AUSTRAKKA

CDGN
Communicable Diseases Genomics Network

AusTrakka Governance Protocol for Pathogen Genomic Surveillance

Contents

Executive Summary

Pathogen genomics enables transmission tracing and identification of new and emerging clusters and outbreaks at the highest resolution to improve public health surveillance and inform public health decision-making. The power of next-generation sequencing technology is that it is pathogen-agnostic and can address major issues with data interoperability, integrating genomic and epidemiological data for the analysis and surveillance of priority public health pathogens.

All state and territory public health laboratories (PHLs) across Australia have:

- access to genomic capacity
- are sequencing priority public health pathogens, and
- are responsible for the generation of genomic sequences of public health pathogens within their PHL or via referral PHLs.

The Communicable Diseases Genomics Network (CDGN) is an Expert Reference Panel under the Public Health Laboratory Network (PHLN) comprising of PHLs from all jurisdictions in Australia and New Zealand who have established pathogen genomics capacity for public health surveillance purposes.

Communicable Diseases Branches (CDBs) in states and territories are responsible for the collection and management of epidemiological data, working closely with their PHLs to determine priority pathogens for their state or territory with responsibility for translating surveillance and outbreak investigation data into public health action.[1]

AusTrakka is a national pathogen genomics surveillance platform, providing PHLs with a central, secure, and private online location to share, analyse and view aggregated national genomic data from Australia and New Zealand. The purpose of AusTrakka is to facilitate consistent and standardised genomic sequence sharing, analysis, and reporting across states and territories in the case of multi-jurisdictional outbreak investigations, or as requested by a jurisdiction. National genomic analysis is not intended to replace jurisdictional analyses or expertise, rather it is considered a complementary action to support and enhance communicable disease surveillance in Australia. This is achieved by supporting:

1. The tools needed for genomic analysis based on international best practices.
2. The development of expertise in jurisdictional PHLs and CDBs through capacity and capability training to work towards equitable access to pathogen genomics in each state and territory.
3. Technical and genomics-informed advice and guidance to public health policy and decision-makers.
4. National genomic analysis and surveillance of public health priority pathogens.

In 2020 during the COVID-19 pandemic, AusTrakka was endorsed by the Australian Health Protection Committee (AHPC), PHLN, Communicable Diseases Network Australia (CDNA) and CDGN as the national genomics surveillance platform for SARS-CoV-2 in Australia. AusTrakka has since progressed to integrate various foodborne disease pathogens, and other bacterial and viral pathogens, including those with antimicrobial resistances for outbreak investigations.

All public health laboratories now have access to AusTrakka, and work is underway to understand how CDBs can best engage and access the platform. In the future, it is anticipated that PHLs will routinely upload approved genomic data from the PHLs and epidemiological data from the CDBs for all nationally notifiable diseases putting Australia at the forefront of genomics enabled communicable diseases surveillance and control. AusTrakka commits to working with all jurisdictional and national stakeholders towards increased interoperability and accessibility, while ensuring adherence to appropriate legislation, applicable public health data governance arrangements, and delegate approvals.

As expansion to include additional notifiable disease pathogens and antimicrobial resistant organisms is complex, this will occur as an iterative process, with prioritisation of pathogens to be routinely uploaded for national surveillance following endorsement by PHLN, CDNA and AHPC, noting that rapid uploading and analysis for outbreak response will occur ad hoc as required.

This document formalises the endorsement from Australia's health protection committees (CDGN, PHN, CDNA and AHPC) to rapidly share genomic data for all approved nationally notifiable diseases via the AusTrakka platform through their nominated PHL for national surveillance. It also describes mechanisms to request genomic analyses and reports from AusTrakka, as well as how to securely share sequences between PHLs through the platform while ensuring data custodianship arrangements are honoured.

This document and other guidance documents for AusTrakka are living documents updated based on national and international best-practices with oversight from CDGN, PHLN, CDNA, and AHPC.

1 Epidemiological data custodianship differs between jurisdictions and pathogens. References to "CDBs" in this document refers to the state or territory department of health, public health unit or other relevant health department or authority who carries custodianship over the epidemiological data as relevant for the jurisdiction.

Glossary

AusTrakka platform	The visualisation and data analysis platform that enables the secure sharing, analysis, and reporting of genomic sequences and associated epidemiological data for approved pathogens.
AusTrakka system	The governance that supports the implementation and operation of AusTrakka.
Bioinformatician	Someone who uses algorithms, software, and computational tools to analyse genomic sequencing data and associated metadata.
Data	Any information in a form capable of being communicated, analysed and processed, whether by an individual or by a computer or other automated means.
Data Custodian	Owner of the data. The Custodian has primary accountability and responsibility for providing access to or use of a data set.
Epidemiological data	Data relating to the occurrence, transmission and control of diseases.
Genomics	The application of genome-based knowledge through the study of genes and other genetic information, their functions, and its interrelationships for the benefit of human health.
Genomic analysis	Process of examining a genomic data to identify, measure or compare genetic features. This includes analysing the sequence and linked metadata (sample and epidemiological) to understand how they influence disease behaviours, characteristics and transmission.
Genomic (sequence) data	Refers to data produced from nucleic acid sequencing of a genome.
Genomic epidemiologist	Someone who studies how the genetic makeup of viruses or bacteria helps them spread and cause disease. They use DNA sequencing and data analysis to track outbreaks, understand how diseases evolve, and help public health teams respond more effectively.
Genomics surveillance	Involves the use of genomic data to monitor pathogen variants, evolution, transmission, and dissemination, including the distribution and evolution of antimicrobial resistance determinants and lineages. This type of surveillance involves applying the principles of evolutionary biology to determine the relatedness of pathogens.
Metadata	Data used to describe the sample and host from which the sequencing data was derived. It includes laboratory data (custodian of the originating public health laboratory), for example, the sample collection date and type, and epidemiological data (custodian of the originating communicable disease branch), such as sex, age, and risk exposures.
Pathogen	An organism that can cause disease.
Pathogen genomics	The genomic study of a pathogen, a category of microbial genomics.
Sample metadata	A set of data that described and gives information about a biological or environmental sample.
Whole genome sequencing	A laboratory process to determine the complete DNA sequence of an organism's genome.

Purpose and Scope

This *AusTrakka Governance Protocol for Pathogen Genomics Surveillance* (the document) describes the agreement for sharing of approved genomic and epidemiological data to AusTrakka. It is built on the principles of collaboration, evidence-based best practice, and adaptability to new advances in technology and improvements in protocols.

This document has been developed following in-depth discussion and consultation with CDGN, PHLN, CDNA and OzFoodNet. This document recognises the need for the AusTrakka system to be flexible and align, where possible, with jurisdictional structures and existing public health protocols including the OzFoodNet Guidelines for the epidemiological investigation of multi-jurisdictional outbreaks that are potentially foodborne.

This document formalises endorsement from key representatives from PHLs and CDBs for:

1. The timely uploading, sharing, and analysis of pathogen genomic data through the AusTrakka system to support national and jurisdictional public health investigations and initiatives.
2. Supporting national consistency in genomics analyses and reporting.
3. The mechanism for requesting genomic sequencing or analyses, particularly to assist:
    - jurisdictions that may have limited capacity and/or capability, and
    - multi-jurisdictional genomic investigations.

National genomic analysis is not intended to replace jurisdictional analyses or expertise, rather it is considered a complementary action to support and enhance communicable disease surveillance in Australia.

Data sharing for research purposes are outside of the scope of this document. For requests received that are of this nature, the AusTrakka team will revert this back to the Requestor, referring them to their jurisdictional research governance pathways or will escalate it to the relevant national committees (CDNA and/or PHLN), where appropriate, for their advice.

AusTrakka overview

The AusTrakka *system* refers to the governance that supports the implementation and operation of AusTrakka. The AusTrakka *platform* refers to the visualisation and data analysis platform that PHLs in all jurisdictions of Australia and New Zealand can contribute sequence data to for integrated and coordinated analysis.

The Australian Centre for Disease Control (CDC) provides funding for the operational support of AusTrakka. The AusTrakka Executive Group (AEG) is responsible for overseeing and advising on the operation of AusTrakka. Membership of the AEG will include representatives from the Australian Centre for Disease Control, the AusTrakka system, and one PHL representative from the following facilities[2]:

- ACT Pathology
- NSW Health Pathology
- Microbiological Diagnostic Unit Public Health Laboratory (MDU PHL)
- Territory Pathology
- PathWest Laboratory Medicine
- Queensland Health – Public and Environmental Health Reference Laboratories (QH PEHRL)
- Royal Hobart Hospital
- SA Pathology

The AusTrakka National Analysis Team (NAT) consists of bioinformaticians and genomic epidemiologists from the facilities with a view to expand to representatives from every jurisdiction.

The composition of AusTrakka governance groups is detailed in Attachment A.

2 Expansion to include representatives from all jurisdictions is underway.

Governance

All PHL users of the AusTrakka platform must have their access and role endorsed by a PHLN representative from their respective jurisdiction. It is the responsibility of the appropriate PHLN representative to ensure that the proposed user is subject to, and operating under, the relevant jurisdictional Public Health and Privacy Acts. This endorsement must be provided in writing to AusTrakka Secretariat. Other public health and clinical laboratory users may also be granted access as determined by the pathogen-specific governance requirements that are developed by AusTrakka in close consultation with AHPC, PHLN, CDNA and their relevant sub-committees.

Improvements to the AusTrakka structure and operation is iterative, continually adapting and evolving as genomic sequencing and analysis methods and protocols are optimised, and as genomics capacity and capability expands across jurisdictions. Data sharing between PHLs for public health purposes, explorative development, and optimisation of analyses approaches will concurrently occur with governance sought (where appropriate) in alignment with this document once genomics surveillance of pathogens is adopted into national routine surveillance.

Planned annual reviews will also be undertaken to ensure that the AusTrakka platform and governance continues to be fit-for-purpose, efficient and meaningful for effective public health surveillance and response. CDGN, PHLN, and CDNA members, AusTrakka users and other key stakeholders will be integral to the review process and participation is actively encouraged.

AusTrakka Secretariat can be contacted at team@austrakka.net

Data sharing

This document formalises the endorsement of uploading of sequencing data and metadata of approved nationally notifiable pathogens to the AusTrakka platform. It also formalises the arrangements for jurisdictions to securely share sequences through the platform, ensuring that data custodianship is maintained.

The data sharing and analysis model is detailed in Attachment C.

PHLs included in this document are as follows:

MDU PHL
Victorian Infectious Diseases Reference Laboratory (VIDRL)
NSW Health Pathology
QH PEHRL
Pathology Queensland
ACT Pathology
SA Pathology
PathWest Laboratory Medicine
Territory Pathology
Royal Hobart Hospital
New Zealand Institute for Public Health and Forensic Science (PHF Science)

Under the *International Health Regulations 2005* (IHRs), the Australian Government Department of Health Disability, and Ageing's National Incident Centre is Australia's designated National Focal Point (NFP) and is responsible for communicating, receiving, and coordinating international data requests for public health response purposes.

Data requests are made and shared by the NFP under the *National Health Security Act 2007* and the *National Health Security Agreement 2011*, for the purpose of preventing, protecting against, controlling, or responding to a public health emergency of international concern.

Currently New Zealand is the only international country with approved access to AusTrakka. However, there is a possibility that other countries in the region could benefit from being part of the network and be invited to contribute in the future. Consideration by the AEG on international user requests will be on a case-by-case basis and with endorsement from AHPC.

Data Custodianship

Sequence data remain under the custodianship of the originating PHL. In situations where sequencing and upload of the sequence to AusTrakka is conducted on behalf of another jurisdiction, the PHL in the patient's residential jurisdiction retains custodianship. Epidemiological data custodianship may include PHLs (minimal sample metadata[3]) and CDBs for more comprehensive epidemiological data. For epidemiological data under CDB custodianship, PHLs must seek approvals from their respective CDBs or other relevant public health authorities[4].Sequences can be viewed for close matches but are not available for download without permission from the originating data custodian.

3 Minimal metadata commonly includes jurisdiction, laboratory identity, data of collection and source that is shared upon uploading of sequence.

4 This may include travel history, epidemiological link to outbreak, risk factors etc.

Only sequences from samples that would be notified or reported to the CDB in the home jurisdiction should be submitted.[5] Sequences from samples subject to commercial-in-confidence agreements, such as samples from food manufacturers, are not suitable for upload to AusTrakka, as sequences in AusTrakka may be included in subsequent investigations and reports. Non-food or non-human samples collected for public health investigative purposes are within the scope of this protocol and may be submitted, as aligned with the relevant endorsed pathogen-specific appendices.

PHLs can also submit additional epidemiological data to AusTrakka as approved by CDBs for more comprehensive integrated genomics investigation. The ownership of the epidemiological data is protected in the same way as the sequence data. In situations where sequencing and upload of the sequence to AusTrakka is conducted on behalf of another jurisdiction, the patient's residential jurisdictional CDB will be requested to complete the entry with the associated sample and epidemiological data.

AusTrakka integrates publicly available sequences from international databases into the platform for additional context enabling PHLs to view both privately shared data between jurisdictions and selected publicly available data in international repositories such as the European Nucleotide Archive (ENA) and National Center for Biotechnology Information (NCBI). The frequency of integration is determined on a pathogen-specific basis, as outlined in the relevant appendices.

Consent by the data custodian (PHL[6] or CDB depending on the request and jurisdiction) must be sought for AusTrakka users wishing to view metadata (either sample, laboratory or epidemiological data) from another jurisdiction that is not publicly available, or to request access to sequence files for local comparisons[7]. This can be shared and visualised securely through AusTrakka once approved.

5 Home jurisdiction refers to the residential state or territory of the individual from which the sample originated.

6 Laboratories remain the sequence data custodians and must approve the release of sequence data between laboratories to meet jurisdictional public health legislation and laboratory accreditation requirements.

7 Bi-directional data sharing within AusTrakka is currently supported, but subject to an approval pathway to ensure alignment with relevant public health legislation. Unrestricted bi-directional data sharing is not currently supported i within AusTrakka, however the feasibility of this will be explored with CDGN, PHLN and CDNA. AusTrakka's interoperability with national public health surveillance systems will also be explored further.

Pathogens

This document provides the principles for genomic data sharing and analysis in AusTrakka of priority public health pathogens. However, the type of sequence and epidemiological data submitted by users will vary according to the pathogen. For these situations, an Appendix will be added to this document detailing pathogen-specific data, governance, and reporting requirements. This will be developed by the Requestor (as defined in Section 6: *Request, Analysis and Reporting*) in collaboration with the AEG, CDNA, PHLN, and CDGN, identified subject matter experts, other relevant national committees, and key stakeholders. Before implementation, the Appendix will be endorsed by AHPC and relevant AHPC sub-committees.

The prioritisation of pathogens integrated into AusTrakka is undertaken in consultation with CDNA and PHLN. Before pathogens are integrated into routine surveillance and reporting, endorsement will be sought from CDNA, PHLN, and AHPC. Prioritisation is based on a combination of considerations to ensure it is adapting to public health needs, including:

- Australia's nationally notifiable disease list
- CDNA's endorsed priority list
- pathogen prevalence in Australia (particularly where t here is significant change in prevalence and/or public health impacts)
- relevant national strategies (for example, Australia's Foodborne Illness Reduction Strategy 2018-2021+, Australia's National Antimicrobial Resistance Strategy – 2020 and beyond)
- relevant international strategies (for example, the European Centre for Disease Prevention and Control strategic framework for the integration of molecular and genomic typing into European surveillance and multi-country outbreak investigations)
- sequencing and analysis capacity and capability
- public health demand and interest, and
- funding and resources.

Minimum data requirements

The minimum sequence and epidemiological data requirements are provided below. Refer to the relevant appendices for pathogen-specific data, reporting, and governance requirements.

Sequence data

Sequence data should be uploaded using FASTA or FASTQ data formats, as appropriate for the pathogen and analysis.

Epidemiological data

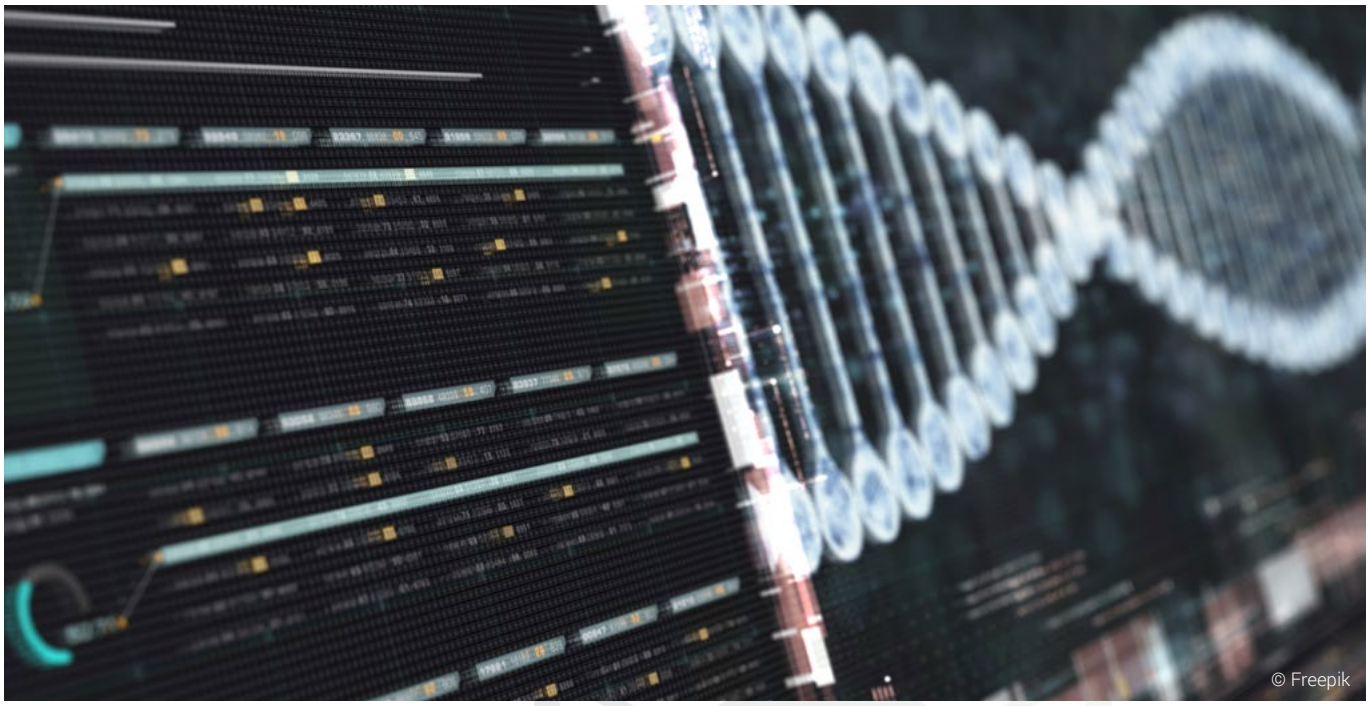
A pathogen-specific metadata proforma will be developed per pathogen. The minimum data already collected by PHLs and CDBs (referred to in this document as "sample metadata") includes, but is not limited to:

- Submitting/owner laboratory (for example, "MDU PHL")
- Patient jurisdiction (for example, "VIC")
- Date of collection (for example, "2020-06-01")
- Organism (for example, "Salmonella *enterica*")

AusTrakka will ensure alignment with international best practice and consistency with international repository requirements. To facilitate this, the AusTrakka team contributes to the Public Health Alliance for Genomic Epidemiology (PHA4GE), a global coalition that is actively working to:

- establish consensus standards
- document and share best practices
- improve the availability of critical bioinformatic tools and resources, and
- advocate for greater openness, interoperability, accessibility, and reproducibility in public health microbial bioinformatics.

Request, Analysis and Reporting



Participation in AusTrakka-based activities (including approved ATOI requests and routine surveillance) is voluntary, though strongly encouraged to support national coordination and timely public health responses.

Routine surveillance

Request

AusTrakka requests for routine surveillance reporting can be initiated by the Australian Government Department of Health, Disability and Ageing, Australian CDC, as well as by the relevant national committees under its governance, where appropriate. All PHLs and CDBs will be consulted regarding requests for reporting, as the contributors of Data.

Where there are existing national networks that undertake routine surveillance of specific pathogens, AusTrakka will work alongside existing analysis expertise and align with established workflows, to work collaboratively in the development of pathogen-specific governance and reporting workflows and requirements in AusTrakka. This is critical in ensuring that AusTrakka surveillance and reporting are aligned and relevant to national activities.

Requests for routine surveillance will require a pathogen-specific Routine Genomics Surveillance Protocol to be added as an Appendix to this document detailing pathogen-specific data, governance, access types (i.e. uploading or viewer access) and reporting requirements. This will be developed by the Requestor in collaboration with the AEG, CDNA, PHLN, and CDGN, identified subject matter experts, other relevant national committees, and key stakeholders as appropriate. Before implementation, the Appendix will be endorsed by AHPC and relevant AHPC sub-committees.

Analysis and Reporting

The AusTrakka NAT undertake analysis based on sequence data and metadata uploaded to AusTrakka by the PHLs and relevant public international databases, as requested. The NAT generates routine reports in close consultation with PHLs and CDBs and is communicated to national committees (CDNA, PHLN and AHPC) via the Secretariat for appropriate public health action. This may also include written and verbal communication of reports. The NAT and PHLs may also provide advice on the interpretation of report results for jurisdictional epidemiologists, on request or where appropriate.

Details for routine reporting requirements may differ per pathogen and can be found in the relevant pathogen-specific Appendix as developed.

AusTrakka's routine analysis and reporting is intended to complement, rather than replace, existing jurisdictional surveillance efforts. Jurisdictions are encouraged to continue their independent analyses and reporting to build local capabilities while ensuring a diversified and robust surveillance network. The AusTrakka team will actively collaborate with jurisdictions to strengthen these local capabilities and enhance overall surveillance effectiveness.

AusTrakka Outbreak Investigation (ATOI)

When requested and approved by relevant delegates, the AusTrakka NAT can be activated in the event of an inter-jurisdictional, multi-jurisdictional or national outbreak to facilitate the coordination of data sharing, analysis, and collaboration between PHLs to ensure consistent and standardised reporting to their CDBs across affected states and territories. Where required, surge capacity may be sought from jurisdictional expertise to ensure timeliness of response. There are five key principles that apply to all AusTrakka Outbreak Investigation (ATOIs):

1. AusTrakka does not replace the analysis of individual jurisdictional outbreaks where the state or territory has established capacity to conduct their own analysis. Nor does it preclude direct collaboration between affected jurisdictions.
2. Approval must be sought from the state or territory PHL for genomic sequence data, including jurisdictional CDB approval for epidemiological data before the sequencing data and metadata is shared or is included in investigations. Approvals should be sought as per existing processes between PHLs and CDBs including steps for identifying the relevant points of contact.
3. Methods utilised for the analysis of ATOIs are developed in consultation with affected PHLs and CDBs. Where there may be differences with output of the analyses performed, the AusTrakka NAT and jurisdictional PHL and/or CDB will work together to ensure communications as to the results, potential differences or caveats are aligned and consistent.
4. PHLs are consulted on genomic findings that include data from their state or territory prior to reporting.
5. Genomic analyses, visualisation of phylogenetic trees, and reports are provided to all PHLs that contributed data. PHLs regularly communicate and discuss analyses and reports with CDBs throughout the ATOI process.

Request

Requests for an ATOI can be made via the submission of the AusTrakka Request Form (Attachment B) to AusTrakka at team@austrakka.net.au who will coordinate the:

- necessary approvals from:
  - PHLs, CDBs (via the PHLs)
  - AEG
  - Australian CDC[8], and
  - relevant national committees (for example, CDNA, PHLN, CDGN, OzFoodNet)[9], where appropriate.
- communications between the Requestor, data contributors and receivers of the report.

During periods of high volumes of requests, the NAT will work with requestors to prioritise and set timelines to ensure responsiveness to requests and public health needs. Requests can be initiated by the:

1. Australian CDC, Australian Government Department of Health, Disability and Ageing
2. National health protection committees (e.g., AHPC, CDNA, PHLN, OzFoodNet) via the committee secretariat.
3. PHLs
4. CDBs

In all ATOIs, timeliness of reporting is largely dependent on the upload of data by PHLs to the AusTrakka platform. Jurisdictions are asked to indicate the priority level on the request form, with high-priority requests having an initial reporting turnaround time of three business days or sooner, where possible.

8 Where appropriate, the Director of Communicable Diseases Epidemiology and Surveillance Section, or Viral Respiratory Disease Epidemiology and Surveillance Section.

9 Where appropriate, committee Chairs may act as approvers.

Analysis and Reporting

The three types of ATOI analysis requests and procedural steps are described below.

Single Jurisdictional ATOIs

Single Jurisdictional ATOIs occur when a jurisdictional PHL request AusTrakka support for a jurisdictional specific investigation. The following diagram outlines the workflow for this ATOI.

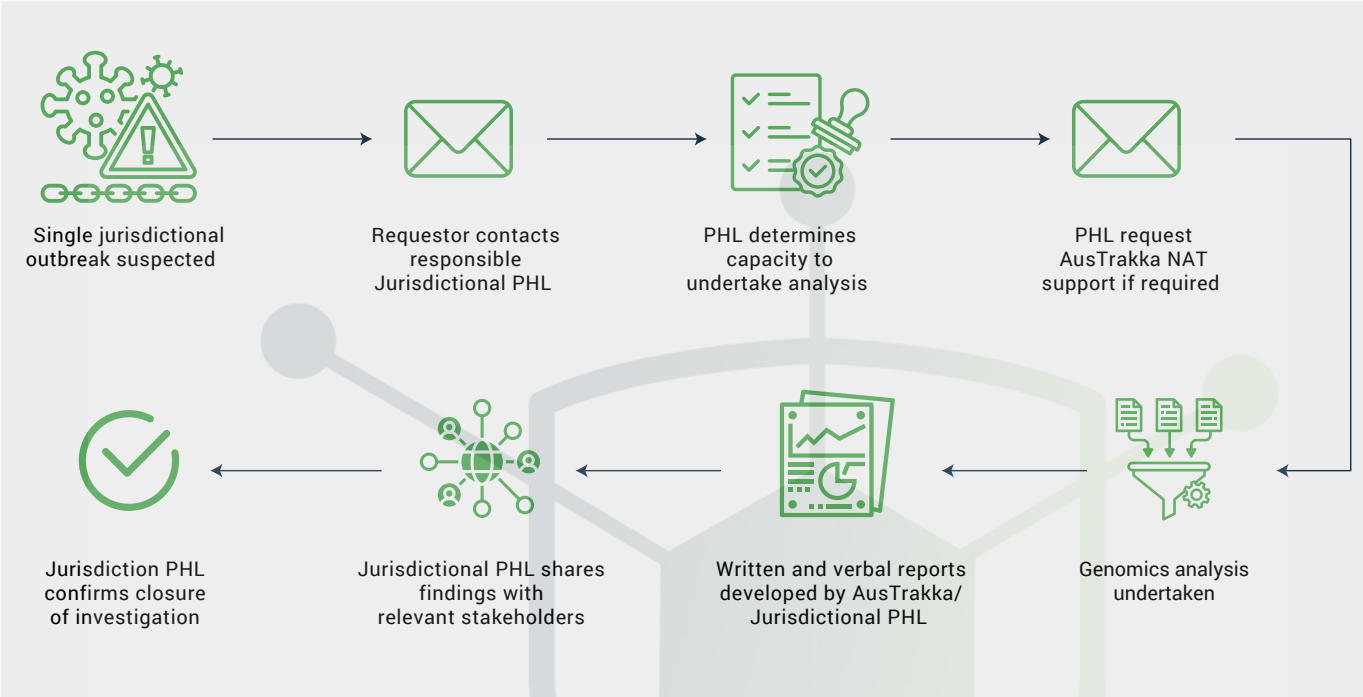


Figure 1. Single Jurisdictional ATOIs workflow

1. The requestor contacts the responsible jurisdictional PHL directly.
2. Depending on available capacity:
   a. [non-ATOI pathway] If the jurisdictional laboratory has capacity to conduct the genomic analysis, direct communication will ensue between the requestor and the responsible PHL. In laboratories with limited sequencing capacity, the request for sequences or analysis will go to the referring PHL. The referring PHL will liaise with their sequencing PHL to ensure visibility of the request. AusTrakka will not have oversight of this pathway.
   b. [ATOI pathway] Where coordination, analysis and reporting assistance are requested from the AusTrakka NAT, the AusTrakka Analysis Request Form is submitted to the AusTrakka Program Manager and a collaborative analysis will be undertaken between the NAT and the requesting PHL. The PHL will be responsible for obtaining the relevant epidemiological data from their CDB.
3. The PHL is responsible for communicating the findings (for example, through reports, verbal briefings etc.) to the CDB and/or requestor in their respective jurisdiction.
4. Collaborative interpretation involving key stakeholders across the jurisdictional PHL, CDB and AusTrakka NAT can be facilitated where requested.
5. In the absence of a request for collaborative interpretation, questions from CDBs may also be fed back through the jurisdictional PHL to the AusTrakka NAT as needed.

Multijurisdictional ATOIs

Mutlijurisdictional ATOIs occur when there is a suspected outbreak across jurisdictional lines. The following diagram outlines the workflow for this ATOI.

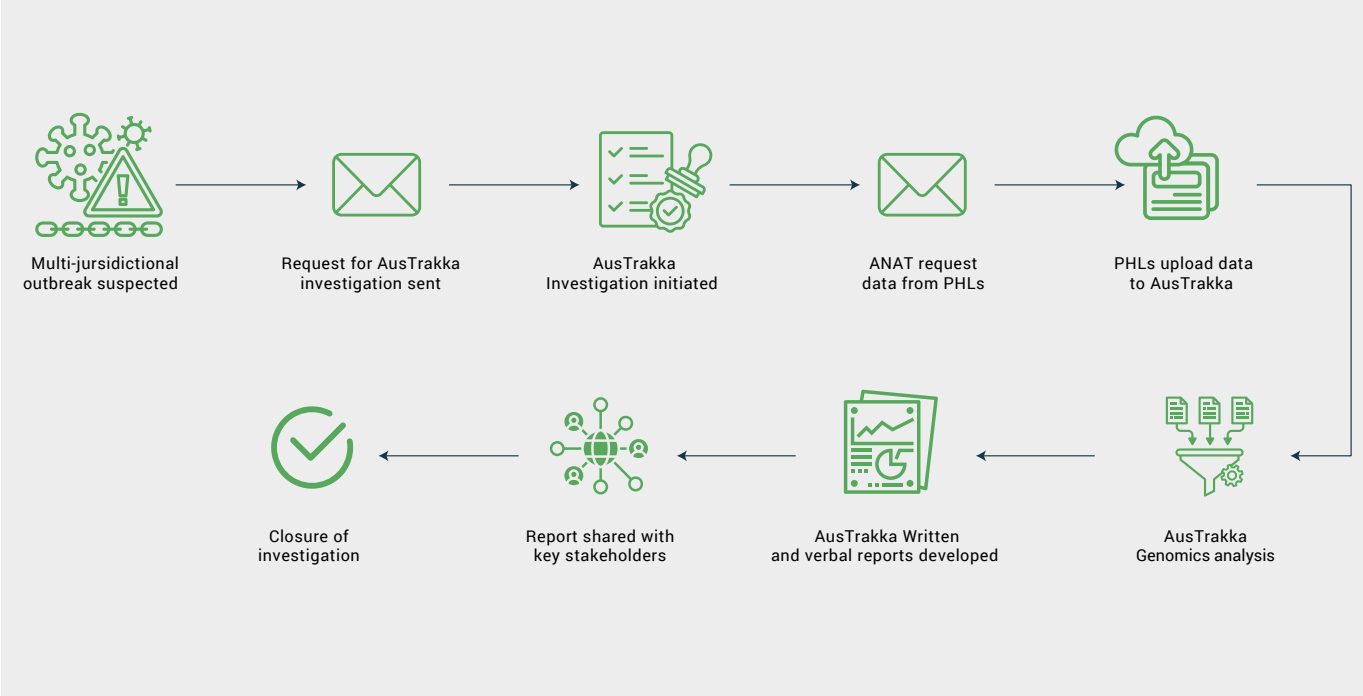


Figure 2. Multijurisdictional ATOIs workflow

1. When requested, multi-jurisdictional ATOIs are coordinated by the AusTrakka NAT and an appointed Co-Lead PHL. The Co-Lead PHL is determined based on state and territory preferences and available resources and skills, in alignment with the 'Lead Agency' approach followed by OzFoodNet in the Guidelines for the epidemiological investigation of multi-jurisdictional outbreaks that are potentially foodborne.
2. On receipt of the AusTrakka Analysis Request Form, approval is sought from each jurisdiction nominated in the request for inclusion of their sequence data in the investigation, and where required, additional epidemiological data from the CDBs.
3. AusTrakka NAT will work with affected PHLs and CDBs prior to analysis commencement to ensure the questions posed in the Data Analysis Plan are clearly defined and appropriate.
4. Informed by the jurisdictional responses, the AusTrakka NAT will conduct the genomic analysis, in close consultation with involved PHLs for the investigation and communication of any results to all PHLs involved.
5. The AusTrakka NAT and Co-Lead PHL will prepare data and analytical interpretations to be released for viewing on AusTrakka and initial results will be presented with data contributors from PHLs and CDBs within the ATOI request time frame.
6. A formal report will be provided by the AusTrakka to PHLs, CDBs, and committees identified on the request form.

International ATOIs

International ATOIs occur when there is a suspected outbreak across international borders and international genomic data is available. The following diagram outlines the workflow for this ATOI.

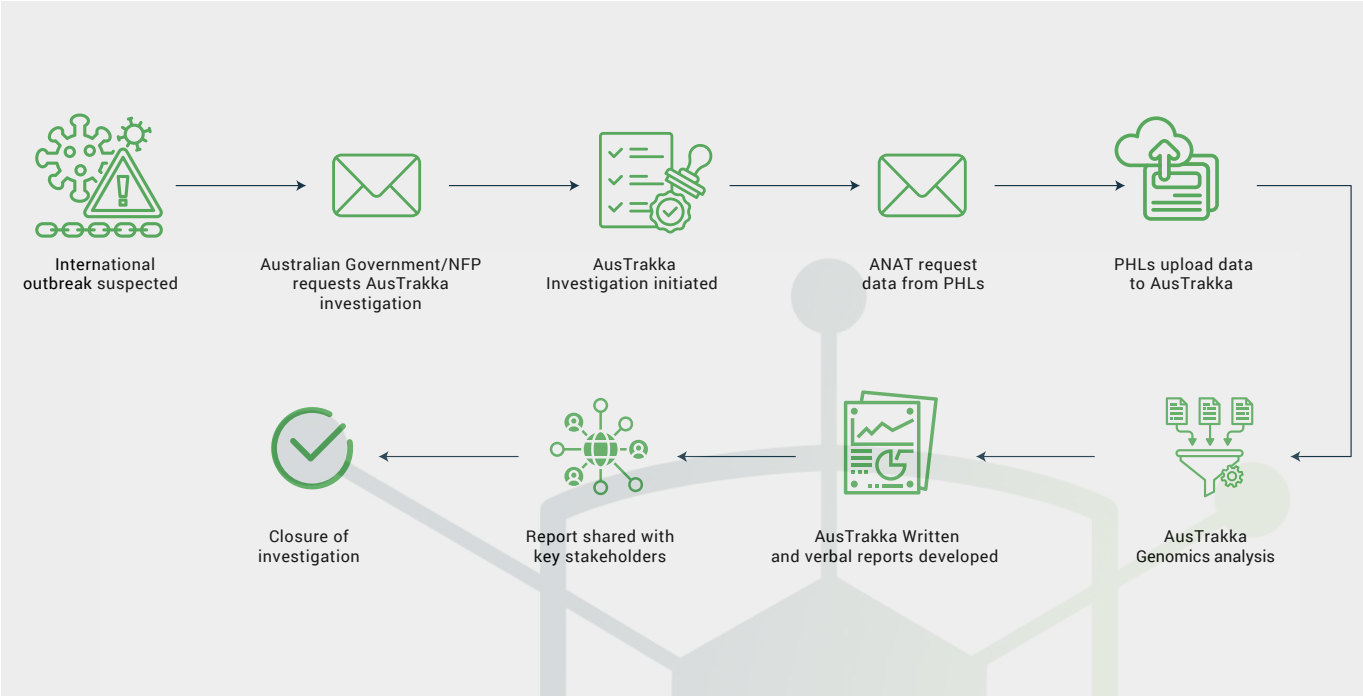


Figure 3. International ATOIs workflow

1. When appropriate, the Australian Government Department of Health, Disability and Ageing NFP notifies AusTrakka of relevant international requests.
2. Where requests are received directly, it is notified to the Australian Government Department of Health, Disability and Ageing NFP.
3. If the NFP formally requests an ATOI, the PHLs and CDBs are notified of the request and approval is sought from PHLs in the relevant jurisdiction(s) for inclusion of their sequence data in the investigation, and where required, additional epidemiological data from relevant CDBs.
4. The AusTrakka NAT actions the request (i.e., for genomic data sharing, genomic analysis etc.) and analysis results will be communicated to contributing PHLs and the NFP.
5. Where appropriate, CDNA, PHLN and CDGN Secretariats, and the Australian CDC Pathogen Genomics inbox is notified of the response at a frequency to be determined by the NFP.

Linkage with national committees

It is important that the surveillance and investigation activities of AusTrakka contribute to and inform the activities of national health protection committees. AusTrakka has already established links with national health protection committees through its embedment within CDGN and operates collaboratively with national networks to enhance communicable disease surveillance and response.

PHLN

All users of the AusTrakka platform must be embedded in a PHL and access must be endorsed by their respective PHLN jurisdictional member, or their appointed proxy to ensure that users are operating under their relevant Public Health and Privacy Acts for their state or territory.

PHLN is consulted on matters related to the laboratory data governance, data sharing, and operation of AusTrakka. AusTrakka provides frequent reporting to PHLN and CDNA on activities, investigations, and findings of interest.

CDNA

CDNA and its relevant subcommittees are consulted on matters related to the governance of AusTrakka, specifically relating to the collection and sharing of epidemiological data for genomics surveillance, prioritisation of pathogens for routine surveillance in AusTrakka and investigation. AusTrakka provides reporting at the monthly CDNA meeting on genomics surveillance and investigations of interest.

Evaluation of governance protocol

The effectiveness of the document and AusTrakka system in relation to achieving public health benefit in a cost-effective manner will be monitored and evaluated annually. Findings from the evaluation will be incorporated into subsequent iterations of the document and design of the AusTrakka platform as appropriate to optimise its value to public health.

Summary

By endorsing this document, committees have agreed that:

- PHLs and CDBs (where appropriate, and where determined by the jurisdiction) to share all agreed data for nationally notifiable pathogens and other priority pathogens of significance if approved for integration into AusTrakka for national routine surveillance.
- PHLs and CDBs (where appropriate, and where determined by the jurisdiction) to share all agreed data to AusTrakka as requested through an approved AusTrakka Outbreak Investigation Form.
- AusTrakka will support PHLs and CDBs to develop and strengthen local genomic capacities and capabilities and cooperate with external inter-jurisdictional sharing arrangements.

National committee	Date of Endorsement
CDGN	17 September 2025
PHLN	17 September 2025
CDNA	28 October 2025
AHPC	12 November 2025

Attachment A – Composition of Governance Groups

Note: This is an active document. As the AusTrakka system evolves, the composition of the Governance groups will be reviewed and updated accordingly. All appointments are based on expertise and required skill set.

AusTrakka Executive Group

Roles and responsibilities

- Oversee the governance and operation of AusTrakka.
- Ensure AusTrakka activities are aligned with its contractual obligations, annual work program and that there is regular reporting provided to the Australian CDC.
- Oversee the requirements and activities the AusTrakka NAT.
- Facilitate the requests for access and data analysis using the AusTrakka platform.
- Provide reports and briefings as needed to relevant committees and government on analyses and findings.
- Approve analysis reports for release.

Work with jurisdictional CDBs and relevant AHPC sub-committees to establish agreed priority pathogens for genomic analysis.

Appointments (as 1 January 2026)

- Prof Benjamin Howden, MDU PHL (VIC)
- A/Prof Amy Jennison, QH PEHRL (QLD)
- Prof Vitali Sintchenko, NSW Health Pathology Westmead ICPMR (NSW)
- A/Prof Torsten Seemann, AusTrakka and MDU PHL (VIC)
- Dr Lito Papanicolas, SA Pathology (SA)
- Dr David Speers, PathWest Laboratory Medicine (WA)
- Dr Lou Cooley, Royal Hobart Hospital (TAS)
- Dr Karina Kennedy, ACT Pathology (ACT)
- A/Prof Ella Meumann, NT Health (NT)
- Ms Amy Black, Australian Centre for Disease Control (CDC), Australian Government Department of Health and Aged Care
- Dr Michel Watson, Australian CDC, Australian Government Department of Health and Aged Care
- Strategy and Governance Manager
- CDB Representative – vacant, recruitment in progress.

AusTrakka Strategy and Program Management

Roles and responsibilities

- Support the strategy and governance of the AusTrakka system
- Manage the AusTrakka system including:
  - Coordinating the delivery of activities of the AusTrakka system
  - Facilitating consultations with stakeholders
  - Secretariat functions for the AEG and ANAT

Appointments (as of 1 January 2026)

- Tuyet Hoang, Strategy and Governance Manager, AusTrakka (VIC)
- Amy Corbett, Program Manager, AusTrakka (VIC)

AusTrakka National Analysis Team

Roles and responsibilities

- Analysis and reporting, including:
  - the undertaking of routine and ad-hoc national genomic analysis
  - engagement with jurisdictional PHLs, where appropriate, to inform analysis and interpretation
  - the development of genomic surveillance reports, and
  - the identification of potential multi-jurisdictional clusters/cross-border transmission.
- Development and sustainability.
- Training and engagement.
- Continued evaluation on the implementation of AusTrakka and genomics for public health.

Appointments (as of 1 January 2026)

Genomic Epidemiologists

- Krystalyn Martin (QLD)
- Dr Alicia Arnott (VIC)
- Dr Connie Lam (NSW)
- Mathilda Wilmot (VIC)

Bioinformaticians

- Dr Caitlin Selway (SA)
- Dr Kristy Horan (VIC)
- Dr Binit Lamichhane (WA)
- Dr Koen Vandelannoote (TAS)

Public Health

- Dr Heather Wilson (ACT), Observer

AusTrakka Development Team

Roles and responsibilities

- Development and maintenance of the AusTrakka platform.
- Consultation and engagement with AusTrakka users.
- Ensuring the platform is fit for purpose and meeting end user needs.
- Continued monitoring and evaluation of the platform.
- Maintaining the security requirements of the platform.

Appointments (as of 1 January 2026)

- A/Prof Torsten Seeman, Lead Bioinformatician (UOM)
- Dr Clare Sloggett, Lead DevOps (UOM)
- Sam Carswell, DevOps (UOM)
- Mann Sheth, Software Engineer (UOM)
- Dr Jolene Langevin, Software Engineer (UOM)

Attachment B – AusTrakka Request Form

Form submitter details		Reason for form submission
Name:		*Single-jurisdictional outbreak* ☐ Request for genomics analysis assistance from AusTrakka National Analysis Team *Interstate, multi-jurisdictional or national analysis* ☐ Commonwealth National Focal Point (NFP)-derived request ☐ Jurisdictional public health laboratory (PHL)-derived request ☐ Jurisdictional Communicable Diseases Branch (CDB)-derived request ☐ National Australian CDC committee-derived request **Requested result format:** ☐ Any result with interpretation, when available ☐ Formal report required
Date:		
Affiliation:		
Email:		

Results of analysis to be communicated to

☐ Australian CDC	☐ NT (PHL)	☐ NT (CDB)
☐ PHLN	☐ QLD (PHL)	☐ QLD (CDB)
☐ CDNA	☐ SA (PHL)	☐ SA (CDB)
☐ OzFoodNet	☐ ACT (PHL)	☐ ACT (CDB)
	☐ NZ (PHL)	☐ NZ (CDB)
	☐ TAS (PHL)	☐ TAS (CDB)
	☐ NSW (PHL)	☐ NSW (CDB)
	☐ VIC (PHL)	☐ VIC (CDB)
	☐ WA (PHL)	☐ WA (CDB)

☐ Other – please specify email address(es): _____

Note: PHLs will communicate results to their respective CDBs through existing communication channels.

Priority

☐ High (<3 business days)
☐ Medium (7 business days)
☐ Low (10 business days)

Dependant on data upload timeframes from PHLs and CDBs

Background description, request notes, and clear question to be answered

It is expected that analyses and reports will be completed in consultation with the jurisdictional health department (where required) and that appropriate clearance will be sought by the analysis team at the jurisdictional level.

Specimen details of interest – completed by Requester							
Patient jurisdiction	**Case ID** (patient)	**Lab sequence ID**	**Date of Sample Collection**	**Age / Date of Birth**	**Sex**	**Postcode**	**Epidemiological exposure data** (if known)

Where lines are exceeded, spreadsheet to be attached to request form

Anticipated use of results

- ☐ Australian CDC-use only
- ☐ Requesting PHL or CDB use only
- ☐ Committee consultation (specify committees) _____
- ☐ Other _____

Data caveats and restrictions on use/distribution (to be completed by the analysis team or jurisdiction)

Reporting on these outputs requires the following: (to be completed by the analysis team or jurisdiction)

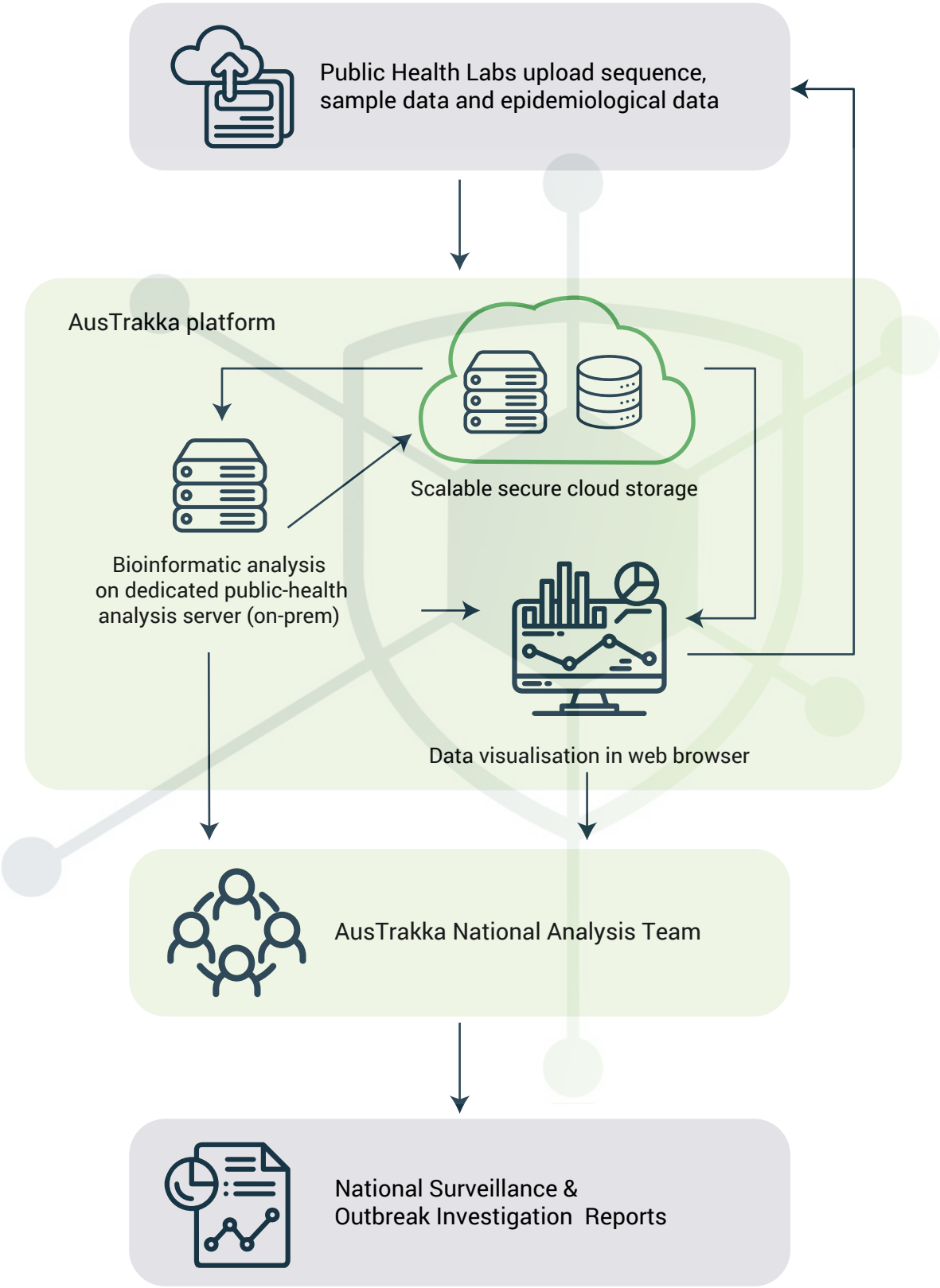
- ☐ Acknowledgements on report
- ☐ Additional review/clearance by:
- ☐ Involved jurisdictional PHLs
- ☐ Involved jurisdictional CDBs
- ☐ Involved Australian CDC committees
- ☐ AusTrakka Executive group
- ☐ Other: _____

Approvals

Requestor	Organisation name	Name	Signature	Date
PHL / CDB Director Approval	Organisation name	Name	Signature	Date
PHL / CDB Director Approval	Organisation name	Name	Signature	Date
PHL / CDB Director Approval	Organisation name	Name	Signature	Date
PHL /CDB Director Approval	Organisation name	Name	Signature	Date

Add as needed

Attachment C – AusTrakka National genomics data sharing and analysis Model



Attachment D – AusTrakka Pathogen-Specific Genomic Surveillance Protocol List

Current as of 1st April 2026

Table 2: Overview of current pathogen specific governance protocols

Title	Purpose	Relevant History	Next Steps
Routine Genomic Surveillance Protocol – **monkeypox virus**	Formalises endorsement from CDNA, BBVSS and PHLN to establish a multi-jurisdictional genomic surveillance of MPXV in AusTrakka.	Developed by AusTrakka NAT in collaboration CDNA, PHLN, and BBVSS representatives. Endorsed by Working Group 6 December 2024.	Endorsement to be sought from: • CDGN • PHLN • BBVSS • CDNA • AHPC
Routine Genomic Surveillance Protocol – ***Salmonella Enteritidis***	Addresses recommendations agreed to by CDNA, as proposed in a CDNA-related thesis manuscript: *Establishing Harmonised National Surveillance of Salmonella Enteritidis.*	Developed by OzFoodNet (OFN) in collaboration with AusTrakka NAT. Endorsed by AusTrakka NAT, OFN, PHLN (8 November 2024). Endorsed by CDNA 9 October 2025.	Endorsed
Routine Genomic Surveillance Protocol – ***Neisseria Meningitidis***	Addresses recommendations raised by the National Neisseria Network (NNN) and CDGN.	A joint working group was established between the NNN and CDGN with the aim to develop a pathogen specific appendix for *Neisseria meningitidis.*	Under development.
Routine Genomic Surveillance Protocol – ***Mycobacterium Tuberculosis***	Formalises the required technical components for the national routine surveillance of *Mycobacterium tuberculosis* in AusTrakka.	Initiated by the CDGN TB working group 14 February 2024. Presented at NTAC in 2024 and endorsed.	Endorsement to be sought from: • CDNA • PHLN • AHPC
One Health Routine Genomic Surveillance Protocol – **Zoonotic Flaviviruses**	At the joint Chief Medical Officer / Chief Veterinary Officer meeting held on 8 July 2022, members agreed for AusTrakka to be explored as a cross-sectoral genomic surveillance tool for Japanese encephalitis virus (JEV) in Australia. This has since been expanded to zoonotic flaviviruses.	The Governance Framework has received endorsement from: • 16 June 2023 – PHLN ERP on ZFD (formerly JEV) – AusTrakka Working group • 20 July 2023 – PHLN ERP on ZFD (formerly JEV) • 25 August 2023 – CDGN • 14 September 2023 – PHLN	Under development.

This is an active list that will be updated as endorsement progresses.

Contact us

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Website: https://austrakka.net