



Using integrated data to examine children at higher risk of poorer outcomes as young adults

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Acknowledgements

- *Analytics and Insights team at Treasury*

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- *Ministry of Social Development*
- *Ministry of Education*
- *Ministry of Health*

- *Statistics New Zealand*

Objectives

- To better understand the extent to which children are in contact with different government agencies through their childhood years with a focus on the most vulnerable
- To better understand what happens to these children as young adults
- To estimate longer term outcomes for these children

Overview of our analysis

1. Descriptive longitudinal analysis of cohort (1993)
2. Estimating future cost trajectories based on statistical matching to earlier cohorts
3. Identifying a small number of the key childhood indicators - informed by regression analysis
4. Presentation of a 'current population' view

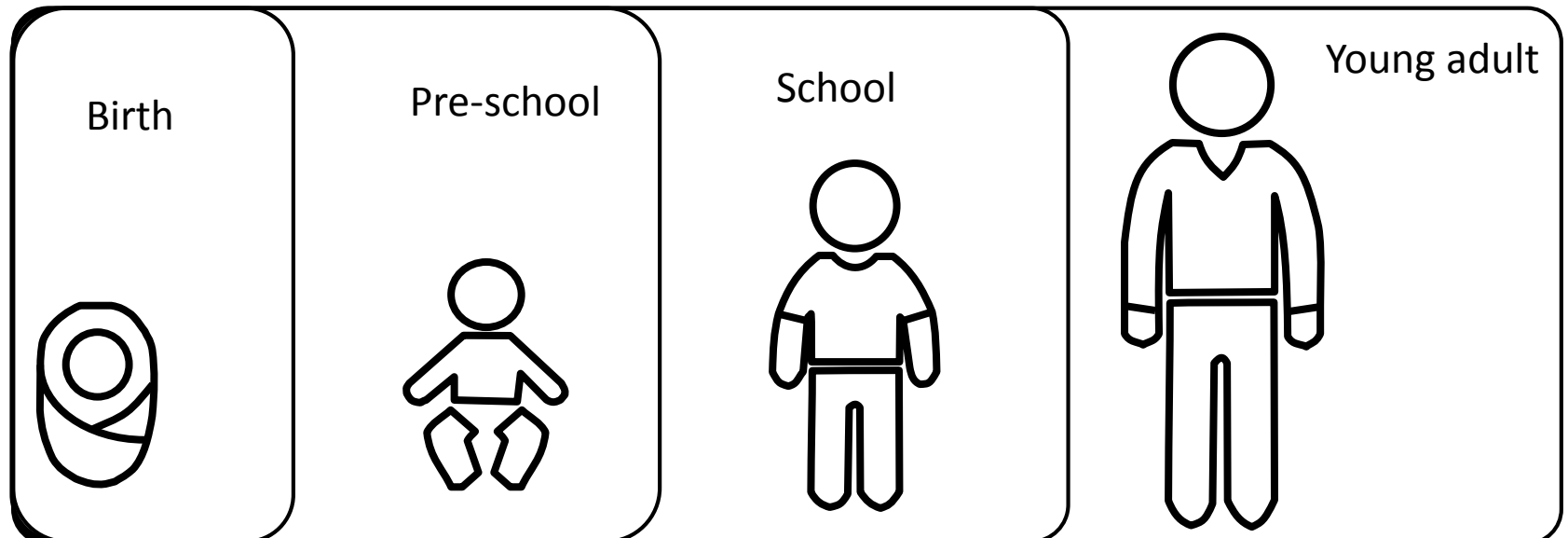
Data used

- Used linked administrative data in Statistics New Zealand's Integrated Data Infrastructure (IDI) including data from:
 - Ministry of Social Development (welfare receipt, 1993-)
 - Child Youth and Family (notifications, findings, placements, 1993-)
 - Dept of Corrections (community and custodial sentences, 1990-)
 - Ministry of Education (enrolment, NCEA achievement, 2006-)
 - Inland Revenue Dept. (income tax data, 1999-)
 - Customs (border movement, 1998-)
 - Ministry of Health (GP enrolment 2003-, hospital events 1988-, Pharmaceuticals 2003-, B4SC 2011-)
 - DIA (births and deaths, 1998-)

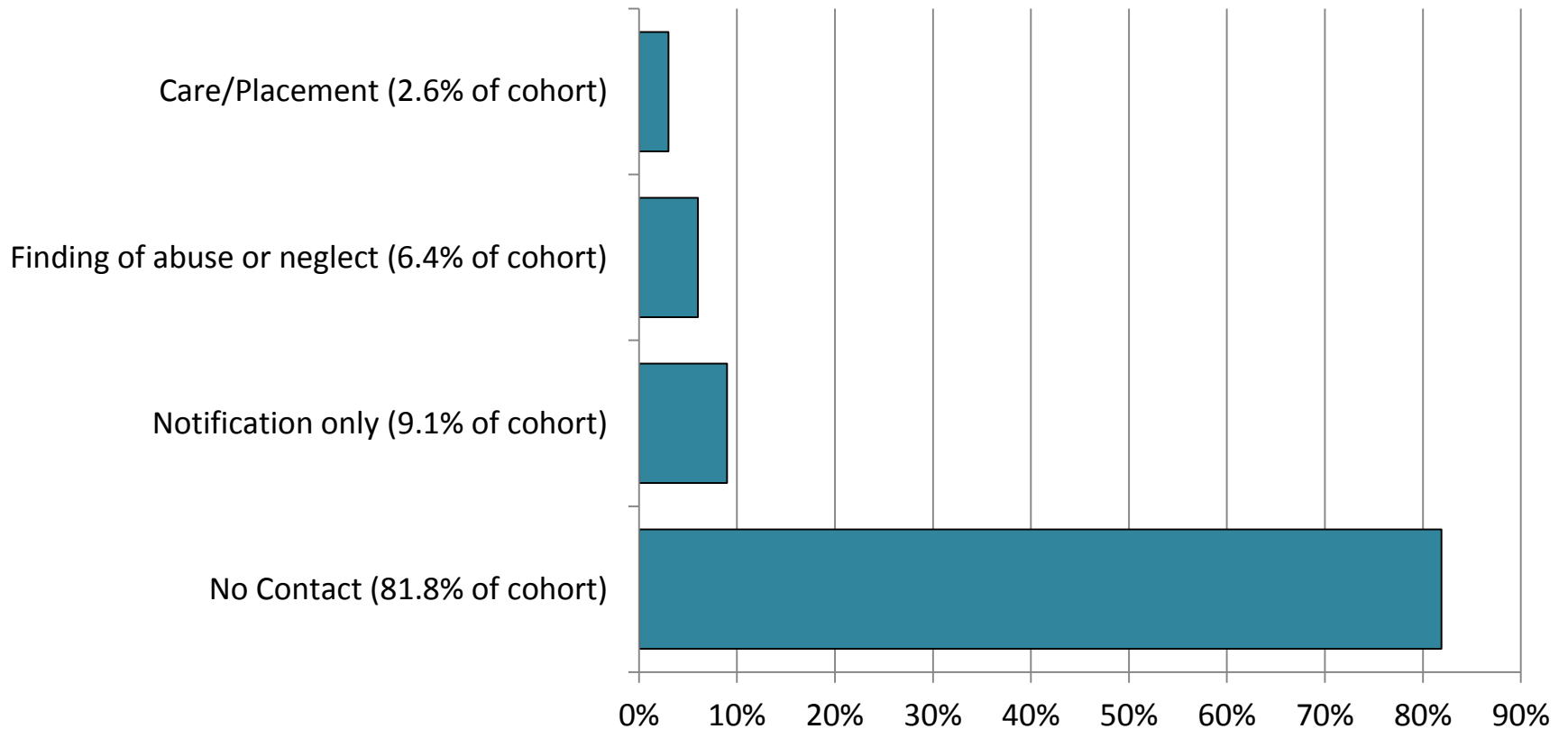
Part 1 – Cohort Analysis

1993 Cohort population

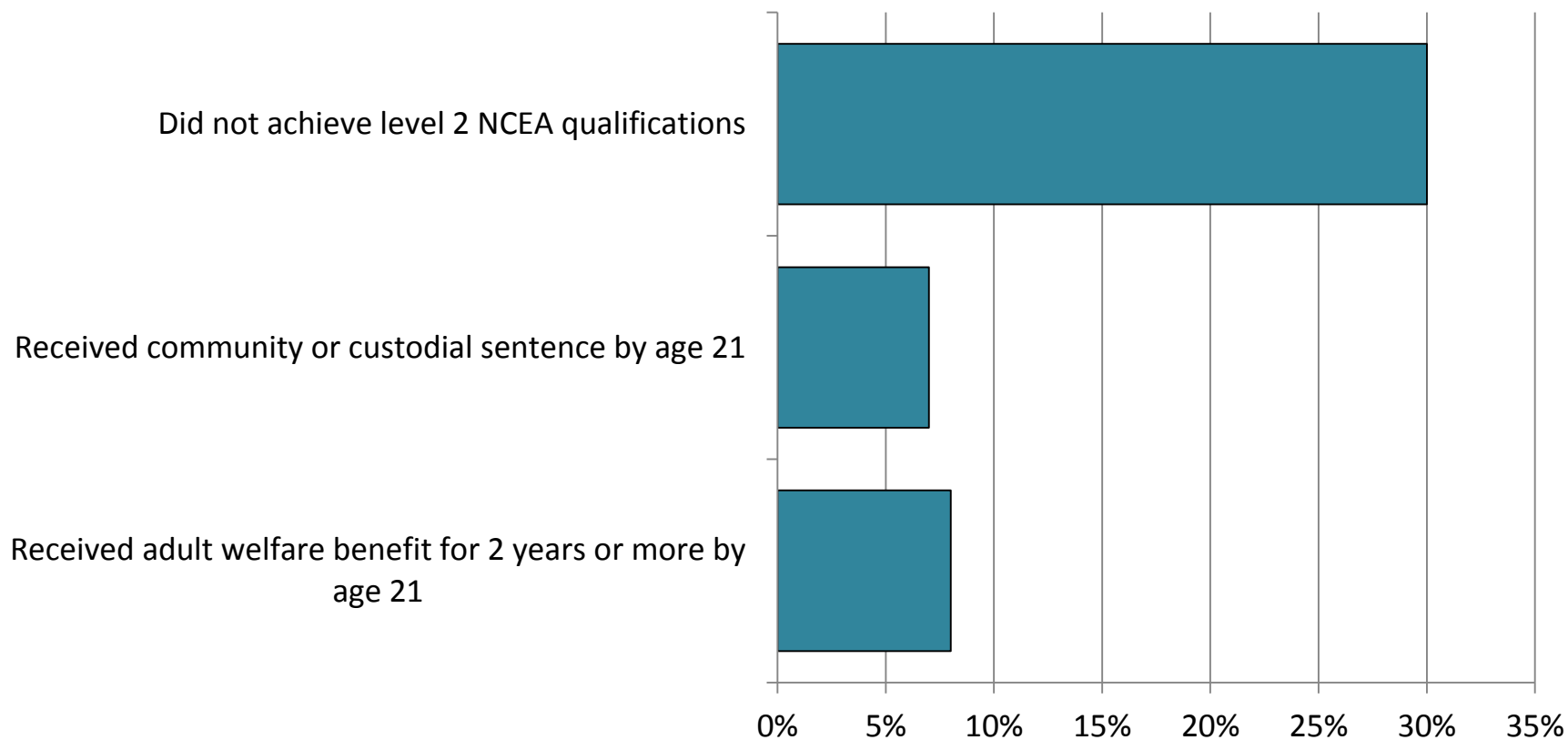
- Individuals born in 1993 and in NZ during their secondary school years
- N=60,742 (51% male, 49% female)



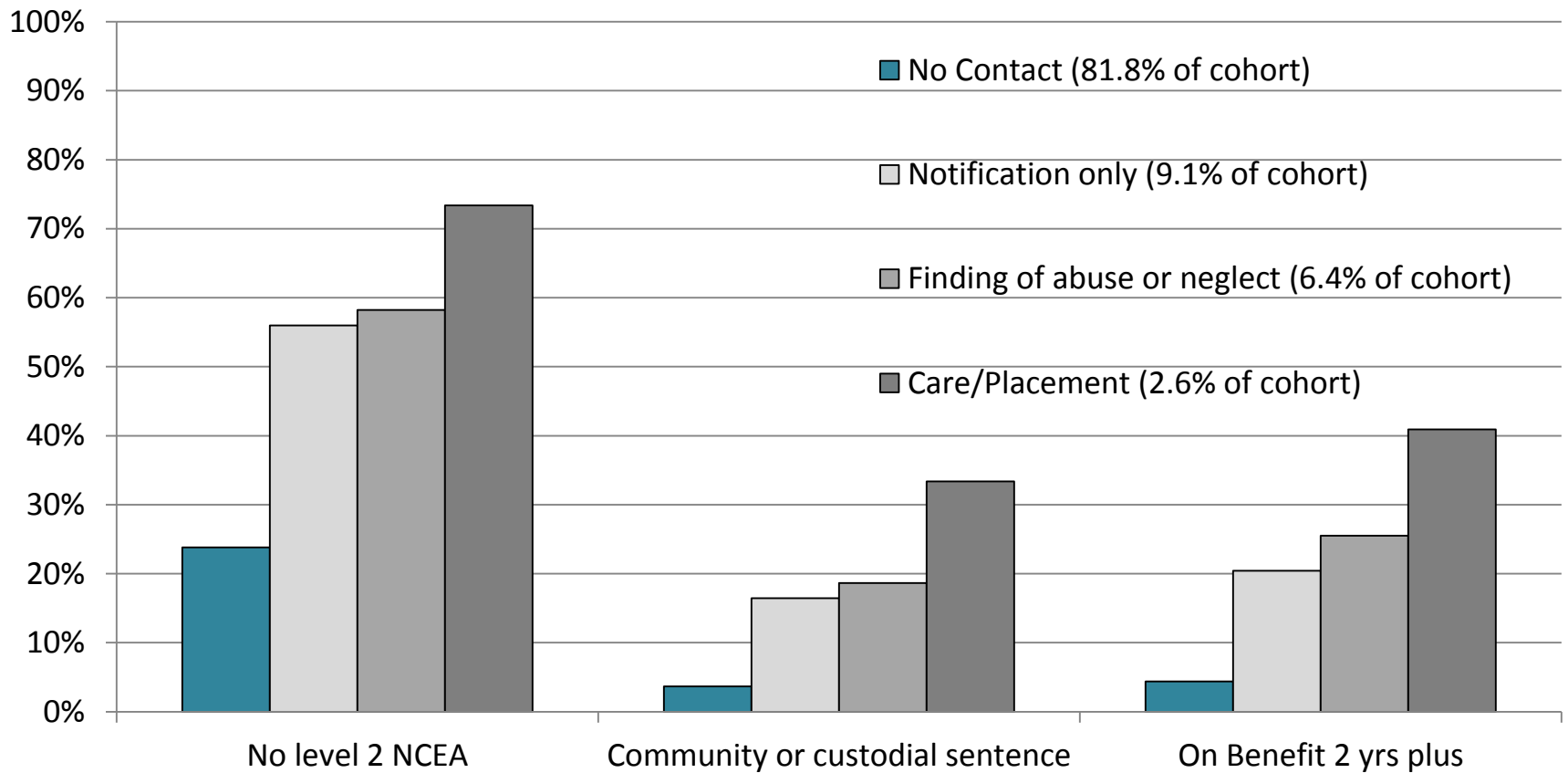
Extent of contact with CYF



Outcomes (by age 21)

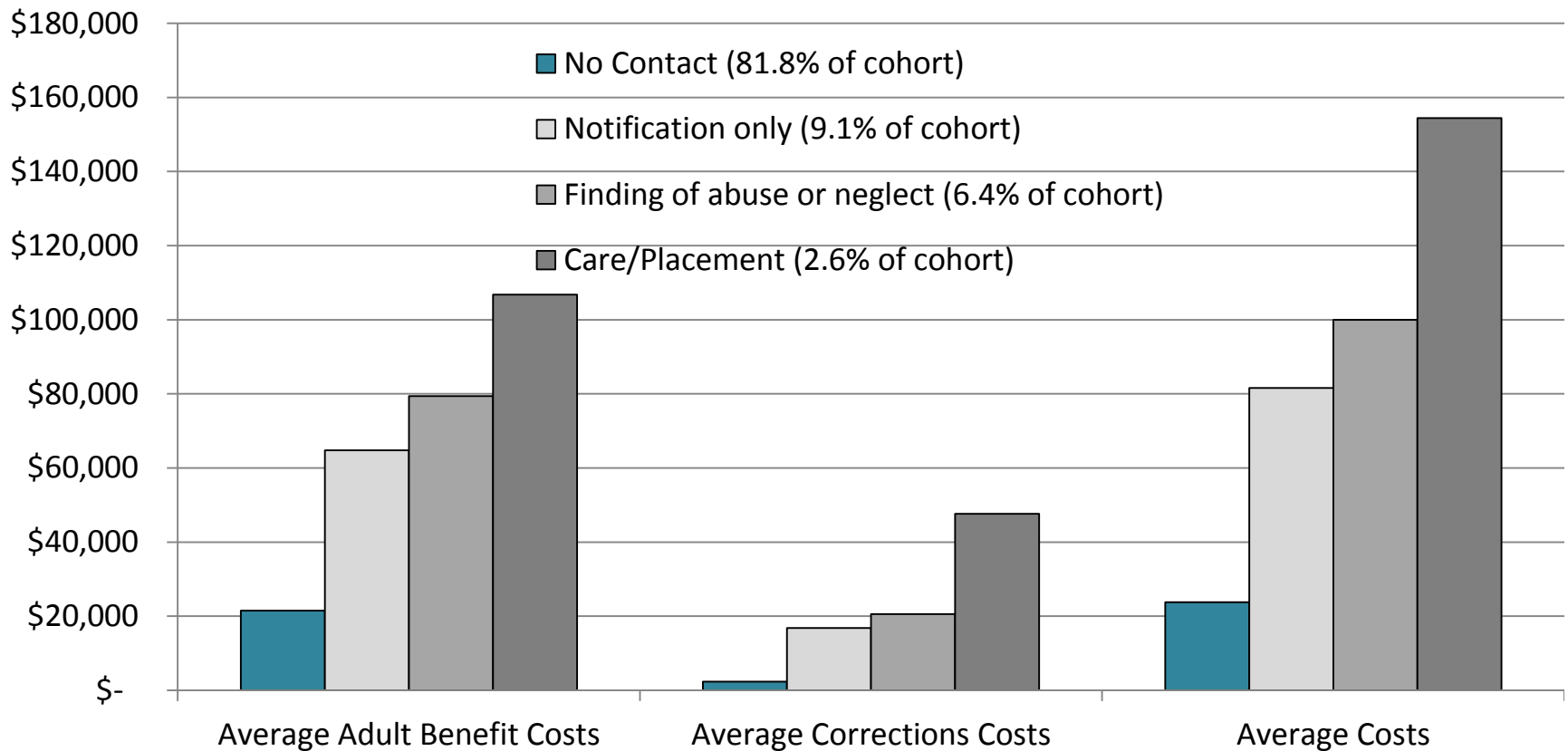


Outcomes (by age 21) by extent of contact with Child, Youth and Family



Part 2 – Future costs

Estimated adult welfare and corrections costs to age 34, by extent of contact with CYF



Statistical matching to earlier cohorts

Birth-----1993 cohort-----Age 21

Age 16 -----1978 cohort -----Age 34



Match records based on:

- Gender
- Ethnicity
- Time on benefit (ages 16 to 21)
- Corrections sentences (ages 16 to 21)

Part 3: Identifying a small number of key early childhood indicators

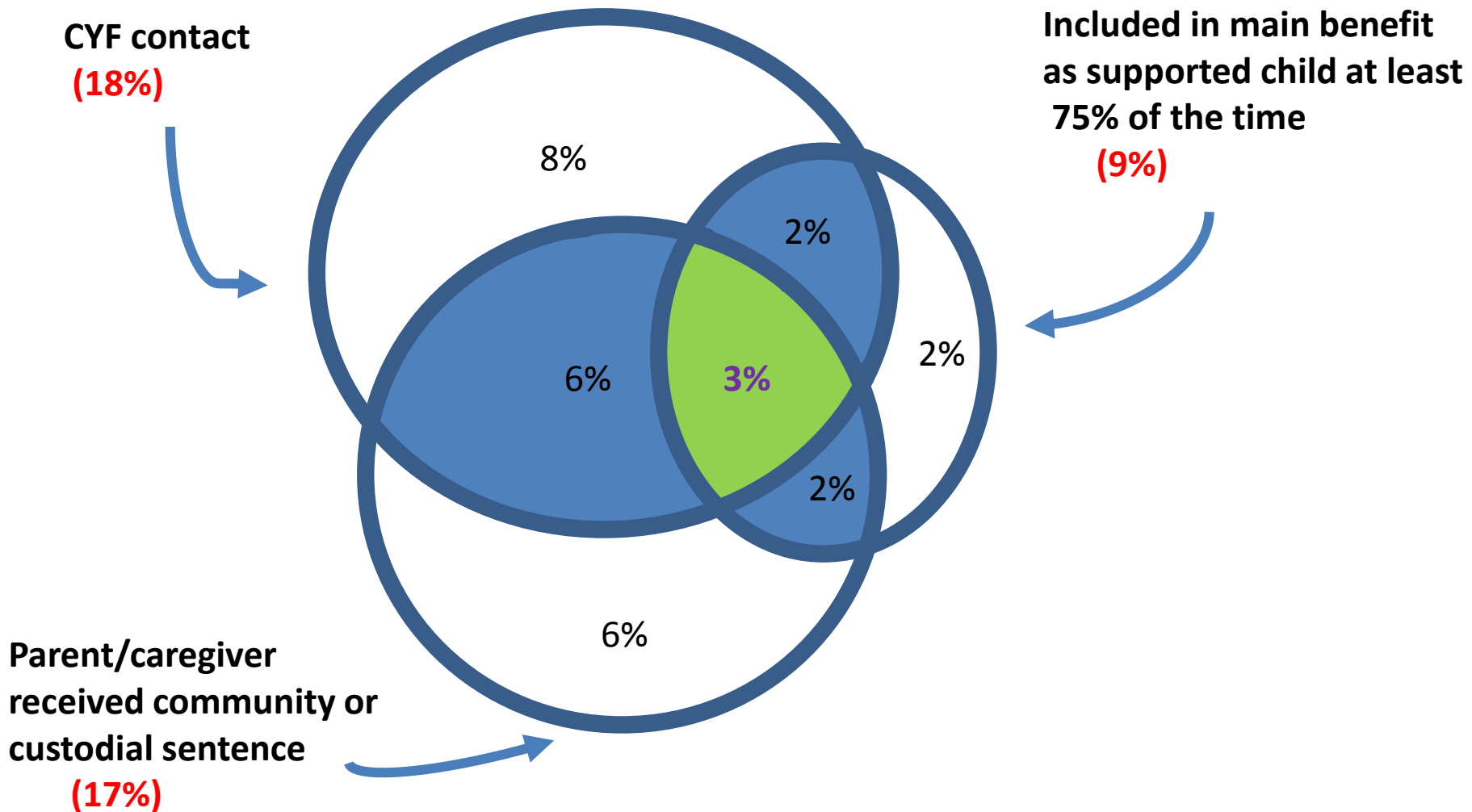
Exploratory regression analysis

- Help us establish which administrative data characteristics have strongest associations with poor outcomes
- Run separate logistic models looking at the data at each year of age from 0 to 14, separately for girls and boys.
- Identify characteristics that are consistently important factors at different ages and for boys and girls.

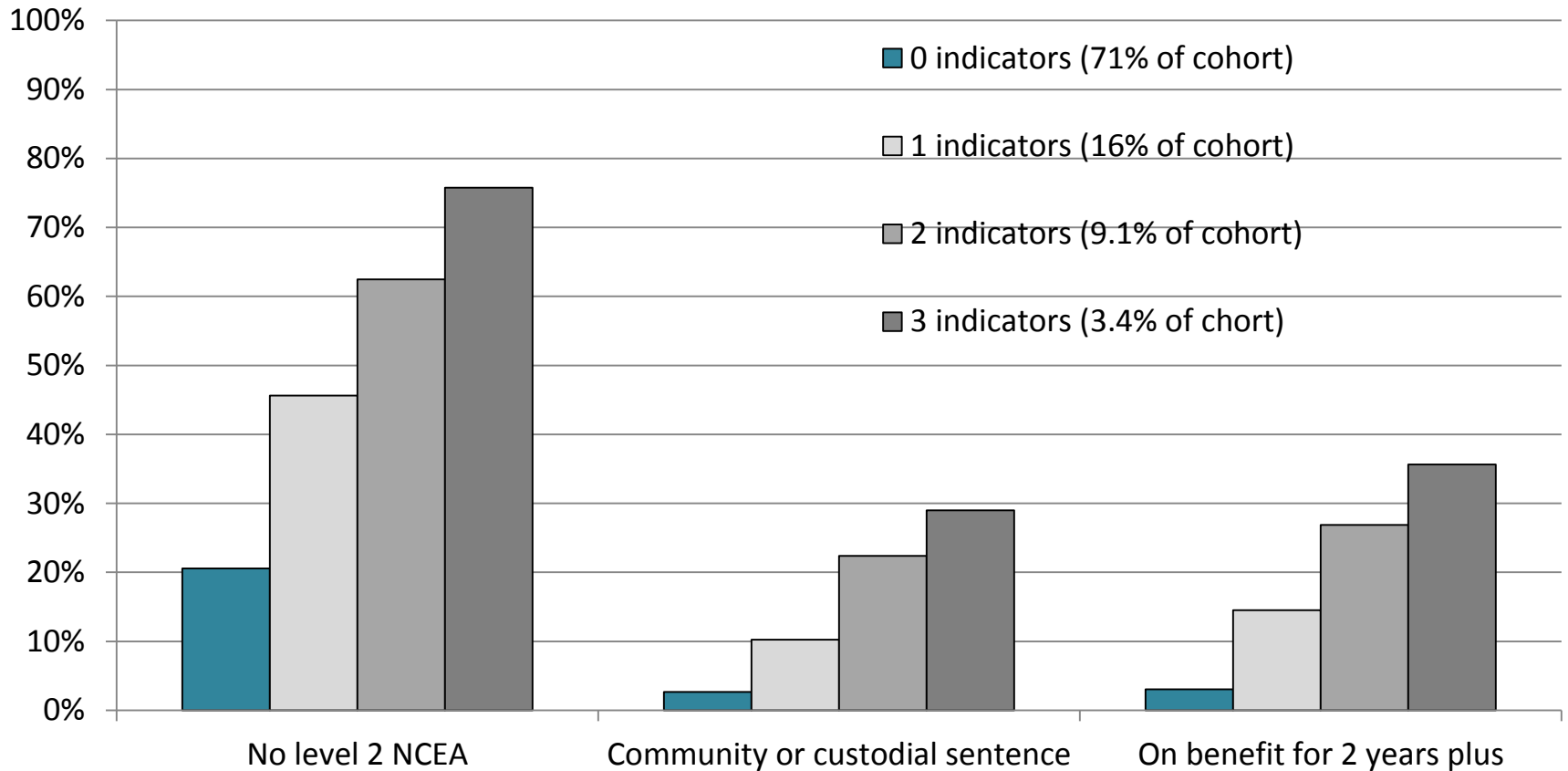
Three key indicators

- having contact with Child, Youth and Family (CYF)
- having spent more than three-quarters of their lifetime supported by benefits
- having a parent who has received a community or custodial sentence

Cohort 1993: Overlap between indicators



1993 Cohort: Outcomes (by age 21) by number of indicators present



Part 4 :

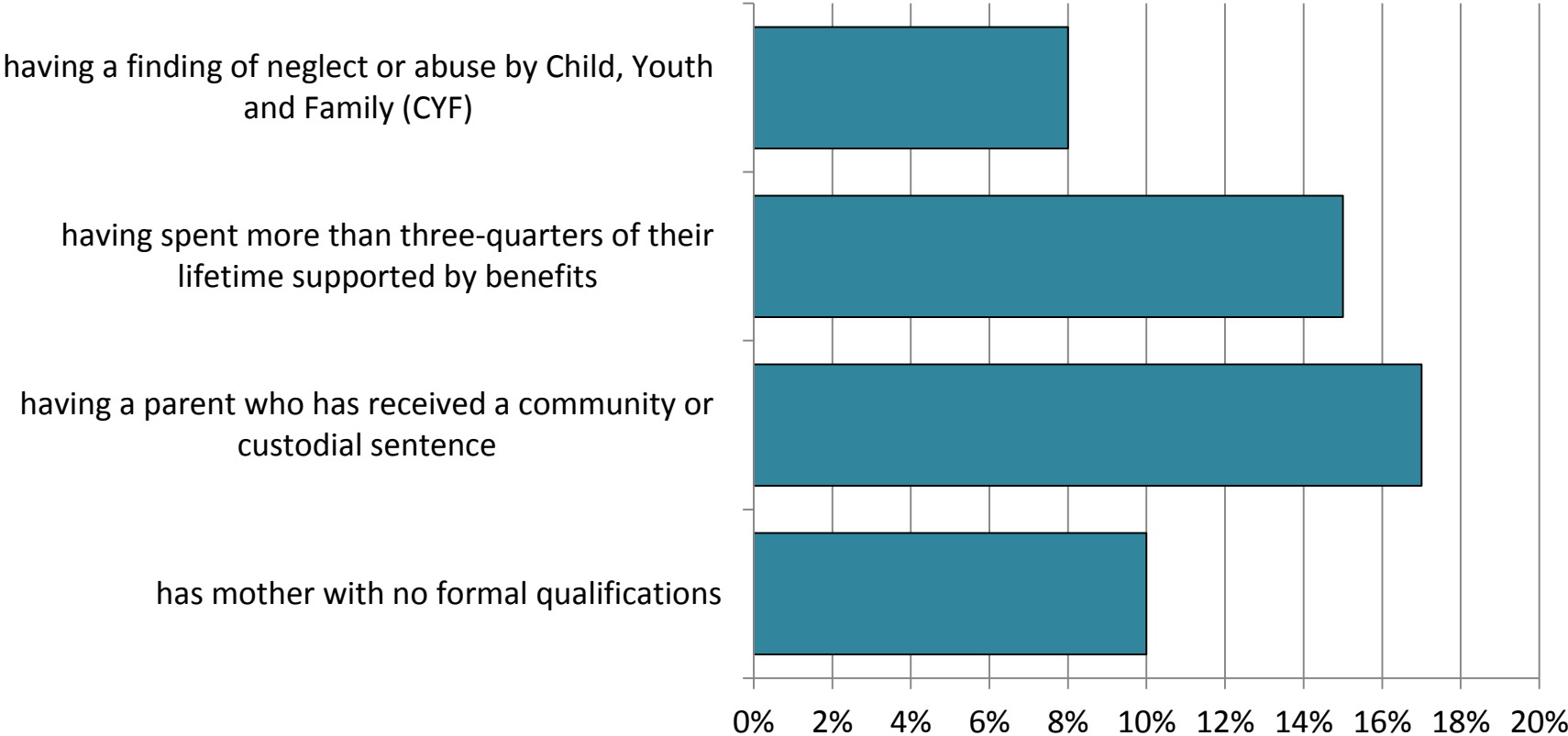
Presenting a current population view

Presentation of a “Current Population” view

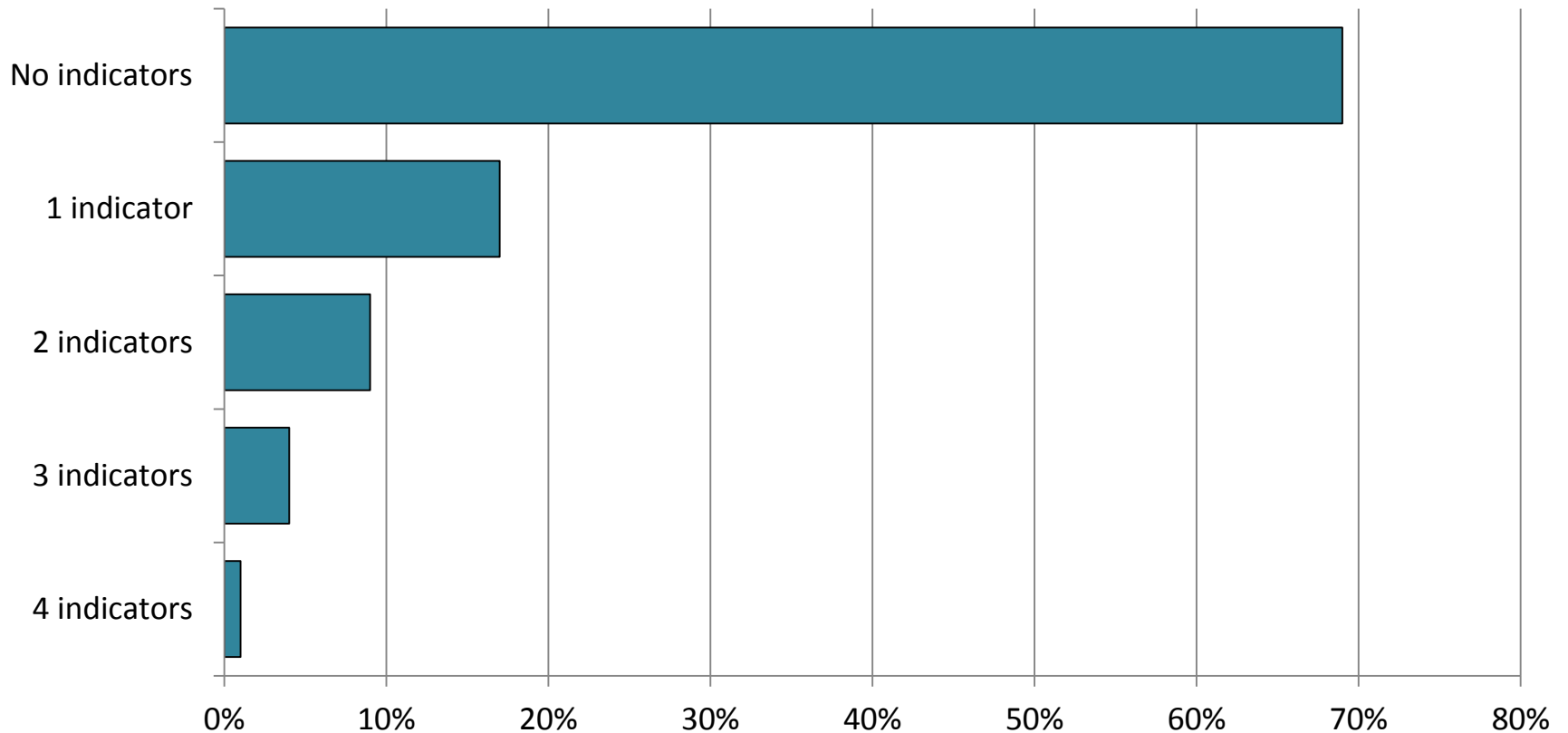
- Define current population of children
 - aged 0 to 14,
 - living in NZ for most of 2013
 - N=873,180
- More current view of the prevalence of key childhood indicators
- Examine other indicators using richer set of more recent data in IDI



Current Population 2013: Percentage of children (aged 0 to 14) with indicators present

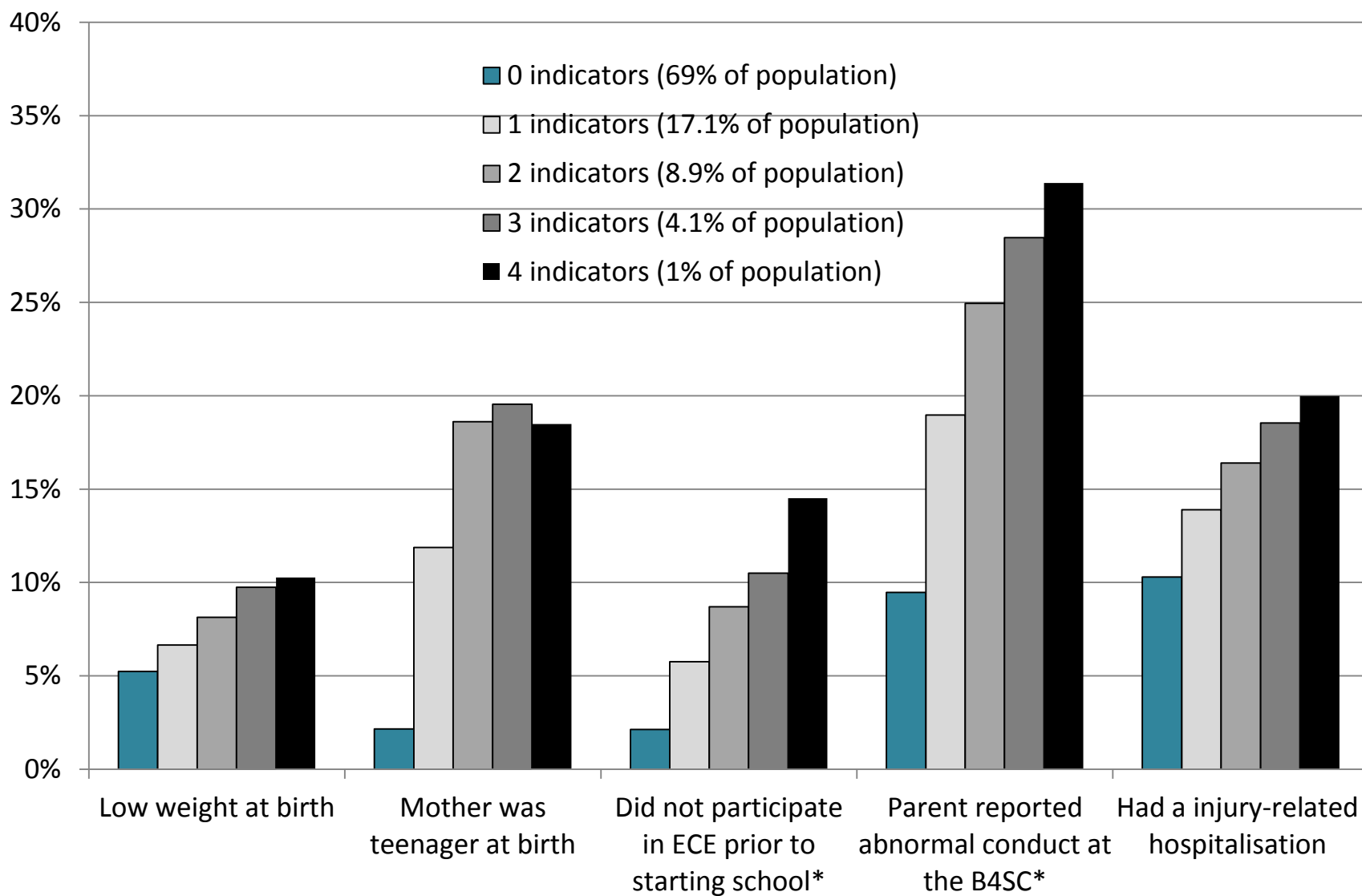


Current Population 2013: Percent of children (aged 0 to 14) by number of indicators present



Current population 2013:

Other characteristics of the children with multiple indicators



Re-cap : 4 aspects of our analysis

1. Descriptive longitudinal analysis of cohorts (1990/91 and 1993)
2. Estimating future outcomes/costs based on statistical matching to earlier cohorts
3. Identifying a small number of the key childhood indicators - informed by regression analysis
4. Presentation of a 'current population' view

Cautions\Limitations

- Administrative data
- Linkage issues
- Content limitations

Disclaimer

- Access to the data presented was managed by Statistics New Zealand under strict micro-data access protocols and in accordance with the security and confidentiality provisions of the Statistic Act 1975. These findings are not Official Statistics.
- The opinions, findings, recommendations, and conclusions expressed are those of the authors, not Statistics NZ or The Treasury.

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