Understanding immunisation coverage reports and graphs

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Health targets

Health target

- 95% of 8 month olds fully immunised for age

Performance measures

- At least 95% of two year olds are fully immunised and coverage is maintained
- At least 95% of four year olds are fully immunised by age 5 years and coverage is maintained
- At least 75% of girls are fully immunised for HPV - reported annually in quarter 4 (for 2017/18 it is the 2004 birth cohort measured at 30 June 2018)
- At least 75% of the population aged 65 years and over are immunised against influenza annually (measured at 30 September from 2017/18)
NIR DataMart

• NIR is the transactional database where the immunisations are entered via Patient Management Systems or ImmuniseNow – it is live

• NIR DataMart is the report database

• Once a week, the data in the NIR DataMart is “refreshed” with the latest data from the NIR

  • The refresh normally starts on Monday afternoon and ends on Tuesday morning/afternoon.
    • Data are up-to-date to the end of the Friday before the refresh

• Reports may not be accurate if run while DataMart is refreshing
DataMart Refresh

- The denominator (eligible population) changes with each refresh
  - the denominator is constantly changing as children move in and out of the region/country, go overseas or die.
  - reports work on the children in the denominator *when the analysis is run.*
  - this means that reports for say 31 December 2016 will be slightly different if run on the 10th of January or the 31st of January
  - changes by around 10 children around the country per week
Measuring Childhood Imms
Milestone Ages Reports (childhood immunisation)

- The DHB health target and performance measures at age 8 months, 2 years and 5 years are measured using Milestone Ages reports.
  - These include the children who have turned the milestone age (e.g. 8 months or 2 years of age or 5 years of age) during the reporting period.
  - The child is fully immunised if on the day they turn the milestone age they have received the final doses of the age-appropriate vaccines.
  - Currently excludes rotavirus and varicella.
  - A three-month reporting period is used for performance reporting.
Data eligibility rules for Milestone Ages reports

• The eligible population includes all children enrolled on the NIR *excluding*:
  • Overseas
  • Deceased
  • Database status of inactive

• Those who have declined or opted off are included in the denominator (eligible population)

• Reports are available at DHB, PHO and Clinic level

• Data are provided by ethnicity and deprivation
**NIR BC CI Overview - Milestone Ages National (Final Dose including PCV)**

Immunisation coverage by ethnicity and immunisation coverage by level of deprivation for individuals who have reached the milestone age (6 months, 8 months, 12 months, 18 months, 24 months, 5 years, 12 years) and who have fully completed their age appropriate immunisations – for the 3 month period 01/04/2017 - 30/06/2017.

<table>
<thead>
<tr>
<th>Milestone Age</th>
<th>Total</th>
<th>Maori</th>
<th>Opt Off</th>
<th>Declined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Eligible</td>
<td>Fully Imm for Age</td>
<td>%</td>
<td>No Eligible</td>
</tr>
<tr>
<td>6 Month</td>
<td>15,031</td>
<td>11,974</td>
<td>80%</td>
<td>4,039</td>
</tr>
<tr>
<td>8 Month</td>
<td>15,316</td>
<td>14,079</td>
<td>92%</td>
<td>4,253</td>
</tr>
<tr>
<td>12 Month</td>
<td>14,823</td>
<td>13,941</td>
<td>94%</td>
<td>4,024</td>
</tr>
<tr>
<td>18 Month</td>
<td>15,161</td>
<td>12,839</td>
<td>85%</td>
<td>4,202</td>
</tr>
<tr>
<td>24 Month</td>
<td>14,918</td>
<td>13,933</td>
<td>93%</td>
<td>4,081</td>
</tr>
<tr>
<td>5 Year</td>
<td>15,952</td>
<td>14,167</td>
<td>89%</td>
<td>4,439</td>
</tr>
</tbody>
</table>
Milestone Ages Reports Coverage

• These reports look *backwards* at the children who turned the milestone age (e.g. 8 months of age) in the previous three months

• You cannot use these reports at the start of the quarter
  • the children in the cohort have not yet turned the milestone age
  • their immunisation status has not yet been measured.

• The Milestone Ages report looks at children turning the milestone age in the reporting period (e.g. the previous three months)
  • a report run at the end of February will include all children who turned 8 months of age in December, January and February
  • You can’t measure progress for the full quarter’s cohort until the end of the quarter

• To monitor progress of children in a quarter, use the ACCUMULATED VIEW reports
Milestone Ages Reports Coverage contd

- Milestone Ages reports also have 1-month and 12-month reporting periods
  - The 1-month reporting period includes all children who turned the milestone age (e.g. 8 months of age) in the previous month
  - This is useful to look at what is happening in the short term but can be highly variable because of the small numbers
  - If a trend upwards or downwards continues over several 1-month reporting periods, it will predict how the 3-month result looks
  - The 12-month report includes all children who turned the milestone age (e.g. 8 months of age) in the previous year
“Dot” coverage graphs

- 8 months: (3 month reporting period)
- 6 months: (3 month reporting period)
- 8 months: (1 month reporting period)
- 6 months: (1 month reporting period)

Coverage

- 02 Apr: 77%
- 23 Apr: 78%
- 07 May: 79%
- 21 May: 79%
- 04 Jun: 79%
- 18 Jun: 79%
- 02 Jul: 79%
- 16 Jul: 79%
- 30 Jul: 79%
- 13 Aug: 79%
- 27 Aug: 79%

- 02 Apr: 83%
- 23 Apr: 83%
- 07 May: 83%
- 21 May: 83%
- 04 Jun: 83%
- 18 Jun: 83%
- 02 Jul: 83%
- 16 Jul: 83%
- 30 Jul: 83%
- 13 Aug: 83%
- 27 Aug: 83%

- 02 Apr: 88%
- 23 Apr: 88%
- 07 May: 88%
- 21 May: 88%
- 04 Jun: 88%
- 18 Jun: 88%
- 02 Jul: 88%
- 16 Jul: 88%
- 30 Jul: 88%
- 13 Aug: 88%
- 27 Aug: 88%
Quarterly Reporting - Health target for DHBs

• The health target reporting for DHBs uses the Milestone Ages report (3-month reporting period)

• These reports are loaded into the DHB Quarterly Reporting database

• The report is exactly the same as you will get from DataMart if you run them on the same day

• Reports for the health target are run on the Tuesday after the second refresh after the end of the quarter if possible (close to the 10th).
  • This allows a week after the end of the quarter for any late entries to be included and any errors corrected
Quarterly reporting - PHO imms reports

- The Quarterly PHO imms reports that are used to measure the performance of PHOs are a historical analysis previously done by DHB Shared Services for IPIF payments.

- They are not DataMart reports and cannot be reconciled against any DataMart report.
  - The PHO DataMart report will provide an indication of how the PHO is performing but will not be the exact quarter result.

- The Ministry recognises this limitation and this will be resolved when PHO enrolment data can be drawn from the electronic National Enrolment Service.
Quarterly PHO imms reports contd

• It is important to understand that for the Quarterly PHO imms reports, the denominator (eligible population) comes from the PHO enrolment register and the numerator (number immunised) is matched to NIR data.

• The denominator (eligible population) is all eligible children in the PHO enrolment register who turned 8 months of age during the quarter
  • The immunisation status of each child is then checked using NIR data and matching NHIs
  • If child is on the PHO enrolment register but not in the NIR or does not have an NHI, they will still be included in the denominator (population) but not the numerator (number immunised)

If a PHO-enrolled child is not on the NIR, the PHO’s immunisation coverage for the quarter will be lower than expected based on PHO DataMart reports
Quarterly PHO imms reports contd

• To ensure that all immunisations are counted:
  • You must check the PHO ASR against the NIR at the start of each quarter to ensure that all children enrolled with the PHO are on the NIR

• PHO DataMart reports draw both the numerator and denominator from the NIR DataMart data, so children who are not enrolled on the NIR will be in neither the numerator or denominator

• There are less important differences between the Quarterly PHO imms report and the PHO DataMart report in eligibility criteria and inclusion/exclusion of PCV in the definition of fully immunised
Accumulated View Reports (DHB- and PHO-level)

- Accumulated View reports provide identifiable information on the immunisation status of individual children; it tells you what immunisations an individual child has had and what they are missing.

- This is the data that we use to send out the fortnightly lists of children who are due or overdue for immunisations.
  - The reports we send out use the same data from the Accumulated View reports you have access to but we have reformatted the information to be more user friendly.

- You can use Accumulated View reports to identify the group of children who are going to turn 8 months of age (or 2 years or 5 years) in the quarter and to monitor who requires immunisation.

- Available at DHB and PHO level.
<table>
<thead>
<tr>
<th>Month of analysis</th>
<th>Age baby turning in that month:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>8 months</td>
</tr>
<tr>
<td>Q1</td>
<td></td>
</tr>
<tr>
<td>Jul-17</td>
<td>Nov-16</td>
</tr>
<tr>
<td>Aug-17</td>
<td>Dec-16</td>
</tr>
<tr>
<td>Sep-17</td>
<td>Jan-17</td>
</tr>
<tr>
<td>Q2</td>
<td>Oct-17</td>
</tr>
<tr>
<td>Nov-17</td>
<td>Mar-17</td>
</tr>
<tr>
<td>Dec-17</td>
<td>Apr-17</td>
</tr>
</tbody>
</table>
Running Accumulated View Reports contd

- The reports are done by birth cohort and you can include up to three months of children, e.g. those turning 5, 6 and 7 months of age in September 2017

- You need to input the month of birth for the earliest cohort, e.g. for children turning 5, 6 or 7 months in September you would want to look at the babies born in Feb, March and April 2017. Input start date as 1 Feb 2017

- To monitor the children who would be turning 8 months of age in, for example, quarter one ending 30 September 2017
  - Include babies born 1 Nov 2016 to 31 Jan 2017
  - Input start date as 1 Nov 2016
## NIR Data Mart - 8 Month Accumulated View Coverage: XXX DHB Completed 5M

### Children yet to complete at 5, 6 and 7 months _27 August 2017_

List of children reaching age of 5, 6 or 7 months of age during August 2017 who have not completed 5 month immunisations

Colour code key: **Completed 3M imms** | **Completed 6W imms** | **No imms completed**

<table>
<thead>
<tr>
<th>DHB_NAME</th>
<th>NIRDOB</th>
<th>AGEMO</th>
<th>FAMNAME</th>
<th>NHI_MASTER</th>
<th>NIRETHNICITY</th>
<th>NOMINATED</th>
<th>NOMINATED_CLINIC_NAME</th>
<th>PHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXX</td>
<td>16/01/2017</td>
<td>7.4 XXXX</td>
<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
<td>Buller Medical Centre</td>
<td>XXX PHO</td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
<td>17/01/2017</td>
<td>7.4 XXXX</td>
<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
<td>High Street Medical Centre (2005) Ltd</td>
<td>XXX PHO</td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
<td>02/03/2017</td>
<td>5.9 XXXX</td>
<td>XXXX</td>
<td>Maori</td>
<td>XXX PHO</td>
<td>Westland Medical Centre</td>
<td>XXX PHO</td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
<td>15/03/2017</td>
<td>5.5 XXXX</td>
<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
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<td></td>
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<tr>
<td>XXXX</td>
<td>24/03/2017</td>
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<td>XXXX</td>
<td>Asian</td>
<td>XXX PHO</td>
<td>Rural Academic General Practice</td>
<td>XXX PHO</td>
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<td>27/03/2017</td>
<td>5.1 XXXX</td>
<td>XXXX</td>
<td>Maori</td>
<td>XXX PHO</td>
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<td>04/01/2017</td>
<td>7.8 XXXX</td>
<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
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<td>XXX PHO</td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
<td>20/01/2017</td>
<td>7.3 XXXX</td>
<td>XXXX</td>
<td>Other</td>
<td>XXX PHO</td>
<td>Buller Medical Centre</td>
<td>XXX PHO</td>
<td></td>
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<tr>
<td>XXXX</td>
<td>08/02/2017</td>
<td>6.7 XXXX</td>
<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
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<td>XXX PHO</td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
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<td>XXXX</td>
<td>NZE</td>
<td>XXX PHO</td>
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<td>XXXX</td>
<td>26/03/2017</td>
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<td>NZE</td>
<td>XXX PHO</td>
<td>Moana Rural Clinic</td>
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<td>XXXX</td>
<td>20/01/2017</td>
<td>7.3 XXXX</td>
<td>XXXX</td>
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<tr>
<td>XXXX</td>
<td>17/02/2017</td>
<td>6.4 XXXX</td>
<td>XXXX</td>
<td>Maori</td>
<td>XXX PHO</td>
<td>Westland Medical Centre</td>
<td>XXX PHO</td>
<td></td>
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<tr>
<td>XXXX</td>
<td>11/03/2017</td>
<td>5.6 XXXX</td>
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<td>Maori</td>
<td>XXX PHO</td>
<td>Rural Academic General Practice</td>
<td>XXX PHO</td>
<td></td>
</tr>
</tbody>
</table>
# NIR Data Mart - 8 Month Accumulated View Coverage: XXX DHB Completed 5M.  
Children yet to complete at 5, 6 and 7 months _27 August 2017_

List of children reaching age of 5, 6 or 7 months of age during August 2017 who have not completed 5 month immunisations

<table>
<thead>
<tr>
<th>Date vaccine delivered</th>
<th>Imms Status</th>
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<tbody>
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<td></td>
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<tr>
<td><strong>DTAP_6W</strong></td>
<td><strong>PCV_6W</strong></td>
</tr>
<tr>
<td>17/03/2017</td>
<td>17/03/2017</td>
</tr>
<tr>
<td>05/05/2017</td>
<td>12/05/2017</td>
</tr>
<tr>
<td>01/06/2017</td>
<td>01/06/2017</td>
</tr>
<tr>
<td>27/04/2017</td>
<td>27/04/2017</td>
</tr>
<tr>
<td>05/05/2017</td>
<td>05/05/2017</td>
</tr>
<tr>
<td>31/05/2017</td>
<td>31/05/2017</td>
</tr>
<tr>
<td>02/03/2017</td>
<td>02/03/2017</td>
</tr>
<tr>
<td>03/03/2017</td>
<td>03/03/2017</td>
</tr>
<tr>
<td>24/05/2017</td>
<td>24/05/2017</td>
</tr>
<tr>
<td>26/05/2017</td>
<td>26/05/2017</td>
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<tr>
<td>15/05/2017</td>
<td>15/05/2017</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>
HPV Vaccine
(Human Papillomavirus Vaccine)
HPV Immunisation Coverage Reporting

• For 2017/18 the HPV immunisation performance measure target is 75% for girls born in 2004

• HPV immunisation coverage by DHB is reported annually at the end of the reporting year (30 June 2018 for the 2017/18 year)

• The birth cohort is approximately the girls who are aged 12 at the start of the previous school year (i.e. 2017)

• For the 2017/18 target, most of the girls in the cohort will receive HPV vaccine during school year 8 in 2017

• The report includes all immunisations given up to 30 June of the following year, e.g. for the 2017/18 year, the report will include all immunisations that girls born in 2004 have received up to 30 June 2018
HPV Immunisation Coverage Reporting

• Coverage is calculated as the number of final doses given to eligible girls divided by the estimated population

• Because NIR was set up in 2005, it doesn’t yet have the total population of 12 year olds enrolled on it. Thus the population has to be estimated from Census data.

• The relevant NIR DataMart report is 1B Immunisation Coverage – HPV-Single Cohort – Selected DHB(s)

• Currently only coverage for girls is included in the performance measure

• Uptake of HPV vaccine by boys has been very good and a target for coverage in boys may be considered in future years (2020?)
Influenza Vaccine for those aged 65 years and older
Influenza immunisation for 65+

• From 2017/18, a performance measure for reaching 75% annual influenza immunisation coverage will be included

• This measure has been part of the Māori health plans for many years, and has now been moved to the overall annual plan

• The measure uses the NIR DataMart report
  • It is essential that all influenza events are entered onto the NIR (via patient management systems or ImmuniseNow)

• The relevant NIR DataMart report is NIR STD Influenza Coverage – by Age band and by DHB (or by PHO)
Influenza immunisation for 65+

- The performance measure will be based on immunisation between 1 March (to include the start of the influenza vaccine season) and 30 September

- This will capture the time period during which the bulk of influenza vaccines are delivered to those aged 65 years and older

- It also allows time for feedback to DHBs/PHOs in time for planning for the next influenza season

- 2017/18 is considered a developmental year for us to work with the sector to ensure that you are aware of the target and understand how it is being measured