# Long term error in Ambulatory Sensitive Hospitalisations reporting for ages 0 to 4

## Context

Ambulatory Sensitive Hospitalisations (ASH) are a group of mostly acute admissions that are considered potentially reducible through prophylactic or therapeutic interventions deliverable in a primary care setting. Manatū Hauora has published ASH for ages 0-4 on the National System Framework Library (NSFL) since 2013.

## Issue

A recent review has found that since at least 2016, children aged over 4 years but less than 5 years with certain respiratory diagnoses (*wheeze* and *lower respiratory infection*) have been excluded from the ASH calculation for ages 0-4.

Children with any other ASH condition between 4 and 5 years old were included.

## Impact

We estimate that the total number of ASH events for children aged 0-4 has been undercounted by between 1.9 and 3.1 percent annually over the last five years.

Table 1: Impact of error on ASH events and rates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Calendar Year | 2018 | 2019 | 2020 | 2021 | 2022 |
| Omitted Events | 433 | 417 | 253 | 422 | 664 |
| All ASH Events 0-4 (as published) | 21,374 | 20,272 | 13,234 | 18,429 | 20,629 |
| All ASH Events 0-4 including omission\* | 21,807 | 20,689 | 13,487 | 18,851 | 21,293 |
| % undercount | 2.0% | 2.0% | 1.9% | 2.2% | 3.1% |

*\*This is an estimate derived by adding the omitted events to the published events – these numbers have been extracted from the hospital inpatient database at different times and this row might differ slightly if it were extracted today.*



The number of ASH events for *Asthma and wheeze* among 0-4 year olds in 2022 was undercounted by approximately 530 events. This was 9.1% of all *asthma and wheeze* events for this age group for the 12 months ended December 2022. The undercount was between 200 and 330 events annually (6-8% of all *asthma and wheeze* events) between 2018 and 2021.

The number of ASH events for *lower respiratory conditions* among 0-4 year olds was undercounted by between 40 and 140 events annually (7-9% of all *lower respiratory condition* events) between 2018 and 2022.

## How this has been addressed

We have taken a number of steps to remedy this error, including:

* Thorough checking of all ASH code to ensure that it implements the definition correctly
* Similar checks of other System Level Measures – Acute Bed Days, Acute Readmissions, Average length of stay, Youth alcohol-related ED presentations, Youth self-harm. No further errors affecting published data were found.

The June 2023 release of ASH data includes

* + Current release of district and PHO reports for 12 months ended 31 March 2023, including revised figures for the preceding four years ended March.
  + Revised district and PHO reports for 12 months ended 30 June 2022, 30 September 2022, and 31 December 2022. Each release includes revised figures to enable a five-year comparison.
  + This document explaining the revision.

Table 2: Impact of correction on ASH rate by District (year ended Dec 2022)

|  |  |
| --- | --- |
| **District of Domicile** | **Impact on ASH rate** |
| Auckland | 4.5% |
| Bay of Plenty | 4.4% |
| Canterbury | 3.7% |
| Capital, Coast and Hutt | 3.1% |
| Counties Manukau | 3.1% |
| Hawke’s Bay | 1.2% |
| Lakes | 1.6% |
| MidCentral | 2.1% |
| Nelson Marlborough | 2.5% |
| South Canterbury | 1.6% |
| Southern | 3.1% |
| Tairāwhiti | 3.2% |
| Taranaki | 3.0% |
| Te Tai Tokerau | 1.5% |
| Waikato | 1.1% |
| Wairarapa | 1.5% |
| Waitematā | 4.4% |
| West Coast | 2.8% |
| Whanganui | 3.9% |
| **National** | **3.1%** |