## Vaccination uptake analysis of disabled population aged 12 and over as of 1 March 2022

#### Disability status by total ethnicity – aged 12 and older

The disabled population continues to be better vaccinated (including booster uptake) relative to the non-disabled population (92.8% with one or more doses compared to 88.1%, and 66.2% with three or more doses compared to 48.4%, respectively). This trend persists across all six major ethnicity categories. Our analysis aligns with the Ministry of Health reporting which indicates that Māori and Pasifika People’s vaccination uptake continues to be slower than the rest of the population (89.2% of disabled Māori and 82.7% of non-disabled Māori have one or more doses).

#### District Health Boards – aged 12 and older

The comparatively higher vaccination rates of disabled people persist across all DHBs. In terms of the percentage of people vaccinated (1 or more doses), Northland DHB had the most significant difference (approximately 8 percentage points, 89% vs 81%) between disabled and non-disabled people. Capital and Coast DHB had the smallest difference, approximately 3 percentage points (95% vs 92%).

#### Age group – aged 12 and older

There are level shifts in the uptake of 3 or more doses of the vaccine across age groups, consistent with the initial rollout of the vaccine based on priority groups, particularly age. For example, among disabled people, 20% of 12–24-year-olds have 3 or more doses compared to 62% of 25–64-year-olds and 84% of 65-year-olds and older. The difference in vaccination rates between disabled and non-disabled people is more pronounced among people 65 years-old or older (84% vs 75%). However, difficulty identifying young people with disabilities in the data may explain some of this trend, see Appendix 4.

#### Functional difficulty by age group – aged 12 and older

Disabled younger people (aged 12 to 24) with a functional difficulty related to washing or communication, have slightly lower vaccination uptake compared to non-disabled people, and disabled people with other types of functional difficulties (88% and 89% of disabled people with washing and communication difficulties have one or more doses compared to 90% of non-disabled people). For older age groups (25 to 64 and 65+), disabled people across all functional difficulties have higher vaccination uptake than non-disabled people.

## Vaccination uptake analysis of disabled children aged 5-11 as of 1 March 2022

1. **Disability status by total ethnicity – 5-11-year-olds**

Disabled children tend to have slightly higher vaccination rates than non-disabled children, across and within the six high level ethnicities. This is especially true for ethnic groups with overall lower vaccination rates, such as Māori, Pacific and MELAA (39% vs 32% for Māori, 44% vs 41% for Pacific, and 49% vs 46% for MELAA).

#### District Health Boards – 5-11-year-olds

Disabled children have slightly higher vaccination rates than non-disabled children across DHBs except for Capital and Coast DHB (66% vs 68%). However, it should be noted that Capital and Coast DHB has one of the highest vaccination rates for both disabled and non-disabled children in the country. While this indicates that – for a given DHB – disabled children are more likely to be vaccinated than their non-disabled peers, this does not mean disabled children are vaccinated at equal rates across the country. For example, in Auckland 67% of disabled children and 66% of non-disabled children are vaccinated, whereas in Northland only 34% of disabled children and 30% of non-disabled children are vaccinated.

#### NZ Deprivation Index - 5–11-year-olds

Disabled children tend to have slightly higher vaccination rates, regardless of the NZ Deprivation Index of the area they live in (between 1-5 percentage points higher). However, it should be noted: there is a clear relationship between NZ Deprivation Index and vaccination rates in 5–11-year-olds. As the NZ Deprivation score increases, vaccination rates decrease, e.g., 4 in 10 disabled children living in areas with higher socioeconomic deprivation (NZDep = 10) vaccinated compared to 7 in 10 disabled children living in the most affluent areas (NZDep = 1).

## Supplementary vaccination uptake analysis of the disabled population as of 1 March 2022

#### Number of GP contacts – aged 12 and older

Consistent with earlier analysis, we observe that individuals who regularly interact with their health providers are more likely to be vaccinated. For example, 94% of disabled people with 1 or more GP contacts a year were vaccinated compared to 82% disabled people with no GP contacts in a year.

The difference is greater in terms 3 or more doses with 70% of disabled people who visit a GP at least once a year having received 3 or more doses compared to 42% of people who do not visit a GP in a year. Across levels of interaction with health providers, disabled people are more likely to be vaccinated than non-disabled people.

#### PHO enrolment – aged 25 and older

Again, across PHO enrolment status and age, disabled people have higher vaccination rates than non-disabled people (between 3 and 29 percentage points higher). Disabled people who are not enrolled with a PHO are less likely to be vaccinated than disabled people who are enrolled with a PHO (70% vs 93% among 25-64-year-olds, and 56% vs 96% among 65-year-olds and older).

#### Intellectual impairment – aged 12 and older

Uptake of the vaccination (1 or more doses) among disabled individuals with identified intellectual impairments is broadly the same as disabled individuals without an intellectual impairment (92% vs 93%). However, non-disabled individuals with an intellectual impairment have significantly lower rates of uptake compared to non-disabled individuals without an intellectual impairment (79% vs 88%).

#### Autism Spectrum Disorder – aged 12 and older

People with Autism Spectrum Disorder (ASD) have lower vaccination uptake than people without (identified) ASD (90% vs 93% for disabled people and 87% vs 88% for non-disabled people). Disabled people with ASD are more likely to be vaccinated than non-disabled people with ASD (90% vs 87%).

#### Residential care status for disabled people – aged 25 and over

Disabled people living in residential care facilities have higher vaccination uptake than disabled people not living in residential care facilities (97% vs 93%). 84% of disabled people living in residential care facilities have received 3 or more doses of the vaccine, compared to 71% of disabled people not living in residential care facilities.

#### MOH funded disability clients

Disabled people receiving disability funding from the Ministry of Health have lower uptake of the vaccination, both in terms of vaccination generally (1 or more doses; 92% vs 93%) and boosters (3 or more doses; 55% vs 66%,) compared to disabled people who are not MOH funded disability clients.

1. **Sex – aged 12 and older**

Irrespective of sex, disabled people (aged 12 and older) have higher vaccination uptake than non-disabled people (92% vs 88% for females, and 93% vs 88% for males). By 2 percentage points, disabled females are more likely to have received 3 or more doses of the vaccine than disabled males (67% vs 65%).

1. **Main beneficiary status – aged 12 and older**

Vaccination uptake among main beneficiaries aged 12 and over (excluding superannuation recipients) is lower compared to people not receiving main benefits (87% vs 94% for disabled people, and 80% vs 89% for non-disabled people). Disabled people continue to have higher vaccination rates compared to non-disabled people irrespective of their beneficiary status.

#### Superannuation recipients

Superannuitants are more likely to be vaccinated compared to their peers who are not receiving superannuation. This is the case for both disabled and non-disabled people aged 65 and older (95% vs 93% for disabled people, and 88% vs 77% for non-disabled people).

#### Social housing tenant status – aged 12 and older

Irrespective of being a social housing tenant, disabled people have higher vaccination uptake than their non-disabled peers. However, disabled social housing tenants have lower vaccination uptake – especially of 3 or more vaccines – than disabled people who are not social housing tenants. 47% of disabled social housing tenants have had 3 or more doses, compared to 67% of disabled people who are not social housing tenants.

1. **Community Housing Providers’ (CHiPs) tenants– aged 12 and older**

As with social housing tenants, we see a similar trend among Community Housing Providers’ tenants where individuals in these homes have lower uptake of the vaccination compared to non-CHiPs tenants. However, the only significant difference among disabled people was in terms of booster uptake with 66% of disabled people in CHiPs housing having received 3 doses or more compared to 70% of disabled people not in ChiPs housing.

1. **NZ Deprivation Index – aged 12 and older**

As with children aged 5-11, there is a relationship between individuals’ neighbourhoods’ socioeconomic deprivation (as measured by the NZ Deprivation Index) and the individual’s likelihood to get vaccinated. Across all deciles of the NZ Deprivation Index, disabled people have higher vaccination rates compared to non-disabled people.

For example, 90% of disabled people living in NZDep = 10 (high deprivation) areas were vaccinated compared to 83% of non-disabled people. On the other hand, 95% of disabled people living in NZDep = 1 (low deprivation) areas compared to 92% of non-disabled people. The higher vaccination rates for disabled compared to non-disabled people are most pronounced for people 65 years or older (96% vs 90% for NZDep = 1, and 93% vs 81% for NZDep = 10 – not shown below).

## Technical information and limitations of the analysis

#### Disability Indicators

The disability indicator the SWA has developed relies primarily on IDI data sources that align with the Washington Group Short Set (WGSS). This is an indicator about people who are at a greater risk of restrictions to social participation. It has four levels of difficulty and six domains. It is built out of data sources that ask questions about functional difficulty and does not rely on any diagnostic information. The first indicator was developed for adults.

**The WGSS questions are:**

Q1. Do you have difficulty seeing, even if wearing glasses?

Q2. Do you have difficulty hearing, even if using a hearing aid?

Q3. Do you have difficulty walking or climbing steps?

Q4. Do you have difficulty remembering or concentrating?

Q5. Do you have difficulty with self-care such as washing all over or dressing?  
Q6. Using your usual (customary) language, do you have difficulty communicating for example understanding or being understood by others?

Each question has four response categories: 1: “no difficulty”, 2: “some difficulty”, 3: “a lot of difficulty”, and 4: “cannot do it at all”. See [here](https://www.odi.govt.nz/assets/Uploads/Information-Sheet-Washington-Group-Short-Set-of-Questions-on-Disability2.pdf) for additional info about the use of the WGSS in New Zealand.

The first disability SWA indicator used the following data sources and maps answers to questions so they align with the WGSS:

The WGSS implementation in the 2018 Census

Specific questions around support needs collected as part of the NASC assessments and stored in SOCRATES (see [here](https://www.health.govt.nz/your-health/services-and-support/disability-services) for more information)

Specific questions about functional needs collected as part of a subset of the InterRAI assessment tools

The date of collection for each “assessment” is recorded and the “assessment” scores that are closest to the date of interest are kept. For example, if someone has “assessment” data from Census 2018, SOCRATES and InterRAI then the record which is closest to the date of interest is kept.

It’s important to note that “the information that results from the use of these questions will, a) represent the majority of, but not all, persons with limitation in basic actions, b) represent the most commonly occurring limitations in basic actions, and c) be able to capture persons with similar problems across countries.” (source - <https://www.washingtongroup-disability.com/question-sets/wg-short-set-on-functioning-wg-ss/>).

##### Updated indicator for disabled children

The initial disability indicator is limited in relation to disabled children because it under-represents the disability prevalence for children under the age of 9 years. This is most evident for question response 2: “some difficulty” and somewhat evident for responses 3: “a lot of difficulty”, and 4: “cannot do it at all”.

The WGSS questions “were designed for a census context where the collection of disability data in a country may be otherwise very limited. The WG has acknowledged that disability among children, due to the circumstances of child development and transition from infancy to adolescence, is not adequately covered by these questions and disability prevalence using the WGSS among those 5-17 years of age will be underestimated” (source - <https://www.washingtongroup-disability.com/resources/frequently-asked-questions/short-set/>).

The updated indicator is an attempt to get more sensitivity to functional disability in children 5-11 years of age. The updated indicator therefore includes Ministry of Education ORS funding criteria. The Ministry of Education website describes ORS (the Ongoing Resourcing Scheme) as providing support for students with the highest ongoing levels of need for specialist support. The scheme enables them to attend school and participate alongside other students. Note, many other data sources are diagnostic criteria and add very little in the way of counts.

The updated indicator adds the level of disability from the ORS criteria (None=1, Moderate=2, High=3 and Very High=4) but not the domains as the ORS criteria domains do not map well to the WGSS categories. See [Criteria and definitions for Ongoing Resourcing Scheme (ORS) – Education in New Zealand](https://www.education.govt.nz/school/student-support/special-education/ors/criteria-for-ors/). The moderate ORS criteria have very low counts as they require three criteria to trigger ORS funding. This means that using ORS criteria increases coverage of high and very high disability (levels 3 and 4) but very little for moderate (level 2).

The number of disabled children identified by the updated indicator using ORS data for children ages 5-11 is approximately 10 per cent higher compared to the initial indicator.

#### Limitations of the analysis

Disability indicatorsThis analysis focuses on disabilities, specifically functional difficulties, identified within Stats NZ’s IDI. The Agency acknowledges that there are groups with disabilities not captured by this indicator. Consequently, the indicator is likely to capture only a subset of the disabled population. It may also miss some individuals who do have functional difficulties due to not being captured in the data collected within the IDI. The indicator may also classify individuals as disabled despite having low levels of difficulty that are temporary. The analysis is therefore an approximation of the vaccination uptake of the estimated disabled population and is not intended to be precise.

IDI based limitationsAlthough the IDI contains a rich set of administrative data provided by government agencies, linking individuals across these datasets presents challenges due to incorrect or missing data. Duplicate identities within the IDI are sometimes created and matching across datasets is limited to instances where the names and date of birth details provided match.

For example, 96.2% of the Covid-19 Immunisation Register’s (CIR) identities can be matched to the IDI’s ‘Spine’ – effectively a list of identities that Stats NZ is confident are real and can be used to match across datasets. Due to the inability to link 3.8% of CIR individuals to other datasets within the IDI, the vaccination rates presented here are likely to underestimate the true vaccination rate. However, it’s important to note that the difference between the true vaccination rate and our estimated rates varies between groups.

##### Data dictionary

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| **Indicator name** | **Description & notes** |
| Ethnicity | Total ethnicity. |
| Overall disability indicator | We have categorised our overall disability indicator as follows:  0 if no functional disability; 1 if an individual has at least one functional disability classed as high, but none classed as very high; and,  2 if an individual has at least one functional disability classed as very high. **Note that for the above analysis we have aggregated categories 1 and 2 to create a binary disability indicator, 0 for non-disabled people and 1 for disabled people.** |
| MOH funded disability | Indicator of whether an individual is receiving MOH funding for a disability. |
| PHO enrolled | Indicator of enrolment with a PHO. |
| Number of GP contacts | Proxy for the number of GP visits between 1 Feb 2020 and 1 Feb 2021. |
| Serious mental health illness | Indicator of a diagnosis of serious mental health illness, e.g., Schizophrenia, Bi-polar, major depressive disorder, or schizoaffective disorder. |
| Intellectual impairment | IQ of less than 70. |
| Autism Spectrum Disorder | All diagnoses for any date and any data sources (Public and private hospital discharges, SOCRATES, and MHINC/PRIMHD. |
| Residential type | Indicator of home situation for disabled people (Residential care, Disabled person living with another adult, Disabled person not living with another adult). |
| Tier 1 benefit recipients (excluding super) | Indicator of T1 benefit receipt (other than super) anytime since 2020. |
| Super recipient | Indicator of super receipt anytime since 2020. |
| Social housing tenant | Indicator of being a tenant of social housing as at June 2021. |
| ChiPs | Community housing provider tenant as of late 2021. |
| NZ Deprivation Index 2018 | The NZDep is an area-based measure of socioeconomic deprivation in New Zealand [[1](https://ehinz.ac.nz/indicators/population-vulnerability/socioeconomic-deprivation-profile/#Ref1)]. It measures the level of deprivation for people in each small area. It is based on nine Census variables. |

#### Statistics New Zealand IDI Disclaimers

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