

Australian Immunisation Register

Data Quality

User Guide



Australian Government
Services Australia

servicesaustralia.gov.au

Contents

Purpose of this Guide.....	3
The importance of accurate AIR data.....	3
Common reasons for poor data quality	4
1. Incorrect individual personal information	4
2. Incorrect vaccine encounter reported	6
3. Practice management software issues	8
4. Human error/lack of knowledge in data recording processes.....	8
Data cleaning using AIR Due/Overdue Reports	10
Need Help?	12

Purpose of this Guide

The purpose of this document is to assist vaccination and information providers to ensure the data they submit to the Australian Immunisation Register (AIR) is accurate. Accurate information allows an individual's immunisation history to be updated without delay.

The importance of accurate AIR data

The AIR is a national register that records vaccinations given to people of all ages in Australia and provides access to vaccination data that supports the national management of preventable diseases. Data quality is fundamental to the effectiveness of the AIR. Individuals, vaccination providers and public health policy decision makers rely on AIR data for the following reasons:

The individual

- Family Tax Benefit Part A eligibility
- Child Care Subsidy eligibility
- Proof of vaccination for child care entry
- Proof of vaccination for school entry
- Proof of vaccination for employment
- Proof of vaccination for travel
- Accurate history for health and medical purposes



The vaccination provider

- Support clinical decision making
- Record of vaccines given
- Record of vaccines due
- Record of vaccines overdue
- Access to medical exemption information
- Access to natural immunity information
- Data used to identify due and overdue vaccines for population groups



Public health policy

- Measure population vaccination coverage rates
- Monitor effectiveness of vaccines
- Monitor effectiveness of vaccination programs
- Inform immunisation policy
- Inform immunisation research
- Identify geographical risks during disease outbreaks



Common reasons for poor data quality

AIR data quality issues can be broadly grouped into four categories:

1. Incorrect individual personal information
2. Incorrect vaccine encounters reported
3. Practice management software issues
4. Human error and lack of knowledge in data recording processes

1. Incorrect individual personal information

When an encounter is reported to AIR, IT systems will search the AIR database for the individual using the personal information provided. AIR matching rules place the highest priority on an exact Medicare card number and Individual Reference Number (IRN).

If a match is unsuccessful, the record is isolated into a category known as 'pend'. Pend transactions are then assessed manually by AIR staff who take additional steps to identify the individual and locate their AIR record. This process delays the update of an individual's immunisation history. Common reasons why an individual cannot be matched to an AIR record:

Pend 80	Individual not identified
Pend 12	Invalid character in surname
Pend 17	Invalid character in address
Pend 24	Postcode/locality incompatible
Pend 50	Immunisation date prior to individuals date of birth
Pend 53	Date of immunisation after the end date recorded on individual's registration

Ensuring correct personal information

Individual has Medicare enrolment

- Where possible, obtain the individual's current Medicare card number
- Compare the details provided against those on the card including the Individual Reference number (IRN) and expiry date
- Pay careful attention to name spelling and use of hyphens and transmit individual's name **exactly** as recorded on their card
- Common name mismatches include:
 - a different first name provided to legal name/name listed on card, particularly individuals with Culturally and Linguistic Diverse (CALD) names providing an Anglo first name.
 - name order variations (middle name-first name-surname versus first name-middle name-surname), particularly with CALD names
 - surname of another family member provided instead of legal name, particularly with blended families
 - individuals with one name only
- Pay careful attention to dates of birth which often get transposed with the immunisation date
- Ensure the information matches the data held by Medicare **before** submitting an encounter to AIR. These details can be checked:
 - by health professionals (and their delegates) using the HPOS **Find a Patient** tool
 - by AIR providers by using the AIR Site **Identify Individual** tool
- If no HPOS or AIR site access available, contact the [Medicare provider line](#) to verbally confirm an individual's Medicare details (available when the vaccination is being submitted by a recognised Medicare provider)
- Encourage all individuals to ensure Medicare has current and correct address details recorded

Individual does not have Medicare enrolment

Not all individuals are enrolled for Medicare (for example overseas students and temporary visa holders etc.). However, vaccination data is still collected. Where possible, sight a copy of the individual's passport to confirm personal information and make every effort to ensure the data lodged with AIR is accurate (see steps above).

Newborns

Immunisation data may be collected for newborns not yet enrolled onto a Medicare card.

Encounters for as yet unnamed newborns should be lodged as 'baby of' as their first name and nominated surname eg. Baby of Smith. When the baby is named and added to a Medicare card, the AIR system will use the address details that were lodged on the encounter to match the baby to the correct Medicare card. It is important that the encounter is lodged with the same address as the parent/guardian's current address registered with Medicare to ensure correct matching.

For further information on newborn enrolments for Medicare refer to the [Services Australia website](#).

2. Incorrect vaccine encounter reported

When an encounter is reported to AIR, IT systems will search the AIR business rules around vaccinations based on the National Immunisation Program schedule. If the encounter information provided does not meet the expected rules, the record is isolated into a category known as 'pend'. Pend transactions are then assessed by AIR staff who take additional steps to assess the vaccination encounter. This process delays the update of an individual's immunisation history record.

Common reasons why a vaccination may not meet the business rules:

Pend 100	Antigen administered under the minimum required age
Pend 101	Period between doses of the same antigen is less than the minimum time required
Pend 102	Duplicate antigen dose reported by same provider
Pend 103	Duplicate antigen dose reported by a different provider
Pend 104	Administered with minimum time required between doses different provider
Pend 105	Dose greater than maximum allowable dose

Errors are commonly found in the **dose** information provided, for example:

- Prevenar 13 given at 12 months is either dose 3 or dose 4 depending on the number of previous doses given (Aboriginal and Torres Strait Islander children receive an additional dose at 6 months).
- Infanrix-IPV or Quadracel at 4 years is dose 5 (not dose 1) if the child has received 4 previous doses of a pertussis containing vaccine, usually as a combined vaccine at 2, 4, 6 and 18 months.

Errors occur when a vaccination provider has **not confirmed the vaccination history** of a child prior to uploading an encounter, for example:

- Act-HIB at 18 months is dose 4 (not dose 1) if the child has received 3 previous doses, usually as a combined vaccine at 2, 4 and 6 months.
- Priorix Tetra or ProQuad at 18 months is dose 2 (not dose 1) if the child has received 1 previous dose, usually as MMR-II or Priorix at 12 months.

Errors are also found in the **timing** of vaccine information provided:

- Determining the minimal interval between vaccine doses will depend on the age of the person to be vaccinated and the interval since the last dose. Always check the recommendations in the minimum intervals tables in the [Australian Immunisation Handbook](#).
- The scheduled interval between doses may be shorter or longer than the standard interval, and the number of doses needed may decrease with age at starting vaccination.
- If a child is on a catch up schedule or has a medical exemption/contraindication on record this may also affect dose interval timing.

Ensuring accurate vaccination information

- Use the vaccine brand name administered, rather than a vaccine with equivalent antigens
- Double-check the correct vaccine name is recorded (eg. Infanrix versus Infanrix Hexa)
- Double-check the administration dates entered are correct
- Check dose (sequence) number is correct, particularly if the individual has received vaccinations elsewhere
- Use the 'Record other vaccine' function within software or 'Other' on the AIR site when recording a vaccine not included on the NIP eg. travel vaccines such as Typhoid
- Enter immunisation history into an individual record as 'given elsewhere' or 'given by other provider' within software or 'Another provider performed this encounter in Australia or 'This encounter was performed overseas' on the AIR site. This will help with the correct dose numbers being recorded with subsequent vaccinations and avoid duplicate information being sent to AIR. Information recorded in your practice software as given elsewhere does not transmit to AIR.
- If encounter information has been incorrectly reported, the encounter can be 'edited' on the AIR site by the immunisation provider who provided the service (or by a delegate acting on behalf of the provider). If this immunisation is part of the NIP schedule, this needs to be done prior to the immunisation payment for that month being issued
- Send all vaccination encounters for all individuals to AIR (the only exception is QFever). Visit the [Australian QFever Register](#) for further information.

3. Practice management software issues

The accuracy of data entered onto PMS is critical in ensuring the successful transmission of data to AIR. It is recommended that vaccination providers:

- Ensure the latest version of their practice management software is being used to transmit AIR data - important software updates occur when new vaccines are approved for use in Australia and when the National Immunisation Program (NIP) Schedule is updated
- Check with their software developer if software updates are automatic or need to be implemented manually
- Review software release notes to check for immunisation updates
- Transmit immunisation details to the AIR once only, daily
- Use pre-populated (drop-down) options to complete immunisation data rather than free text
- PMS lists the vaccines by antigen. Select correct vaccine when recording encounter eg. Fluarix tetra or Priorix
- Send encounters or batches to AIR daily
- Check **sent items** or **report function** (if available) in your software to ensure encounters have transmitted successfully
- Correct failed encounters and re-send to AIR immediately
- Correct deleted encounters and re-send remaining records to AIR immediately

Issues with Practice Management Software should be directed to your software developer.

4. Human error/lack of knowledge in data recording processes

Accurate data is the result of trained and proficient employees. However, there is still room for human error. In order to reduce the likelihood of inaccuracies, it is vital to implement quality control measures to ensure the integrity of AIR data. Ensure:

- Staff undertake the [AIR eLearning education modules](#) available on the Services Australia website
- Procedures for reporting to AIR are documented in business operational manuals
- Ensure staff are familiar with the software products' functions and capabilities, including troubleshooting
- Ensure software User Guides are current and to hand (available within the Help function of the software program, from the software developer¹ or their website)

¹ Software Developers seeking more information can refer to the Services Australia Website: <https://www.servicesaustralia.gov.au/organisations/health-professionals/subjects/getting-started-software-developer-digital-health-and-aged-care-programs>

- Ensure staff can access the AIR site and other [online resources](#):
 - Services Australia [AIR webpages](#)
 - Department of Health [Immunisation](#) pages
 - relevant state and territory immunisation schedules
 - [Due and Overdue Rules](#)
 - [Vaccine codes](#)
- A quality checking regime is in place (eg. second person verification of information or review of sent immunisation data checked against individual details)
- Use an [AIR Due/Overdue Report](#), available from the AIR site, to clean data ie. highlight where a vaccine may have been given but has not been reported or is in a pend status and requires resolving
- Staff have access to the [AIR Helpdesk](#) for assistance

Data cleaning using AIR Due/Overdue Reports

Immunisation providers can request a Due/Overdue Report from the AIR site and compare the results against practice records to identify individuals whose immunisation status requires further investigation. Access to the Due/Overdue Reports available is determined by provider type:

Report	Available to provider type	Who is included
AIR010A Due/Overdue by Practice Report	General Practitioners	All due/overdue individuals seen at the practice (based on PIP ID) for a medical consultation in a nominated timeframe
AIR011A Due/Overdue by Locality Report	General Practitioners Medical Practices Aboriginal Health Worker and Services Commercial Community Health Centre Community Nurse Council Flying Doctors Primary Health Networks Private and Public Hospitals State and Territory Health Departments	All due/overdue individuals residing in the nominated locality (based on postcode).
AIR011B Due/Overdue by Vaccination Provider Report	General Practitioners Medical Practices Aboriginal Health Worker and Services Community Health Centre Community Nurse Council Flying Doctors Nurse Practitioners Midwives Pharmacies	All due/overdue individuals who have received an immunisation by a nominated provider regardless of where they currently reside.

	Private and Public Hospitals State and Territory Health Departments	
AIR021A Due/Overdue Report by Medicare provider	General Practitioners Nurse Practitioners Midwives	All due/overdue individuals seen by a provider at their nominated location for a medical consultation in a nominated timeframe

Vaccination showing as overdue

The Due/Overdue report shows that an individual was due or overdue for a vaccination. This report can be compared to practice records. If there is a discrepancy it needs to be determined whether the individual is truly overdue or whether there was an error in the recording or transmission of vaccination data to AIR. If there is an error the provider can edit the error within 30 days of the original submission or contact the AIR by HPOS messages or the AIR support team by telephone (see [Need Help](#) for contact details).

Vaccine in pend status


The Due/Overdue reports indicate those individuals that have a vaccination in 'pend' status and the reason for that pend.

Where it is determined that an individual has an error in their AIR records, the data should be corrected on the AIR site using **Update Encounter** where possible or by [contacting the AIR](#). Remediation is not possible within practice management software, however the individual's clinical notes should be updated to reflect any changes made to AIR.

Need Help?

For AIR general enquiries:

 air@servicesaustralia.gov.au

 Free call **1800 653 809**

These services are available 8:00am to 5:00pm

servicesaustralia.gov.au