (NZ), some payments within the income support system and a range of other government-funded supports acknowledge these additional costs (Box 1). How well these payments and supports compensate for or offset additional costs is hard to assess, however. A developing international literature suggests there are sizeable total and uncompensated additional costs for disabled people but with a wide range of estimates of their scale (Mitra et al., 2017).

Box 1: Selected government-funded health- and disability-related payments and other supports for working-aged people and children as at 1 July 2024.

Payment / Support	**Maximum value[1]**	**Income criteria[2]**
Supported Living Payment is available to people who are either totally blind or are both permanently and severely restricted in their capacity for work because of health conditions, injuries or disabilities. People can also be eligible if they are caring for a person (other than their partner or spouse) who requires full-time care and attention.	$718.14 net per couple per week if partnered with children $552.14 net per week if single with children	For every dollar of income over $160 a week and below $250 the net rate reduces by 30 cents. For every dollar of income above $250 the net rate reduces by 70 cents. For a totally blind person, all earnings are disregarded. For others qualifying in their own right, the first $20 earned is disregarded.
Jobseeker Support – Health Condition or Disability is available to people who have a short-term health condition or disability that is preventing them from working or reducing their work hours.	$635.10 net per couple per week if partnered with children $494.80 net per week if single with children	For every dollar of income over $160 a week the net rate reduces by 70 cents.
Disability Allowance is designed to assist with the additional costs associated with a disability or an ongoing medical condition. It can be	$78.60 per qualifying adult or child per week	Entitlement to the entire payment is lost once gross weekly income exceeds an income limit. Limits vary by

[1] Other payments such as Working for Families payments and Accommodation Supplement may be received in addition to health- and disability-related income support payments. Sole parents who are disabled or have a disabled child may receive Sole Parent Support rather than Supported Living Payment or Job Seeker – Health Condition or Disability. See Graham (2022) for a more detailed overview of the income support system.

[2] Where these apply, they count the income of the recipient and their spouse or partner.

paid in addition to a main benefit or New Zealand Superannuation or to people not receiving a main benefit.	(or actual qualifying costs if these are lower)	family type (eg. $1,225.95 if partnered with children and $921 if single with children)
Child Disability Allowance is a payment designed to acknowledge the extra care and attention needed caring for a child with a serious disability that is likely to last 12 months or more.	$59.23 per qualifying child per week (regardless of costs)	No income criteria
A **Community Services Card** is available to enable access to subsidised health services for card holders and their family members and a 50 percent discount on public transport fares for the card holder.	Subsidy for health practitioner (eg. GP) visits[3] of $15 for adults aged 18+ and $20 for children 14-17 years (visits for younger children are usually free); Exemption from the $5 co-payment for fully subsidised prescription items	Entitlement to the card is lost once gross annual income exceeds an income limit. Limits vary by family type (eg. $79,167 for a family of three)
The **Total Mobility Scheme** assists eligible people with long-term impairments to access subsidised door-to-door transport services wherever scheme transport providers operate	75% subsidy of the normal transport fare up to a maximum fare (set by the relevant regional council, or Auckland Transport).	No income criteria
Disability Support Services are available to people who have a physical, intellectual or sensory disability where the disability is likely to continue for at least six months and the person is assessed as needing ongoing support to live independently	Unspecified	No income criteria
Individualised Funding is a type of person-directed funding which gives disabled people and their family or whānau more choice in how they are supported to live their lives. It is for eligible people who have been assessed to receive either Home and Community Support Services or respite services.	Unspecified	No income criteria

Note: Other payments and supports include: Special Needs Grants that can be paid to assist with one-off costs, Special Disability Allowance, House Modification Funding, Social Rehabilitation Assistance, Residential Care Subsidy, Residential Support Subsidy, Community Costs, Home Help, MSD-funded supports to help disabled people to move into work, and Accident Compensation

[3] This does not usually cover additional primary health care costs such as those for electrocardiograms, vaccinations, dressings and diabetes support.

Corporation (ACC) social insurance that can provide earnings-related compensation and other supports following an injury.

[End of Box 1]

Analysis of Household Economic Survey (HES) data shows that of NZ families in the most extreme hardship, around half have a disabled family member (Stephens, 2022). In child poverty monitoring, being in material hardship is defined as having six or more of the 17 restriction items that make up the Dep-17 deprivation index (see Box 3 below and Perry (2022)). Severe hardship is defined as having nine or more of the 17 restriction items. Pooled data from the 2019/20, 2020/21, and 2021/22 HES show the rate of material hardship was three times higher for children in households with a disabled person than for other children (21.2% compared with 6.9%) and the rate of severe material hardship almost four times higher (9.6% compared with 2.6%). However, average equivalised household income (ie. adjusted for household size and composition) for children in households with a disabled person was above 85% of the average household income of other children (Wilson and McLeod, 2024 - forthcoming).

A range of factors can explain wide differences in material hardship despite modest differences in equivalised income. These include differences in levels of financial assets (eg. savings and investments net of debts), physical assets (eg. home ownership, consumer durables), assistance from outside the household (from family, whānau, friends, community, or government) the ability to convert given resources into valuable consumption, the ability to access available resources, and the size of housing costs and employment-related costs (eg childcare). Importantly, they also include disability-related extra costs and disability-related limits on paid employment (Perry, 2022; Stephens, 2022).

Several approaches have been used in the international literature to estimate the additional costs associated with disability. These can be categorised into:

- subjective approaches, which typically ask disabled people about their additional costs
- comparative approaches, which contrast the actual expenditure of disabled and non-disabled people
- budget standards approaches, which involve the construction of a list of items and services which are required for disabled people to meet a 'reasonable' standard of living (SOL)
- SOL approaches, which explore the difference in incomes for disabled and non-disabled people who have the same SOL and take this as a measure of additional costs (Mitra, 2017; Melnychuk et al., 2018).

The different approaches each have limitations (Mitra, 2017; Melnychuk et al., 2018; Mont, 2023). For example, subjective and comparative approaches may underestimate costs of disability where unmet needs exist due to lack of affordability or access to goods and services. Budget standards approaches do not generally estimate the additional cost associated with disability, as there is typically no comparison with the non-disabled. SOL approaches do not provide an estimate of the costs required for full participation, or provide any insight into what goods and services are needed. They also have potential methodological limitations which we discuss in more detail below.

Several previous NZ studies have examined or touched on additional costs of disability (Box 2). This paper's aim is to further strengthen the NZ evidence base for future policy development. We begin by setting out and applying a simple, descriptive SOL approach to provide estimates, at points in the income distribution, of how much additional income is needed to reduce levels of deprivation of households with children and disabled people to levels that match households with children with no disabled people. We then look at the feasibility of two SOL approaches most commonly used in the international literature to arrive at an overall average cost-of-disability estimate and outline the limitations with these approaches we encountered. The interpretation and implications of our findings are discussed.

Box 2: Previous NZ studies.

The Disability Resource Centre (2010), HealthiNZ (2024), and qualitative interviews undertaken in 2022 (Cram et al., 2024 - forthcoming; Gray and Stratten, 2024 - forthcoming), asked disabled people and people in families and whānau with a disabled person about the costs they face. Costs mentioned range from disability-related care and equipment and health costs, to extra costs associated with special food or transport and housing that meets accessibility needs. People talked about ways these costs sometimes go unmet because they are unaffordable, and ways in which self-funding costs limits the amount available for other essentials, including food, dental treatment, educational resources and activities for children, and travel to maintain connections with family, whānau and culture.

The Disability Resource Centre (2010) used the budget standards approach to cost the additional resources (support, equipment, transport and time) that disabled people with physical, sensory, intellectual and mental health impairments need to live in the community. The estimates were for examples of disabled people aged 18-64 with no children, without multiple impairments, and with ranges of need characterised as 'high' and 'moderate'. A process of discussion with disabled people was used to define and cost baskets of goods, services and activities required to achieve an ordinary standard of living. Indicative costs ranged from $204 to $2,568 per week (in 2006-dollar terms).[4] How much of these costs were not compensated for by income support and government-funded support services was not estimated.

Godfrey and Brunning (2009) examined the costs faced by the blind and vision-impaired community. Focusing on short-distance non-optional taxi costs as an example, they demonstrated that the true cost of blindness was substantially underestimated if only actual incurred costs are considered. Allowing for those who would have spent more on this form of transport to mitigate the effects of blindness if they had been able to afford it, the estimated average cost of taxis rose from $14.52 to $23.43 per week (in 2004-dollar terms). This increase was likely to be conservative as whether affordability was a constraining factor was unknown for a third of the sample on which the analysis was based. These results suggest considerable unmet true costs of blindness, even with the Total Mobility scheme and Disability Allowance.

Doran et al., 2022 conducted surveys and workshops to explore the transport experiences of disabled people. The data showed that disabled people's transport-related effort and cost were increased due to a lack of accessible direct routes to destinations and limited transport choices. Financial and non-financial costs meant trips they would otherwise like to make were foregone.

Norris et al., 2023 conducted a randomised controlled trial of exempting people with high health needs and living in areas of high deprivation from a $5 prescription charge. Removing the charge had a substantial and statistically significant effect on the odds of being hospitalised suggesting that better meeting costs of disability and health conditions for people with high health needs and living in areas of high deprivation can lead to improvements in health. Observational research also

[4] Inclusive of the costs of the additional time required by disabled people in daily living.

shows prescription unaffordability is associated with higher rates of hospitalisation (Jeffreys et al., 2024).

Wynd (2015) conducted interviews with caregivers of disabled children. The conversations suggested payments and supports need to better reflect the costs of being disabled or caring for a disabled child, and be reviewed to improve ease of access and coverage.

A comparative study by Murray (2018) observed that while in NZ households with disabled children are significantly more likely to experience income poverty, this is not the case in the United Kingdom (UK). In the UK, disability-related allowances for children are three times higher than in NZ. The author advocates for changes to better meet the direct and indirect costs of disability in NZ. These include increasing disability-related allowances and improving other supports for parents and carers, including support for employment.

[end of Box 2]

A descriptive SOL approach

A simple, descriptive SOL approach is to compare mean SOL scores for households with and without a disabled person at different income levels. We can then use these comparisons to estimate how much additional income the households with a disabled person need to achieve the same SOL.

We apply this approach using a pooled data from the 2019/20, 2020/21, and 2021/22 HES. This yields a sample of 13,695 households with children aged under 18 (4,044 with one or more disabled person, 9,651 with no disabled person). We fit separate curves[5] to scatter plots of SOL scores plotted against household equivalised disposable income ('SOL-income curves').[6]

SOL is measured using the 'Dep-17' deprivation index (Box 3). Income is calculated by Stats NZ on based survey responses and administrative data linked to the HES in the Stats NZ Integrated Data Infrastructure. The calculation of income includes health- and disability-related income support payments, but excludes the value of in-kind supports provided via e.g. the Community Services Card, Total Mobility scheme, or Disability Support Services.

We compare fitted SOL-income curves for households with and without a disabled person. Disability status is based on Washington Group measures from the HES (Box 4). In addition, we distinguish between households with one, and with two or more disabled people. Results are presented for households with children overall, and for households with children where any household member is Māori[7] compared with households where no household member is Māori.[8] Results use unweighted data for simplicity, although we tested the sensitivity to using sample weights.

[5] These are cubic spline curves. Cubic splines were chosen due to the simplicity of calculation and the smoothness of the resulting fitted curve. Spline curves were fitted with four knots placed approximately at the quartiles of the income distribution. Two knots were insufficient to capture the broad shape of the SOL-income curve, while five knots resulted in over-fitting to the data.
[6] I.e net income after deducting taxes and adding transfers (e.g. benefits and Working for Families tax credits) adjusted for household size and composition.
[7] Based on a sample of 4,893 households with children aged under 18 (1,785 with one or more disabled person, 3,108 with no disabled person).
[8] Based on a sample of 8,703 households with children aged under 18 (2,160 with one or more disabled person, 6,543 with no disabled person).

Estimated 95 percent confidence intervals are shown graphically. As with the fitted curves, confidence intervals were calculated using unweighted data, and they do not account for the complex sample design. This is likely to result in underestimation of the standard error, resulting in confidence intervals which are too narrow. We estimate that were we to take account of the survey design, confidence intervals could be up to 80 percent wider than those presented here, depending on the population being examined.

When presenting the estimates graphically, the top and bottom ends of the income distribution are excluded. At the bottom end of the distribution, households with very low incomes have higher SOL than households with somewhat higher incomes (Perry, 2022) and therefore are problematic for our approach.[9] At the top end of the income distribution SOL measures are unlikely to be accurate, given their focus on measuring material deprivation, while points on which to fit the SOL-income curves are also sparse, particularly for households with a disabled person.

Box 3: Items in Dep-17.

Enforced lack of essentials (for respondent or household as a whole):[10]

- meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day
- two pairs of shoes in good repair and suitable for everyday use
- suitable clothes for important or special occasions
- presents for family and friends on special occasions
- home contents insurance

Economised, cut back or delayed purchases 'a lot' because money was needed for other essentials (not just to be thrifty or to save for a trip or other non-essential):

- went without or cut back on fresh fruit and vegetables
- bought cheaper cuts of meat or bought less than wanted
- put up with feeling cold to save on heating costs
- postponed visits to the doctor
- postponed visits to the dentist
- did without or cut back on trips to the shops or other local places
- delayed repairing or replacing broken or damaged appliances

In arrears more than once in last 12 months (because of shortage of cash at the time, not through forgetting):

- rates, electricity, water
- vehicle registration, insurance or warrant of fitness

Financial stress and vulnerability:

- borrowed money from family or friends more than once in the last 12 months to cover everyday living costs
- feel 'very limited' by the money available when thinking about purchase of clothes or shoes for self (options were: not at all, a little, quite limited, and very limited)
- could not pay an unexpected and unavoidable bill of $500 within a month without borrowing

[9] This could be for various reasons, including recent migrants with low income earned in New Zealand but higher income earned elsewhere, self-employed with low taxable earnings, or people who have high asset wealth and low expenses, and are less reliant on income to maintain their SOL. In addition, very low incomes could result from reporting error or matching error resulting from the construction of the IDI.

[10] An enforced lack is an item that is wanted but not possessed because of the cost.

Note: Around half of all households with children report none of these deprivation items. (Source: unpublished Stats NZ analysis).

[End of Box 3]

Box 4: Washington Group measures used as a disability indicator in the HES.

Whether a person is disabled or not has been able to be assessed using HES data since 2019/20. International Washington Group questions on functioning have been used to derive disability indicators where:

- people aged 18 or over are considered disabled based on the amount of difficulty they have with seeing, hearing, walking or climbing stairs, remembering or concentrating, self-care, communication (expressive and receptive), upper body activities, and affect (depression and anxiety) – the 'Washington Group Short Set on Functioning – Enhanced' indicator (Washington Group, 2020a)
- children and young people aged 5 to 17 are considered disabled based on the amount of difficulty they have with seeing (even with glasses), hearing (even with hearing aids), walking, feeding or dressing themselves, communicating, learning, remembering, concentrating, accepting change, controlling their own behaviour, making friends, anxiety, or depression – the 'Washington Group / UNICEF Child Functioning Module – Ages 5-17 Years' indicator (Washington Group, 2020b)
- children aged 2 to 4 are considered disabled based on the amount of difficulty they have with seeing (even with glasses), hearing (even with hearing aids), walking, manual dexterity, communicating, learning, playing, or controlling their own behaviour – the 'Washington Group / UNICEF Child Functioning Module – Ages 2-4 Years' indicator (Washington Group, 2020c).

[end of Box 4]

Results

Figures 1 and 2 display the fitted curves for households with children overall. They show the relationship between Dep-17 scores and equivalised household disposable income by the presence and number of disabled people in the household respectively.

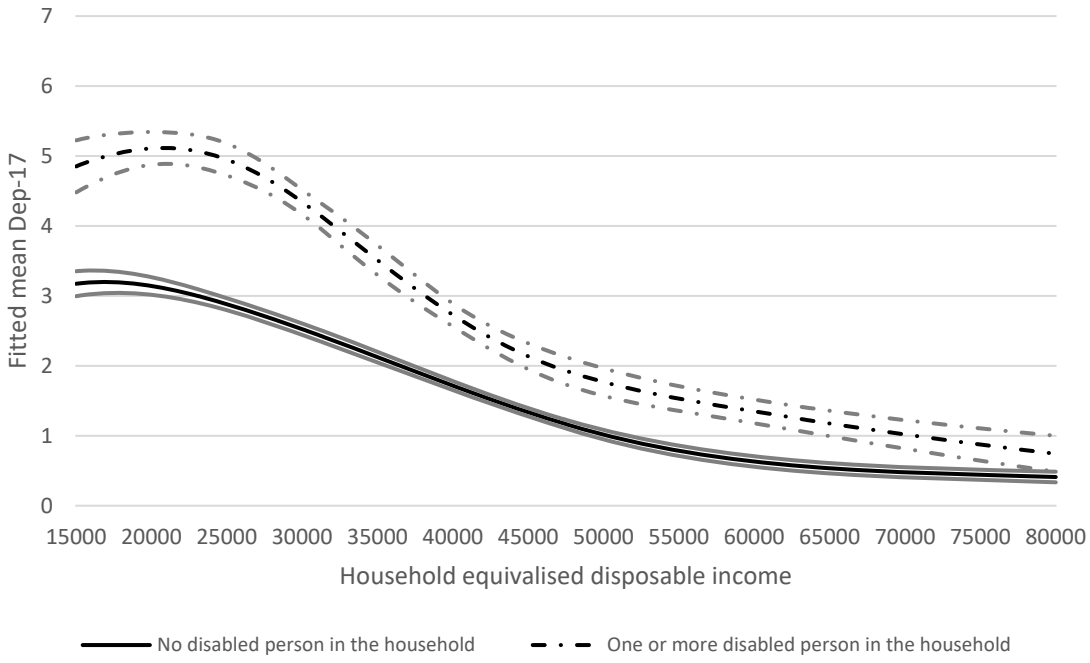
Mean Dep-17 score (i.e. the average number of deprivation items listed in Box 4 reported by households) falls with increasing income. At all points, the mean Dep-17 score is higher in households with a disabled person than in households with no disabled person. The fitted curves flatten and converge to mean Dep-17 scores between zero and one at the high equivalised income bands. As noted, material hardship is defined as having a Dep-17 score of six or above. For households with two or more disabled people at the lowest equivalent income levels, the mean Dep-17 is close to this level.

For context, median equivalised household disposable income was $38,000 in households with a disabled person and $45,000 in households with no disabled person (in 2022-dollar terms).[11] One-person households are the reference point for equivalisation. This means that the income levels displayed should be thought of relative to the needs of a one-person household in terms of value. In 2022 annual net income from Supported Living Payment for a single person was around $19,000. This increased to around $22,000 if maximum Disability Allowance was received and around $31,000 if

[11] Lower and upper quartiles in households with a disabled person were $28,000 and $51,000 respectively. Lower and upper quartiles in households with no disabled person were $33,000 and $62,000 respectively.

maximum Accommodation Supplement was also received. A single person with $40,000 net annual income had no entitlement main benefits such as Supported Living Payment[12] or Disability Allowance due to their income. They may have qualified for Accommodation Supplement depending on their housing costs and area.

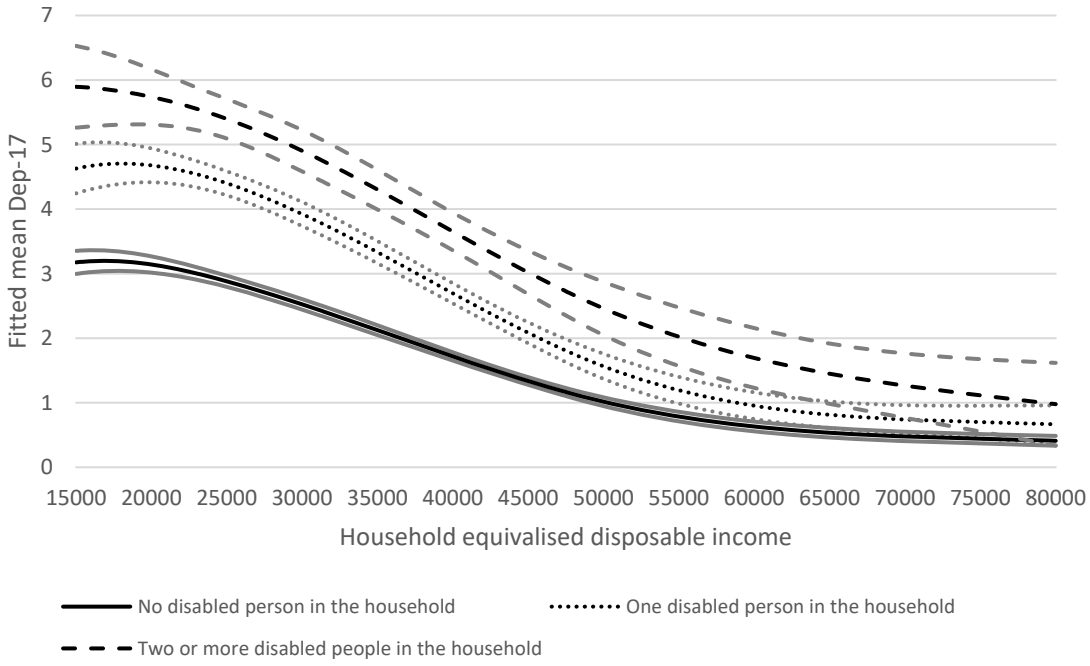
Figure 1. SOL-income curves fitted to plots of Dep-17 score by equivalised annual household income ($2022) by the presence of disabled people in the household, households with children aged under 18



Note: 95% confidence limits are shown in grey.

[12] Unless totally blind.

Figure 2. SOL-income curves fitted to plots of Dep-17 score by equivalised annual household income ($2022) by the number of disabled people in the household, households with children aged under 18



Note: 95% confidence limits are shown in grey.

Table 1 provides examples of the additional income needed to address the higher levels of deprivation for houseolds with disabled people at selected income levels. Each example is derived by reading horizontally from Figure 1 how much income needs to slide to the right in order for households with disabled people to have the same mean Dep-17 as households with no disabled person. By way of example, at $20,000, a household with no disabled people has a mean Dep-17 score of 3.14. Households with one or more disabled people have this mean Dep-17 score at $38,600, $18,600 higher.

At higher income levels, where the SOL-income curves flatten, any variation in the gradient of the estimated curve could result in large difference in our estimates. For this reason, we confine Table 1 to estimating the income needed a $20,000, $30,000, and $40,000 income. If we were to estimate additional income for incomes in excess of $40,000, comparable incomes for households with disability would be well in excess of $50,000, at a point in the distribution where the fitted curve is both flat and imprecise, as evidenced by the widening confidence intervals at these levels of income.

At each of the three income level considered, the additional income needed is higher for households with two or more disabled people than for those with one disabled person. However the relationship between income level and the additional income needed to achieve the same mean Dep-17 is less straightforward. It falls as income increases between $20,000 and $40,000 overall and for those with one disabled person in the household. In contrast there is no drop between $30,000 and $40,000 for households with two or more disabled people.

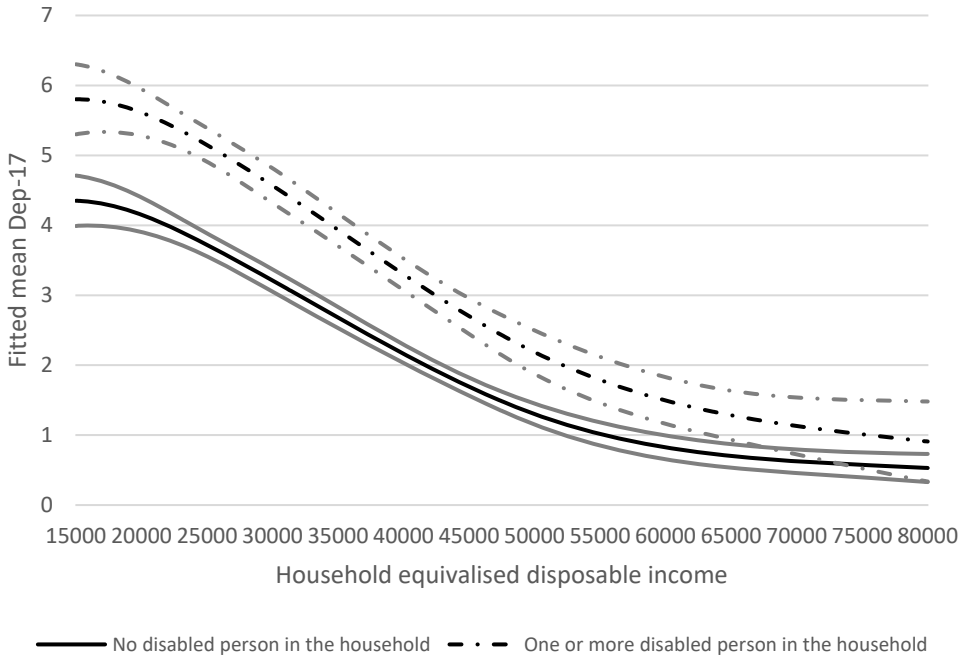
Table 1 Additional equivalised income households with a disabled person need in order to have the same mean Dep-17 score as households with no disabled person, examples at different points in the income distribution, households with children aged under 18, $2022

Example income level (for households with no disabled person - mean Dep-17 scores in brackets)	Income level where households with disabled people have the same mean Dep-17 score	Additional income needed
	One or more disabled person in the household:	
20,000 (3.14)	38,600	18,600
30,000 (2.52)	43,300	13,300
40,000 (1.72)	50,500	10,500
	One disabled person in the household:	
20,000 (3.14)	36,500	16,500
30,000 (2.52)	41,400	11,400
40,000 (1.72)	48,400	8,400
	Two or more disabled people in the household:	
20,000 (3.14)	44,000	24,000
30,000 (2.52)	49,400	19,400
40,000 (1.72)	59,600	19,600

Figures 3 and 4 display fitted curves for households with children, with and without Māori household members, by presence of disability in the household. Table 2 examines the additional income needed for households where there is at least one versus no Māori household member.[13] Only the case of one or more disabled person in the household is presented. The data do not support examining the case of one versus two or more disabled people. At $20,000 and $30,000, the additional income needed is lower for households with a Māori household member than for households with no Māori household member. At $40,000, the amount is similar for the two groups. At each of the income levels, the mean Dep-17 score is higher in households with a Māori household member.

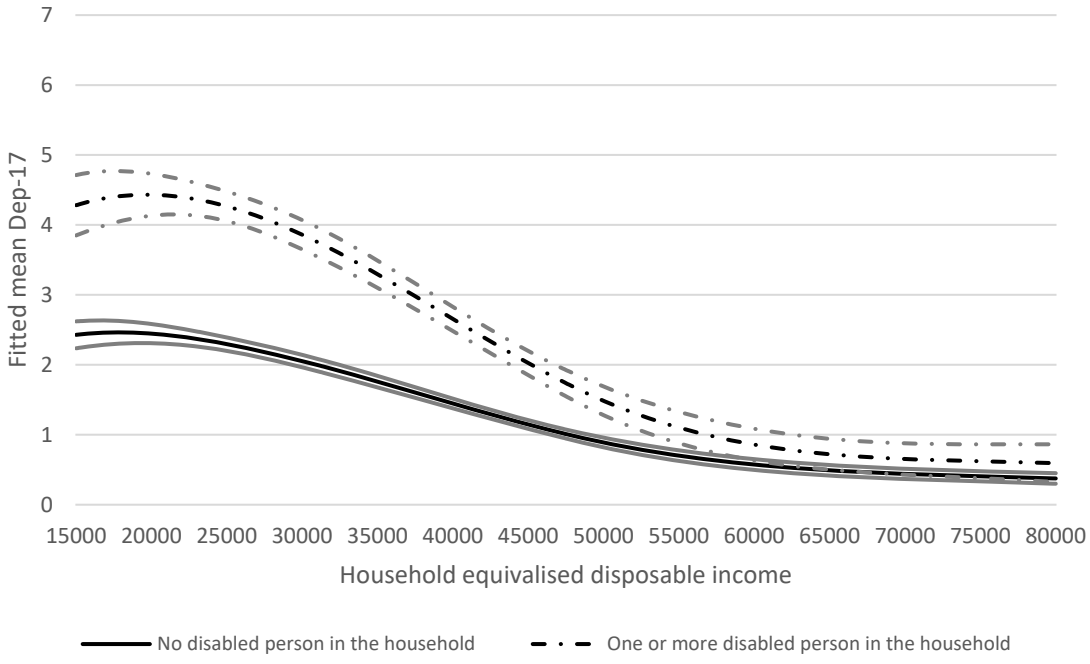
[13] This involves, e.g., examining the additional income needed by households with a Māori household member and with a disabled person when compared with households with a Māori household member and with no disabled person.

Figure 3. SOL-income curves fitted to plots of Dep-17 score by equivalised annual household income for households with Māori household members ($2022) by the presence of disabled people in the household, households with children aged under 18



Note: 95% confidence limits are shown in grey.

Figure 4. SOL-income curves fitted to plots of Dep-17 score by equivalised annual household income for households with no Māori household members ($2022) by the Presence of disabled people in the household, households with children aged under 18



Note: 95% confidence limits are shown in grey.

Table 2 Additional equivalised income needed for households with Māori household members versus other households, examples at different points in the income distribution, households with children aged under 18, $2022

Example income level (for households with no disabled person)	Households with children with a Māori household member	Households with children with no Māori household member	All households with children
	One or more disabled person in the household: (mean Dep-17 scores in brackets)		
20,000	13,300 (4.15)	21,600 (2.45)	18,600 (3.14)
30,000	10,700 (3.21)	14,800 (2.05)	13,300 (2.52)
40,000	10,300 (2.16)	10,400 (1.45)	10,500 (1.72)

We tested sensitivity of the overall results to using the Material Wellbeing Index (Perry, 2022), rather than Dep-17, as the indicator of SOL. Estimates were broadly similar. Using weighted rather than unweighted data did not materially change the findings or interpretations. We also ran the same analysis for households with no children aged under 18 and no adults aged 65 or over. Estimates of the additional income needed ranged from $6,000 to $27,100.[14]

Looking at the feasibility of SOL approaches that provide an overall average cost-of-disability estimate

Two approaches are used in SOL studies internationally to provide an overall average cost-of-disability estimate. The most commonly used approach is to use the average difference in incomes for disabled and non-disabled people who have the same SOL as a measure of overall average additional costs. This involves constructing regression models of the relationship between SOL and income for families or households with and without a disabled person (Box 5). Regardless of the income term used in the regression model, the functional form of the model imposes one of two strong assumptions on the shape of the SOL-income curve, and through those relationships on the estimated cost of disability. These are either that the costs of disability are constant across the income distribution (where actual, linear income is considered), or that costs of disability are increasing across the income distribution (where logged income is considered).

[14] Estimates could not be produced for households with adults aged 64 or over and with no children aged under 18 because there was no consistent relationship between income and SOL.

Box 5: Regression-based SOL models.

In regression-based models, SOL is generally assumed to increase monotonically with increasing income in a linear or non-linear fashion. Disability is assumed to shift the SOL-income curve to the right as more income is required to achieve the same standard of living. This is typically represented as a regression model such as:

$$S = \propto + \beta Y + \delta D + \varepsilon \quad (1)$$

where S represents a measure of SOL, Y represents income (in practice logged income is often used, reflecting diminishing returns of additional income on SOL), and D is a binary indicator reflecting the presence of a disabled person. Parameters β and δ reflect the impact of income and the presence of a disabled person, respectively, on income. The additional cost of disability (C) for any level of standard of living is then expressed as:

$$C = \frac{dY}{dD} = -\frac{\delta}{\beta} \quad (2)$$

In the case where the income term is not transformed, as in equation (1), the impact of disability is invariant to income. This is a direct result of the functional form in (1) which assumes that disability impacts SOL equally, regardless of income, and that changes in income of the same magnitude have the same impact on SOL regardless of where on the income distribution someone lies.

In the case where logged income (i.e. lnY) is included as covariate in equation (1), equation (2) resolves to:

$$C = \frac{dlnY}{dD} = Yexp\left(-\frac{\delta}{\beta} - 1\right) \quad (3)$$

and the cost of disability expressed as a percentage of income (C_p) can be calculated as:

$$C_p = \frac{C}{Y} = exp\left(-\frac{\delta}{\beta} - 1\right)x100 \quad (4)$$

In this case, cost of disability C varies according to income Y, while the relative cost of disability C_p is invariant to income, i.e. the cost of disability is larger in dollar terms with higher income, or constant in percentage terms.

[End of Box 5]

Hancock et al. (2013) use data for Great Britain to highlight the poor robustness of these regression-based cost-of-disability estimates, with small breaches of the assumptions resulting in large positive biases in the estimated cost of disability. To test the feasibility of the approach, we examined the plausibility of the underlying assumptions using the pooled HES data. We ran separate SOL models at the household level with linear and logged income within broadly partitioned income bands. In all models, the parameter estimates for the income bands[15] did not conform with the assumed relationships across the income distribution and varied considerably from model to model. As with Hancock et al. (2013), this is particularly troubling in a context in which any mis-specification of the SOL-income curve can have a large impact on the estimated cost of disability.[16]

Hancock et al. (2013) introduce an alternative approach which does not require a fixed specification of the shape of the SOL-income curve to estimate the additional costs experienced by older people in Great Britain. This approach used propensity score

[15] For β and δ in Box 5.
[16] Through its impact on the ratios in equations (2) and (3) in Box 5.

matching to estimate the overall average costs of disability. Disabled people were matched with comparison non-disabled people chosen to be as close as possible in terms of observable personal characteristics and their achieved SOL. Differences in income between the disabled group and the matched comparison group were then assumed to relate to the additional income required for disabled people to achieve the same SOL as non-disabled people, providing an estimate of average additional costs. Melnychuk et al. (2018) estimated the cost of child disability in the United Kingdom using a similar approach.

We tested the feasibility of a matching approach for NZ, using many of the matching variables used in the Hancock et al. (2013) and Melnychuk et al. (2018) and the pooled HES data. Surprisingly, we found that households with a disabled person had somewhat lower incomes than matched households without a disabled person and the same SOL, on average. This implied negative costs of disability (ie. households with a disabled person achieved a given SOL with lower income than the matched households). This held both before and after matching on other characteristics of the households.[17] Results were not sensitive to the choice of matching variables, choice of matching algorithm, or other matching settings. Results were also relatively invariant to choice of SOL measure,[18] disability identifier,[19] and specification of income. Apart from tenure, we were unable to include variables representing household assets or savings which were included in the UK studies. However we did have data on the net worth of a subset of respondents.[20] Results were unchanged following the inclusion of this variable.

There are several possible reasons for the negative cost of disability estimate. While the SOL measures we use[21] were designed to be relevant to the needs of the NZ population, items may not be of equal relevance to disabled people. Items which are of particular importance to many disabled people may be missing. Additionally, some costs of disability may already be met through supports provided by government, non-government organisations, or family, whānau and friends. These may enable disabled people to achieve a higher SOL than they otherwise could, and substitute at least part of the requirement for additional income. Although we were able to explore an indicator of disability derived from the Washington Group questions, we did not have access to the responses to the underlying questions, and so could not test the sensitivity of our results to alternative specifications, such as those identifying severe disability. Given previous studies have shown that costs often increase with severity of disability (Mitra et al., 2017), this could have limited our ability to identify additional costs.

We hypothesise that more plausible explanation is that in matching on SOL and a wide range of other characteristics such as education, we arrived at comparison groups that

[17] Matching variables included the age of household members (age of oldest adult and youngest child in the household), number of adults and children in the household, ethnicity of household members, region, area deprivation, highest qualification of household members, and housing tenure.
[18] Apart from the deprivation index (Dep-17), we also tested our results on the Material Wellbeing Index (Perry, 2022, Appendix 1) and a self-reported question about income sufficiency.
[19] We did not have detailed Washington Group screening questions, so were unable to construct alternative measures based on type or severity of disability. However we did have access to administrative data on chronic health conditions from hospital admissions.
[20] A wealth supplement to the HES is undertaken every three years, but is only administered to a subset of HES participants. In our sample, we therefore were able to derive wealth data for a subset of respondents to the 2020/21 HES.
[21] Dep-17 (see Box 3) and the Material Wellbeing Index (Perry, 2022).

despite having no disabled person in the household as measured by HES data, faced other significant challenges to their material wellbeing and income earning potential. For example, the Washington Group questions do not capture all disabled adults and children. As a result, the comparison group will have included households with people who are neurodiverse or have intellectual disability, mental illness, addiction, chronic disease, rare conditions or fluctuating impairments, but who do not have any of the impairments captured by the Washington Group questions. In addition, the comparison group will have included include households with people who are not disabled but for whom other life events and barriers impose costs, cause SOL to be lower than would be expected given their education level, and restrict their incomes (e.g. people with sole care of children, past justice system involvement, or qualifications that are not recognised in NZ).

Discussion

This paper aims to improve the evidence base to inform policy responses to inequities in material hardship rates according to whether children live in a household with disabled people or not. It uses pooled HES data and estimates that, on an equivalised income basis, households with children and with a disabled person need $8,400 to $24,000 more income per annum to match the SOL of households with children and with no disabled person on incomes ranging from $20,000 to $40,000.

The income shortfall is lower for Māori than non-Māori at $20,000 and $30,000, and similar for the two groups at $40,000. At all these income levels, more deprivation is experienced by Māori households on average, even when there is no disabled person in the household. This underscores the range of other factors that increase the risk of material hardship for Māori (Himona et al., 2019; King, 2019; Ingham et al., 2022; Wilson and McLeod, 2024 - forthcoming). Possible explanations for the lower estimated income shortfall at $20,000 and $30,000 include more natural supports from whānau and community.

We do not provide an estimate of the overall average additional income needed across the income distribution. We explored the feasibility of two approaches that provide such estimates and found neither satisfactory. This was due to a combination of limitations of the methods and the nature of the NZ data. In the case of regression-based approaches, these assume that the cost of disability is either constant or increasing across the income distribution. Neither assumption appeared valid for NZ. In the case of a matching approach, this requires certainty that the comparison group does not include disabled people. This could not be guaranteed with the Washington Group indicator available to us. It is also likely that the comparison group will include other groups for whom barriers to inclusion cause low SOL at a given education level, and also cause income to be low. This does not offer a sound comparison for identifying additional costs faced by disabled people.

Importantly, we do not characterise our estimates as cost-of-disability estimates. Aside from household size and composition, we do not control for factors other than cost of disability that can influence SOL at a given income. Our estimates may reflect additional direct costs of disability. But they could also partly reflect the effects on SOL of other factors such as lower financial assets, poorer housing, location outside main centres, or lower education levels. These factors, in turn, may or may not themselves be caused by

disability which makes it questionable whether they should be controlled for if the aim is to shed light on the costs of disability.

In practice, there are associations between disability and a range of inequities (Stats NZ, 2014; Stats NZ, 2020; Himona et al., 2019; King, 2019; Beltran-Castillon and McLeod, 2023; Marks et al., 2023) and intersectionality between ableism, disableism, racism and other forms of discrimination (Ingham et al., 2022; Cram et al., 2024 - forthcoming; Gray and Stratten, 2024 - forthcoming). In addition, reverse causality may be at play whereby lower SOL causes mental and physical health and injury risks that make it more likely that there is a disabled person in the household. This includes the potential for lagged effects of low SOL early in the lifecourse on health and impairments in adulthood, and interplay between age at onset and the opportunity to accumulate human capital and financial assets. All these factors make disentangling independent causal effects of disability difficult.

Notwithstanding these estimation difficulties, our findings concur with other research in suggesting that additional costs borne by households with a disabled person that are not being met by income support payments and allowances and other supports are likely to be part of the explanation for material hardship among NZ children (Wynd, 2015; Murray, 2018; Wilson and McLeod, 2024 - forthcoming). While qualitative interviews show that government, families, whānau, friends and community agencies provide important formal and informal supports, the overwhelming impression is one of many disabled people in households on low- and middle-incomes having unmet need, and hardship or having only just enough to get by in spite of these supports (Wynd, 2015; Cram et al., 2024 - forthcoming; Gray and Stratten, 2024 - forthcoming). Useful areas of focus for efforts to reduce hardship would be improving income support payments and services that support employment, and improving income support payments such as Disability Allowance and Child Disability Allowance, other supports that help with the additional costs of disability.

These payments and supports are currently received in only a minority of households where children live with a disabled adult or child (Suri and Johnson, 2016; Wilson and McLeod, 2024 - forthcoming). More research to better understand the extent to which increased uptake of available payments and supports could help reduce hardship would be useful (Wynd, 2015; Wilson and McLeod, 2024 - forthcoming). Awareness of supports appears to be an issue (Suri and Johnson, 2016). In the New Zealand Income Support Survey, one in five respondents who said they had a child with a physical, sensory, psychiatric, or intellectual disability were not aware of the Child Disability Allowance.[22] However, we note that even if a household with a disabled child missing out on Disability Allowance and Child Disability Allowance were to receive these payments, this would yield at most $7,167 per annum. This amount would not fully address even the smallest of the average income shortfalls we estimate. It would therefore be useful to consider policies that improve the adequacy of payments and supports, as well as those that broaden coverage, access, and uptake (Morris, 2021).

Based on the Washington Group measure used in the HES, almost three in every ten children live in a household with a disabled person (likely an underestimate given the

[22] Source: MSD unpublished tables.

limitations of the measure[23]). This means policies addressing the high rate of material hardship for children in households with a disabled person is important to the wellbeing of a sizeable share of the population of children. Such policies could contribute to both future child poverty reduction efforts and to meeting obligations under the United Nations Convention on the Rights of Persons with Disabilities which require ratifying countries to safeguard and promote the right to an adequate standard of living and social protection for disabled people.[24] They could also form part of an early intervention social investment approach. Helping ensure disabled children and adults get the resources, therapies and services they need early may improve the trajectory of their lives and reduce future costs.

Key strengths of our approach are its transparency and simplicity, and that it avoids difficulties encountered with regression and matching SOL approaches. A key limitation is that while we provide useful new insights into the range of additional income needed to address higher deprivation for children in households with disabled people, we are unable to offer insights into the degree to which the income shortfall results from costs of disability. Nor can we shed light on how much additional income would be required to reduce material hardship rates to below certain levels, or whether income shortfalls would be best met through income support payments or direct supports. In addition, as with the regression and matching approaches tested, we are limited to a single indicator of disability status in which some disabled people appear as not disabled, and we are unable to consider variation in income shortfalls by the nature and severity of disability.

Potential areas for further research include estimating the aditional income needed to address higher rates of material hardship and severe material hardship (i.e. to equalise proportions with 6 or more and 9 or more Dep-17 items), exploring variation in costs faced by people with different types and degrees of disability,[25] exploring differences between Māori and non-Māori in more detail, and investigating the feasibility of developing an approach to income equivalisation in income-poverty monitoring that takes into account additional costs of disability.

Conclusion

Substantial increases in income and/or direct supports for households with disabled people would be needed to address higher levels of deprivation for children in these households when compared to children in households with no disabled person. The increases needed are higher when there are two or more disabled people in the household.

[23] Underwood et al. (2024) find that among multi-person families living in the same household, 60 percent include at least one person with one of nine selected long-term health conditions (cancer, chronic obstructive pulmonary disease, heart disease, diabetes, dementia, gout, stroke, traumatic brain injury, or mental health/behaviour conditions).
[24] Article 28 - Adequate standard of living and social protection | Division for Inclusive Social Development (DISD) (un.org)
[25] This would require more detailed information on responses to HES Washington Group questions than is currently available to researchers.

References

Beltran-Castillon, L., and McLeod, K. (2023) *From Data to Dignity: Health and Wellbeing Indicators for New Zealanders with Intellectual Disability,* IHC. https://www.ihc.org.nz/publications/from-data-to-dignity-health-and-wellbeing-indicators-for-new-zealanders-with-intellectual-disability

Cram, F., Adcock, A., Tipene, D., Tuteao, H., and Were, L. (2024 – forthcoming). *In-depth study to understand costs and income support for Tāngata Whaikaha Māori me o rātou whānau, and Māori living with long-term health conditions.* A study by Katoa Ltd for the Ministry of Social Development.

Disability Resource Centre (2010) *The Cost of Disability - Final Report,* Report prepared for the Ministry of Social Development and the Office for Disability Issues. https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fcarers.net.nz%2Fwp-content%2Fuploads%2F2013%2F02%2F2010Cost-of-Disability-Report.doc&wdOrigin=BROWSELINK

Doran, B., Crossland, K., Brown, P., & Stafford, L. (2022). *Transport experiences of disabled people in Aotearoa New Zealand,* (Report No. 690). Waka Kotahi NZ Transport Agency research. Research Report 690 Transport experiences of disabled people in Aotearoa New Zealand - summary (nzta.govt.nz)

Godfrey, A.J.R., and Brunning, D.M. (2009) 'Reconciling True and Incurred Costs of Blindness in New Zealand', *Social Policy Journal of New Zealand*, 36, 208-216. https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj36/36-reconciling-true-and-incurred-costs.html

Graham, S. (2022) *The New Zealand Income Support System as at 1 July 2022,* Wellington, New Zealand: Ministry of Social Development.

Gray, R. and Stratton, G. (2024 - forthcoming) *Extra costs and income support experiences for disabled people and people with long-term health conditions.* Wellington: Allen + Clarke and All is for All. A report prepared for the Ministry of Social Development.

Hancock, R., Morciano, M., and Pudney, S. (2013) *Nonparametric estimation of a compensating variation: the cost of disability,* Institute for Social and Economic Research.

HealthiNZ (2024) *Impact of living a rare disorder in Aotearoa New Zealand. Key priorities to deliver improved outcomes for people living with rare disorders, their family and whānau*. HealthiNZ. 5295_RDNZ_White-Paper-Layout_WEB.pdf (raredisorders.org.nz)

Himona, P., Talamaivao, N., Yeh, L., and Paterson, L. (2019) *Māori Health Disability Statistical Report,* Report prepared for the Waitangi Tribunal (Report No, Wai 2575, #B24). https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_151847905/Wai%202575%2C%20B024.pdf

Ingham, T.R., Jones, B., Perry, M., King, P.T., Baker, G., Hickey, H., Pouwhare, R., and Nikora, L,W. (2022) 'The multidimensional impacts of inequities for Tāngata

Whaikaha Māori (Indigenous Māori with lived experience of disability) in Aotearoa, New Zealand' *International Journal of Environmental Research and Public Health* 19(20):13558. https://doi.org/10.3390/ijerph192013558

Jeffreys, M., Pledger, M, McKenzie, F., Ellison-Loschmann, L., Irurzun Lopez, M., and Cumming, J. (2024) 'Consequences of cost barriers to prescriptions: cohort study in Aotearoa New Zealand' *New Zealand Medical Journal*, 137(1595), 48-63. https://doi.org/10.26635/6965.6431

King, P.T. (2019) *Māori With Lived Experience of Disability Part I*. Report prepared for the Waitangi Tribunal (Report No. Wai 2575, #B22). https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_150437272/Wai%202575%2C%20B022.pdf

Marks, E.J., Tait, J., Miller, D., Liang, R., Bullen, P., Fenaughty, J., Grant, C., and Paine S. (2023) *Growing up in New Zealand. Now we are 12. Life in early adolescence. Disability – The impact of disability on young people and their family.* The impact of disability on young people and their family (growingup.co.nz)

Melnychuk, M., Solmi, F., and Morris, S. (2018). 'Using compensating variation to measure the costs of child disability in the UK', *European Journal of Health Economics*, 19, 419-433.

Mitra, S., Palmer, M., Kim, H., Mont D., and Groce, N. (2017) 'Extra costs of living with a disability: a review and agenda for research', *Disability and Health Journal*, 10(4), 475-484. https://doi.org/10.1016/j.dhjo.2017.04.007

Mont, D. (2023) 'Estimating the extra disability expenditures for the design of inclusive social protection policies', *Front Rehabil Sci*, 31(4) 1179213. https://doi.org/10.3389%2Ffresc.2023.1179213

Morris, Z.A. (2021) 'Making ends meet on disability benefits: how well do programs decommodify?*' Alter.* 15(1), 15–28. https://doi.org/10.1016/j.alter.2020.06.013

Murray, S. (2018) 'Breaking the link between disability and child and whānau poverty', *Policy Quarterly*, 14(4), 68-77. https://doi.org/10.26686/pq.v14i4.5151

Norris, P., Cousins, K., Horsburgh, S. et al. (2023) 'Impact of removing prescription co-payments on the use of costly health services: a pragmatic randomised controlled trial', *BMC Health Serv Res*, 23, 31. https://doi.org/10.1186/s12913-022-09011-0

Perry, B. (2022) *Child Poverty in New Zealand,* Ministry of Social Development.

Stats NZ. (2014) *Disability Survey: 2013.* Disability-Survey-2013 (1).pdf

Stats NZ. (2020) *Measuring inequality for disabled New Zealanders: 2018*. https://www.stats.govt.nz/reports/measuring-inequality-for-disabled-new-zealanders-2018

Stephens, M. (2022) *Insights from New Zealand child poverty data,* Treasury Analytical Note 22/04. https://www.treasury.govt.nz/publications/an/an-22-04

Suri, J. and A. Johnson (2016) *Barriers to Support: uptake of the child disability allowance in Otara*, Auckland: Child Poverty Action Group. Barriers to support: Uptake of the Child Disability Allowance in Otara — Child Poverty Action Group (cpag.org.nz)

Underwood, L., Teng, A., Bowden, N., Dewes, O., Marek, L and Milne, B. (2024) 'Long-term health conditions among household families in Aotearoa New Zealand: cross-sectional analysis of integrated Census and administrative data', *New Zealand Medical Journal*, 137(1596). 20-34. https://doi.org/10.26635/6965.6370

Washington Group on Disability Statistics (2020a) *The Washington Group Short Set on Functioning – Enhanced (WG-SS Enhanced).* https://www.washingtongroup-disability.com/resources/the-washington-group-short-set-on-functioning-enhanced-wg-ss-enhanced-167/

Washington Group on Disability Statistics (2020b) *The Washington Group / UNICEF Child Functioning Module (CFM) – Ages 5-17 years.* Child Functioning Module (CFM) – Ages 5-17 years - The Washington Group on Disability Statistics (washingtongroup-disability.com)

Washington Group on Disability Statistics (2020c) *The Washington Group / UNICEF Child Functioning Module (CFM) – Ages 2-4 Years.* https://www.washingtongroup-disability.com/resources/the-washington-group-/-unicef-child-functioning-module-cfm-ages-2-4-years-169/

Wilson, M. & McLeod, K. (2024 - forthcoming) *Material hardship of children in households with a disabled person,* Ministry of Social Development.

Wynd, D. (2015) '*It shouldn't be this hard': children, poverty and disability*, Auckland: Child Poverty Action Group. https://www.cpag.org.nz/publications/150317childdisabilitypdf