NHS
National Services Scotland

Protocol for the Reporting of Healthcare Infection Incidents, Outbreaks and Data Exceedance in NHSScotland through the Outbreak Reporting Tool (ORT)

Version 1.4

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ARHAI Scotland
Antimicrobial Resistance and Healthcare Associated Infection

General enquiries and contact details

If you have any enquiries or comments on this protocol or in conducting surveillance, please direct your queries in the first instance to:

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Aims and objectives

Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland is responsible for the coordinating of national surveillance and reporting of healthcare associated infections and the monitoring of antimicrobial resistance and antimicrobial prescribing.

One of the core functions of ARHAI Scotland is to work with stakeholders to facilitate an effective response to incidents and outbreaks within healthcare settings, especially those which are likely to severely test the NHS and other public services.

Circumstances can arise when the health of the population may be at risk because groups of individuals are exposed, or at risk of being exposed, to the following:

- infectious disease
- high levels of a hazardous substance
- adverse environmental conditions

These situations are public health incidents and along with NHS boards, ARHAI Scotland must provide supportive actions to protect public health.

The Outbreak Reporting Tool (ORT) aims to accurately record health and care incidents and outbreaks facilitating the collation of epidemiological data and lessons learned which contribute to the development of national guidance and help inform local incident and outbreak management.

Reporting requirements for incidents and outbreaks

Definitions of a healthcare incident, outbreak or data exceedance are included in Chapter 3 of the National Infection Prevention and Control Manual (NIPCM).

It is the responsibility of NHS boards to ensure incidents, outbreaks and data exceedances are reported to ARHAI Scotland in line with the protocol, the Healthcare Infection Incident Assessment Tool (HIIAT) and the NICPM.

Following the identification of an incident/outbreak according to the NIPCM, a HIIAT assessment (Red, Amber or Green) should be performed and the incident/outbreak should be reported to ARHAI Scotland through the Outbreak Reporting Tool (ORT), using the corresponding form for that incident/outbreak type.

Incidents/outbreaks from key respiratory viruses which do not require ARHAI support can be reported through the Respiratory Short Form. All other incidents/outbreaks, as identified in line with the NIPCM, should be reported through the HIIORT form.

HIIORT Form

HIIORT Incidents and Outbreaks

The Healthcare Infection Incident and Outbreak Reporting Template (HIIORT) form is for any HIIAT Red, Amber or Green assessed incident/outbreak.

Note: Respiratory incidents/outbreaks from key respiratory pathogens (COVID-19, influenza and respiratory syncytial virus (RSV)), where Infection Prevention and Control (IPC) measures align with the checklist and NIPCM and where ARHAI support is not requested can be reported through the Respiratory Short Form (see below).

Non-Hospital Incidents and Outbreaks

Any incidents/outbreaks which occur in a non-hospital setting i.e. care home, dental practice, GP/health centre, can be reported using the "Non-Hospital" form type on the HIIORT form.

Respiratory Short Form

Reporting of COVID-19, Influenza and RSV through the Short Form

Any incident/outbreak from key respiratory viruses (COVID-19, influenza and respiratory syncytial virus (RSV) only), where IPC measures align with checklist and NIPCM and ARHAI support is **not** requested can be reported through the respiratory short form using a minimum dataset. Incidents/outbreaks should still be HIIAT assessed (Red, Amber or Green).

Frequency of updates to ARHAI Scotland

For incidents/outbreaks that are HIIAT assessed as Red, Amber or Green:

HIIAT Red – review and complete a daily update.

HIIAT Amber– review and complete a twice weekly update.

HIIAT Green – review and complete a weekly update.

These frequencies should continue until the incident/outbreak is closed or unless a change in frequency has been agreed between ARHAI Scotland and the board.

Note: Incidents/outbreaks should not be closed whilst the HIIAT remains at Amber or Red. The HIIAT must have been de-escalated to Green before incidents/outbreaks can be considered for closure.

You must notify ARHAI Scotland in addition to these frequencies if there has been an update in HIIAT assessment or the situation changes significantly. Further information can be found in appendix 14 of the NIPCM.

Reporting by ARHAI Scotland to the Scottish Government Policy Unit

ARHAI Scotland may contact the NHS board for further information on their assessment. Incidents/outbreaks may be sent for onwards communication to the Scottish Government Healthcare Associated Infection Policy Unit (SG HAIPU) in line with Chapter 3 of the NIPCM.

Methods

ORT Process for information capture

This section includes instructions for NHS boards on how to store, handle and complete the Outbreak Reporting Tool (ORT) using the Microsoft (MS) Excel file.

- Each NHS board is responsible for capturing the data as required for local incidents and outbreaks identified according to the National Infection Prevention and Control Manual (NIPCM).

- NHS boards are responsible for locally coordinating the completion of the MS Excel ORT for submission of extracts to ARHAI Scotland.

- **Do not add any patient identifiable information (PII) or staff personal details to any of the data items.**

- Essential fields must be completed, but if the information is not available at the time opening, will not prevent the user from saving the form. Essential and mandatory fields must be completed to save the form.

- Tools are provided at NHS board level or on request and can be issued for a single hospital or group of hospitals within an NHS board. Please contact ARHAI Scotland if any changes to hospital groupings or lists are required.

- There should be **one** master version of each unique tool supplied to NHS board users, where they are named "[Board Name/Location] Outbreak Reporting Tool v1.4". Please archive or delete any old/previous versions of the ORT to avoid confusion.

- The tool must be saved in a secure location but be accessible to all users who may be required to input data.

- Only one user can access the ORT to complete/edit any data at any one time.

- All updates have a date and timestamp and saved internally as a new row within the data extract.

- The saved location for the master ORT will be the same location where exported files will be extracted/saved out to. Please ensure folders have adequate space to store generated exports.

- Exported MS Excel files must be emailed to ARHAI Scotland for processing – the "Export" button within the ORT only saves the extract from the ORT into the folder Extracted data files should be emailed to the ARHAI Scotland ICT mailbox (nss.ARHAIinfectioncontrol@nhs.scot),

- Data extracts produced by the ORT follow the naming format "outbreak-dd-mmm-yyyy hh-mm-v1.4-[Board Name/Location]".

- All users must ensure that MS Excel Macros are enabled when using the tool. This must be done on an individual basis for all users who require use of the tool:

  - Macros can be **permanently** enabled through personal Excel settings (File > Options > Trust Centre > Trust Centre Settings > Macro Settings > Enable all Macros)

  - Or, users can click to enable macros **each time the file is opened** through the button which should appear below the main toolbar ribbon, but permanent enabling of macros is recommended to avoid possible issues.

How to complete the ORT for new or existing incidents/outbreaks

Figure 1 provides a decision aid for NHS boards to select the appropriate ORT form for new and existing incidents/outbreaks.

- The ORT home page (**"Home"** tab) includes four main action buttons.

  - "**Create New HIIORT Incident/Outbreak**" – opens a blank form for submitting a newly identified HIIORT incident.

  - "**Search for Existing HIIORT Incident/Outbreak**" – use the ID number for an existing HIIORT incident/outbreak to open the completed incident/outbreak form for submitting an update.

  - "**Create and Edit Respiratory Incidents/Outbreaks**" – opens the respiratory short form to complete new incidents/outbreaks or update existing incidents/outbreaks.

  - "**Export Data File for ARHAI**" – exports a data extract for submitting any updates to ARHAI Scotland.

Figure 1: Flowchart of reporting requirements for incidents and outbreaks identified in NHSScotland through the Outbreak Reporting Tool (ORT).
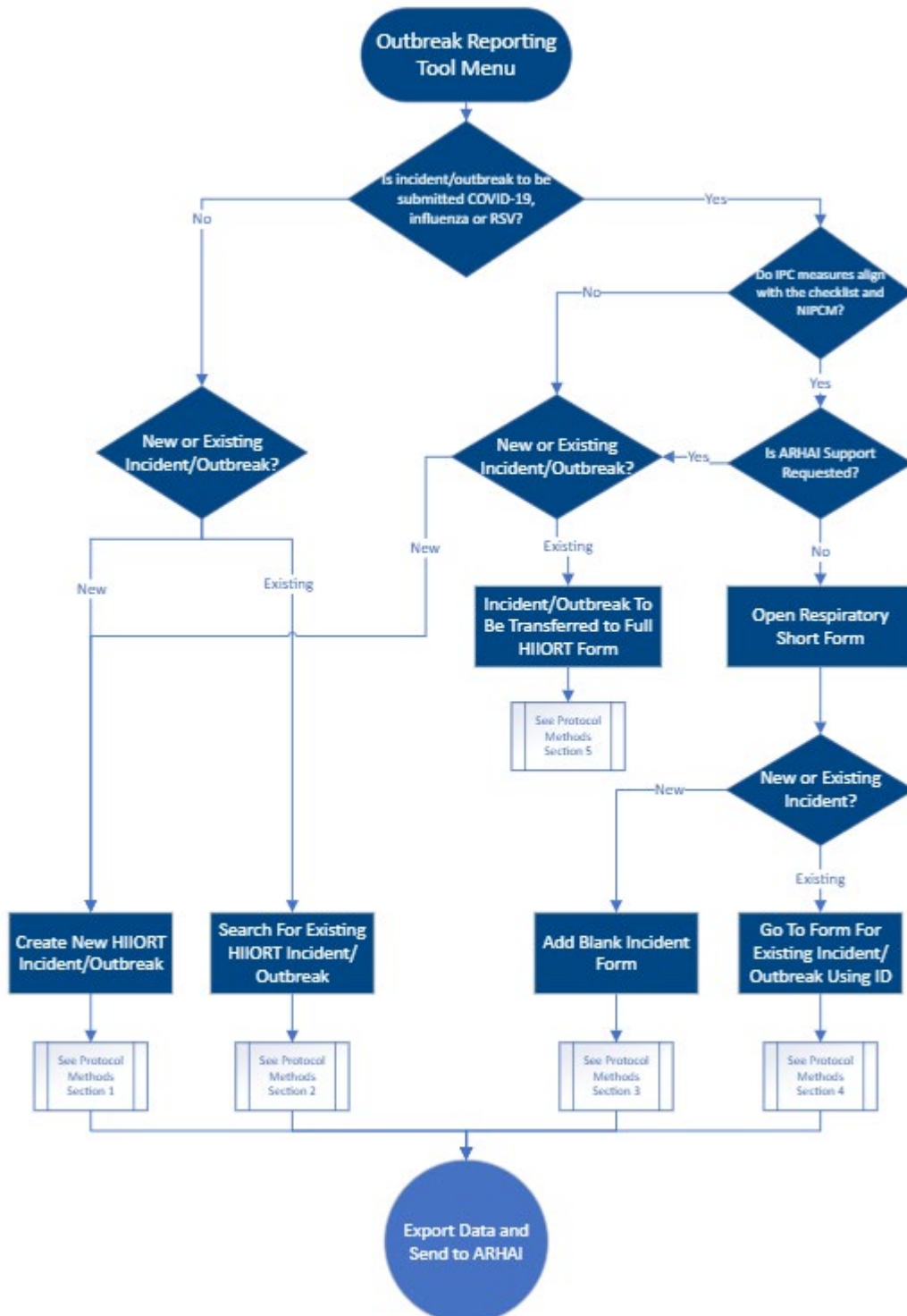
Section 1. Adding new HIIORT incidents/outbreaks

When to add a new HIIORT incident/outbreak

Use the HIIORT incident/outbreak form for all new incidents/outbreaks identified as per Chapter 3 of the NIPCM.

Completing the ORT

- Click the **"Create New HIIORT Incident/Outbreak"** button to take you to a new form.


- Complete the form, starting with the Form Type (i.e. 'HIIORT form', 'Non-Hospital form' – see [Reporting Requirements for Incidents and Outbreaks](#)). This will cause some fields to 'grey-out' / appear as appropriate to the incident/outbreak. Details of form questions are outlined in the "[Data Items](#)" section below.

- When the form is completed, click the "**Create New Record**" button at the bottom of the form. Then confirm if the data is accurate.

- **You may receive an error message if mandatory fields have not been completed – **please review the data fields as directed in the error message to ensure data are complete and correct. See [data items](#) for more information.

- You will receive a message when the record has been successfully saved. Data are now saved within your local version of the ORT.

- To submit further updates, navigate to the **"Home"** tab to the ORT.
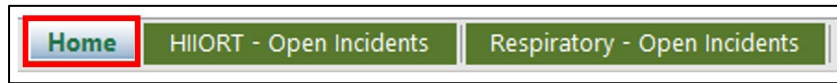
- If no more updates are required, then an extract of the data must be emailed to ARHAI Scotland.

Section 2. Amending open HIIORT incidents/outbreaks

Incidents/outbreaks should be updated in line with the HIIAT frequency specified in Appendix 14 of the NIPCM.

Reasons to amend an open HIIORT incident/outbreak

- Confirm a change of contact details for the person completing the update.

- Confirm total number of cases, or add new cases/remove excluded cases to amend the **total** number of cases/deaths, alongside any discussion of these cases within the case summary text box.

- Add new details from Problem Assessment Groups (PAGs) / Incident Management Teams (IMTs) (e.g. update of the investigations being carried out).

- Inform changes as per the Healthcare Infection Incident Assessment Tool (HIIAT).

- Inform changes to the investigations.

- Refine the case definitions or working hypotheses.

- Add lessons learned, media statements or other relevant information.

- Inform the reopening of a ward or closing the incident/outbreak.

For full details of how to complete and amend fields, and which fields are fixed following first submission, please see data items.

When making updates to free text boxes, data entered in the most recent submission is autofilled for review. When submitting a new update, **users should delete out of date content from the box and only include current and new information related to that update**. This will avoid free text boxes from getting too large, and to ensure each update is relative to that date's submission.

Please ensure content is specific to the field in line with the data items section, and not directly copied and pasted from i.e. IMT minutes.

All free text submissions and updates are visible over time on the ARHAI Scotland E-Viz platform.

Completing the ORT

- Review the open incidents/outbreaks in the "**HIIORT - Open Incidents**" tab.

- Copy the incident ID number that is to be amended.

A	B
ID number	Form type
HIIAT2023-XX-300	HIIORT form
HIIAT2023-XX-301	HIIORT form
HIIAT2023-XX-305	HIIORT form
HIIAT2023-XX-309	HIIORT form
HIIAT2023-XX-313	HIIORT form
HIIAT2023-XX-317	HIIORT form
HIIAT2023-XX-321	HIIORT form
HIIAT2023-XX-325	HIIORT form
HIIAT2023-XX-329	HIIORT form

- Navigate to the **"Home"** tab and click on "**Search for Existing HIIORT Incident/Outbreak**". This will open the Search Form tab.
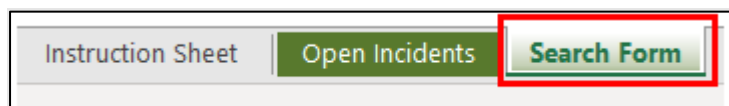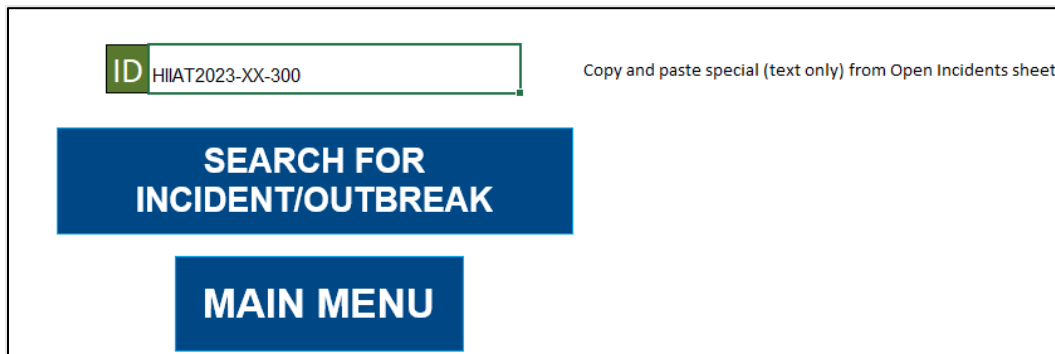
- On the search form, paste the ID number into the search box and click the "**search for incident/outbreak**" button to take you to the search form results.

- The most recent update for the incident/outbreak will load and a pop up will appear.

- Update fields where required (see full descriptions in data items). **Please note that for free text fields including Case Definitions, Case Summary, Investigations and Working Hypothesis, any out-of-date information should be deleted prior to adding information relevant to the current update**. All previously submitted information is retained within the tool against the date it was originally submitted and can be viewed on the ARHAI Scotland E-Viz platform.

- If for any reason, the user has entered data incorrectly and the form has not yet been saved, the user can select "**Return to Main Menu"** at the bottom of the form – this will allow the user to exit the form **without saving** any changes.

- Once the update to the form has been completed, click "**Update Existing Record**" to save data entered. A pop-up should appear if any mandatory fields are blank, and to confirm if the data is complete and has been added successfully.

Important: If multiple updates to a single incident/outbreak are entered on the same calendar day, and submitted to ARHAI Scotland as a single extract, only the latest one on that day will be visible to ARHAI Scotland for review and reporting.

Section 3. Adding new incidents/outbreaks to Respiratory Short Form

When to add a new incident/outbreak to the Respiratory Short Form

The Respiratory Short Form is for COVID-19, influenza and RSV respiratory incidents/outbreaks only, where IPC measures align with the checklist and NIPCM, and where ARHAI support is **not** requested.

Completing the ORT

- On the "**Home**" tab select the "**Create and Edit Respiratory Incidents/Outbreaks**" (Short Form) button to be taken to the "**Respiratory Form**" tab.

- Click the "**Add Blank Incident/Outbreak Form**" button to show the blank data items for a new incident/outbreak. The following data items will be automatically filled:

- o **"Date of Update"** is automatically filled to the calendar date when the form was created.

- o **"Incident/Outbreak Status"** will be automatically set to "Open",

- o "**Should Update Be Saved?"** will be automatically set to "Y" for yes.

- The ID number will auto-generate once the "Hospital" data item and "Organism" data item have both been completed.

- Complete each data item. The Data Items section of this protocol, alongside Appendix 1 and Appendix 2, provide further details.

- Only "Ward / Bay" and "Ward / Bay Specialty if Other" accept free text. Most data items contain a list of options (via dropdown boxes) and others only accept a particular data type (i.e. whole numbers or dates in DD/MM/YYYY format).

- Multiple incidents/outbreaks can be added at the same time by repeating the above process as required. Each new incident/outbreak added will appear under the previous one as an alternating colour (green/blue) to visually differentiate.

- If there is an incident/outbreak on the list where no updates are available at present, and you do not wish to submit an update, then change the **"Should Update Be Saved"** data field to "N" to exclude from saving any changes to that incident/outbreak whilst submitting other updates to ARHAI Scotland.

- When the form is complete, there are two options to save forms:

  1. Click the **"Save All Incidents/Outbreaks"** button to save all and update the timestamps. This will update in the **"Data and Time of Last Update"** data item. **These timestamps will update even if data was not amended.**

<div align="center">**OR**</div>

  2. Click the "**Save Selected Incidents/Outbreaks**" button to **save those where "Should Update Be Saved?"** is selected as **"Y"**, then confirm if the data is accurate.

- Open incidents/outbreaks will become visible in the **"Respiratory – Open Incidents"** tab.
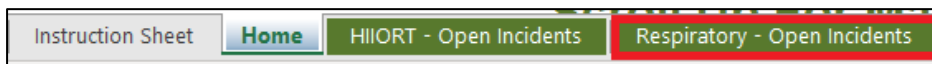
Section 4. Amending open incidents/outbreaks within the Respiratory Short Form

Incidents/outbreaks should be updated in line with the HIIAT frequency specified above and as per Appendix 14 of the NIPCM.

Reasons to amend an open HIIORT incident/outbreak

- Confirm total number of cases or add new cases/remove excluded cases to amend the **total** number of cases / deaths.
- Inform changes as per Healthcare Infection Incident Assessment Tool (HIIAT).
- Inform the reopening of a ward or closing the incident/outbreak.

For full details of how to complete and amend fields, and which fields are fixed following first submission, please see data items.

Completing the ORT

- On the "**Home**" tab click on the "**Create and Edit Respiratory Incidents/Outbreaks**" button, this will open the **"Respiratory Form"** tab, and show all open incidents/outbreaks.
- Update the editable fields as required (e.g. date of ward opening/closure, number of new cases/deaths, the current HIIAT assessment).
- If adding new case numbers, the "total" cases will update accordingly.
- If there is an incident/outbreak on the list where no updates are available at present, and you do not wish to submit an update, then change the **"Should Update Be**

Saved" data field to "N" to exclude from saving any changes to that incident/outbreak whilst submitting other updates to ARHAI Scotland.

- When the form is complete, there are two options to save forms:

1. Click the **"Save All Incidents/Outbreaks"** button to save all and update the timestamps for all open incidents. This will update in the **"Data and Time of Last Update"** data item for all rows. **Timestamps will update even if data are not amended.**

OR

2. Click the "**Save Selected Incidents/Outbreaks**" button to **save those where "Should Update Be Saved?"** is selected as **"Y"**, then confirm if the data is accurate.

Section 5. Transferring incidents/outbreaks from the Respiratory Short form to the HIIORT form

Reasons to transfer an incident/outbreak from the Respiratory Short Form to the HIIORT form

Incidents/outbreaks completed on the Respiratory Short Form should be transferred to the full HIIORT form if, during the course of the incident/outbreak, IPC measures no longer align with the checklist or NIPCM or if ARHAI support is requested. NHS boards can also transfer

an incident/outbreak from the Respiratory Short Form to the full form for any other reason if deemed appropriate.

Completing the ORT

- To transfer an existing incident/outbreak on the Respiratory Short Form to be captured on the full HIIORT form, the field **"Incident/Outbreak To Be Transferred To Full HIIORT"** should be set to **"Y"** for the incident/outbreak to be saved.

- When an existing incident/outbreak is moved from the short form to the HIIORT form, that incident/outbreak should now appear on the "HIIORT – Open Incidents" tab.

- To make further updates to this incident/outbreak, follow the process as per methods section 2 - Amending open HIIORT incidents/outbreaks.

How to extract and send updates to ARHAI Scotland using the ORT

- On the **"Home"** tab, click the **"Export Data"** button, this will create a snapshot MS Excel file (named "outbreak-DD-MMM-YYYY HH-MM-v1.4-BoardCode.xlsx") in the ORT folder containing all submitted data.
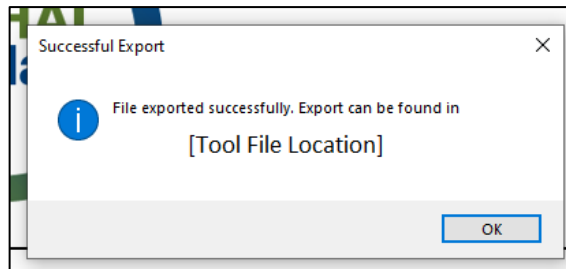
- Once the file has been exported you will receive the following message and the Excel file will be saved in the same location as your Master ORT file.

- Send this exported Excel snapshot file to the ARHAI Scotland ICT mailbox (nss.ARHAIinfectioncontrol@nhs.scot), when a new update to the ORT is recorded, and to ensure the HIIAT frequency of reporting requirements are met. This will prevent information being lost and submitted data will be fed through to appropriate review/reporting processes.

Data items – HIIORT form

Log Details

Contact Details

Infection Incident / Outbreak Details

Initial Assessment

Organisational Arrangements

HIIAT Assessment

Case Numbers

Incident / Outbreak Closure Details

Log Details

HIIORT data item 1.   Log Number

Response required: Derived field.
Format: Autogenerated ID.
Definition: Outbreak type, year of incident, NHS board/location, and sequential number are used to assign a unique log number to the incident.
Rationale: Unique identifier for each incident.
Comments:

HIIORT data item 2.   Form type

Response required: Essential. Fixed following first submission.
Format: Drop-down list. HIIORT form // Non-hospital form.
Definition: See definitions [above](#).
Rationale: Facilitates the correct form for the incident/outbreak reporting.
Comments: Must be completed first since other available fields and validation rules will depend on this selection. Retrospective amendments can be discussed with ARHAI Scotland if necessary.

Contact Details

HIIORT data item 3.   NHS board

Response required: Essential. Fixed according to NHS board tool used.
Format: Predefined field for each NHS board.
Definition:
Rationale:
Comments:

HIIORT data item 4.   Person reporting

Response required: Essential.
Format: Free text.
Definition: Forename and surname of the person entering information into the outbreak tool.
Rationale: Enables identification of the most appropriate team member to communicate with regarding specific incidents/outbreaks where necessary.
Comments:

HIIORT data item 5.   Designation

Response required: Optional.
Format: Free text.
Definition: Designation (e.g. ICM, IPCN, ICD) of the person entering the information into the outbreak tool.
Rationale:
Comments:

HIIORT data item 6.   Email

Response required: Essential.
Format: Free text.
Definition: Email address of the person entering the information into the outbreak tool.
Rationale:
Comments:

HIIORT data item 7.   Telephone number

Response required: Essential.
Format: Free text.
Definition: Contact number for the person entering the information into the outbreak tool.
Rationale:
Comments:

Infection Incident / Outbreak Details

HIIORT data item 8.   Hospital

Response required: Essential and mandatory to save form. Fixed following first submission.
Format: Drop-down list. Predefined as per NHS board/location.
Definition: A list of hospitals within the NHS Board.
Rationale: Enable place specific identification of incident/outbreak.
Comments: If any changes are required to the list of hospitals included in the dropdown, please contact ARHAI Scotland. Retrospective amendments can be discussed with ARHAI Scotland if necessary.

HIIORT data item 9.   Specialty

Response required: Essential and mandatory to save form. Fixed following first submission.
Format: Drop-down. See appendix 1.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments:

HIIORT data item 10.   Specialty if other

Response required: Essential if 'other' selected for Specialty. Mandatory to save form. Fixed following first submission.
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments:

HIIORT data item 11.   Ward/Department/Facility

Response required: Essential and mandatory to save form. Fixed following first submission.
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments:

HIIORT data item 12. Non-hospital category

Response required: Essential.
Format: Drop-down list. Care home // dental practice // GP/health centre // Other (please specify).
Definition:
Rationale: Enable place specific identification of incident/outbreak and any potential vulnerabilities of the population.
Comments: This data item is for Outbreak Type of "Non-hospital" only.

HIIORT data item 13. Non-hospital category (if other)

Response required: Essential if 'other' selected for Non-hospital category.
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments: This data item is for Outbreak Type of "Non-hospital" only.

HIIORT data item 14. Care organisation

Response required: Essential if "care home" is selected for "Non-hospital category".
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments: This data item is for Outbreak Type of "Non-hospital" only.

HIIORT data item 15. Name of non-hospital facility/location

Response required: Essential.
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments: This data item is for Outbreak Type of "Non-hospital" only.

HIIORT data item 16. Specialty of non-hospital facility

Response required: Essential.
Format: Free text.
Definition:
Rationale: Enable place specific identification of incident/outbreak.
Comments: This data item is for Outbreak Type of "Non-hospital" only.

Initial Assessment / Update

HIIORT data item 17.   Date of update

Response required: Auto-derived field from the date of the submission.
Format: DD / MM/ YYYY
Definition: Populated using the current data of the form/update being created.
Rationale: To ensure that latest incident/outbreak assessment is being used.
Comments: Date will autofill to the date of update. If any retrospective updates require an earlier date than this, please contact ARHAI Scotland.

HIIORT data item 18.   Initial assessment

Response required: Essential.
Format: Drop-down box. Incident // Outbreak // Data Exceedance.
Definition: Please see Chapter 3 of the NIPCM.
Rationale: To ensure that appropriate reporting procedures are complete.
Comments:

HIIORT data item 19.   Incident/outbreak status open/closed

Response required: Essential and mandatory to save form.
Format: Drop-down box. Open // Closed.
Definition: If the incident/outbreak is currently open and is being managed/monitored, or closed, where HIIAT should be returned to Green and investigations complete.
Rationale: Defines whether an incident/outbreak is ongoing.
Comments: This reflects the current status of the incident/outbreak. This field must be toggled "Closed" to end the incident/outbreak, and thereafter it will be removed from the "Open Incidents" tab. **N.B**. an incident/outbreak can be opened and closed on the same submission if no further updates are expected.

HIIORT data item 20.   Primary mode of transmission.

Response required: Essential and mandatory to save form.
Format: Drop-down box. Airborne // Contact // Droplet // Decontamination Incident // Environmental Incident.
Definition:
Rationale: Defining the transmission route of the incident/outbreak enables derivation of epidemiological links.
Comments:

HIIORT data item 21.   Date first symptomatic

Response required: Optional.
Format   DD / MM / YYYY
Definition: Date of first symptomatic case.
Rationale: To capture full period of symptomatic cases.
Comments:

HIIORT data item 22.   Date first positive test

Response required: Optional.
Format   DD / MM / YYYY
Definition:
Rationale: To capture accurately the period of confirmed cases.
Comments:

HIIORT data item 23.   Has any screening been undertaken as part of the incident/outbreak management

Response required: Optional.
Format: Drop-down box. Y // N.
Definition:
Rationale: To ascertain possibility of further cases being discovered.
Comments: Specify if patient and/or staff screening or environmental screening/sampling in "Investigations" free text box.

HIIORT data item 24.   Infectious agent known or suspected (Y/N)

Response required: Optional.
Format: Drop-down box. Y // N.
Definition:
Rationale: To determine if correct form used and understand stage of investigation.
Comments:

HIIORT data item 25.   Organism genus

Response required: Essential.
Format: Drop-down list.
Definition: The organism associated with the incident/outbreak.
Rationale: To ascertain organism genus and facilitate surveillance.

Comments: If there is no association to an organism then can use "NA". The most commonly reported organisms are listed at the top of the drop-down list and then all organisms are included alphabetically thereafter.

HIIORT data item 26. Organism species

Response required: Optional.
Format: Drop-down list. List based on organism genus selected.
Definition: The organism associated with the incident/outbreak.
Rationale: To ascertain organism species and facilitate surveillance.
Comments:

HIIORT data item 27. Organism if mixed

Response required: Essential if "mixed" if selected as organism genus.
Format: Free text.
Definition: The organism(s) associated with the incident/outbreak. Please complete organism genus and species if known for all organisms listed.
Rationale: To ascertain organism(s) and facilitate surveillance.
Comments: Other relevant information such as AMR alert organism details (e.g. VRE, CPO) can also be included. Please note that mixed respiratory (COVID-19, influenza and RSV) incidents/outbreaks reported through the HIIORT form should be completed as separate HIIORT forms (one for each organism included within an incident/outbreak). Therefore, this field should not be used to report mixed respiratory incidents/outbreaks. For some instances patients may be included as cases under more than one respiratory incident/outbreak.

HIIORT data item 28. Infection category

Response required: Essential.
Format: Drop-down list. Blood stream infection (BSI) // Bloodborne virus (BBV) // Gastrointestinal (GI) // Respiratory // Skin and soft tissue infection (SSTI) // Surgical site infection (SSI) // Urinary tract infection (UTI) // Colonisation, Mixed infected and colonised // Mixed infected // Other // N/A.
Definition:
Rationale: To ascertain infection category and facilitate surveillance.
Comments: If mixed infected or mixed infected/colonised, please include details of infection categories for each case within the case summary field.

HIIORT data item 29. Date ward closed (if applicable)

Response required: Optional.
Format: DD / MM / YYYY
Definition:
Rationale: Gives indication and timeframe of ward closure during incident/outbreak.
Comments:

HIIORT data item 30. Typing or WGS Requested

Response required: Optional.
Format: Drop-down list. Y // N
Definition:
Rationale: To provide a record of incidents/outbreaks where whole genome sequencing has been requested to allow further analysis if required.
Comments:

HIIORT data item 31. Is service restricted?

Response required: Essential.
Format: Drop-down list. Y // N.
Definition:
Rationale: To ascertain impact on service.
Comments:

HIIORT data item 32. Do IPC measures align with the checklist and NIPCM?

Response required: Essential.
Format: Drop-down list. Y // N.
Definition: Note if the measures align with the checklist and NIPCM.
Rationale: To ascertain whether IPC measures align with the checklist and NIPCM.
Comments: If "N" is selected, please complete the free text box "If IPC measures do not align with the checklist and NIPCM, please provide details".

HIIORT data item 33. AMR alert organism

Response required: Essential.
Format: Drop-down list. Y // N.
Definition: List of AMR alert organisms can be found in Appendix 13 of the NIPCM.
Rationale: To ascertain need for further investigation or escalation.
Comments: Please include notes of relevant AMR alert organisms within the case summary / investigations fields as appropriate.

HIIORT data item 34. If IPC measures do not align with the checklist and NIPCM please provide details?

Response required: Essential if "Do IPC measures align with the checklist and NIPCM" marked as "N".

Format: Free Text.

Definition: Where IPC measures do not align with the checklist and NIPCM, details should be included within the free text box. Reporting by exception details may include;

- Failures with isolation or cohort areas
- Non-compliance with PPE
- Issues with Hand hygiene which have been identified during audit
- Concerns regarding equipment or environmental cleanliness
- Any other obvious deviances from the National Infection Prevention and Control Manual (NIPCM) and associated appendices

Rationale: To provide context and rationale for non-compliance.

Comments: With each update ensure that only text/data relevant to the most recent/current situation are held within this field. This information could include Implemented measures to address the previously reported exceptions. All previously submitted text is stored in previous submissions and viewable on E-viz.

HIIORT data item 35. Case definition

Response required: Essential and mandatory to save form.

Format: Free text.

Definition: Criteria for person, place, time, and clinical features. These should be specific to the incident/outbreak under investigation and have corresponding case numbers completed for each definition supplied (confirmed/probable/possible).

Rationale: Clear case definition(s) is(are) critical for effective investigation of an outbreak including case ascertainment.

Comments: A case definition(s) should be agreed and regularly reviewed/revised as required. With each update ensure that only text/data relevant to the most recent/current situation are held within this field. All previously submitted text is stored in previous submissions and viewable on E-viz.

HIIORT data item 36. Case summary (Staff/Patient cases/No PII)

Response required: Essential.

Format: Free text with standardised wording (see definition).

Definition: Provide a succinct clear statement of the affected cases for the incident/outbreak defined with the timeframe and include any details of the local trigger alert (where known/investigated). From your report you will want to know for each isolate those

that are infections and/or colonisations. Please use the following standardised wording when completing data item –

Patient cases:

xx number patient cases with (organism/s) reported within xxx defined period (xxxx). Onset of symptoms (date xx/xx/xx) or if asymptomatic, positive sample (date xx/xx/xx) of index case and number of contacts identified (if applicable)

Case 1 (confirmed/probable/possible as per case definition), isolate type (wound, ET aspirate etc.), confirmed positive (specify type if mixed organisms) on date (xx/xx/xx); colonisation (define)/infection (define).

Case 2 (confirmed/probable/possible as per case definition), isolate type (blood culture), confirmed positive (specify type if mixed organism) on date (xx/xx/xx); colonisation (define)/infection (define).

Of those, xxx cases remain an inpatient in xxx and xx patients giving cause for concern /deaths as a direct consequence of this incident/outbreak; (xxx if on Part 1 or 2 of Death Certificate, etc. cases).

Staff cases: (if applicable):

Onset of symptoms (date xx/xx/xx) of index case /asymptomatic, confirmed positive date xx/xx/xx if identified through screening) and number of contacts identified (if applicable). Xxx staff excluded from duty and date last worked (if known).

Rationale: Clear case summary is critical for effective investigation of an outbreak.
Comments: Use case definition to complete. With each update ensure that only text/data relevant to the most recent/current situation are held within this field. All previously submitted text is stored in previous submissions and viewable on E-viz.

HIIORT data item 37.   Investigations

Response required: Essential and mandatory to save form.
Format: Free text.
Definition: Investigatory review should be carried out relevant to the incident/outbreak/data exceedance. Provide a bullet list of all your investigations relevant to the incident/outbreak and may include:

- Any contact tracing required.
- Any drug resistance identified.
- Antimicrobial review carried out (date).

- Any incident review planned or completed.
- Isolates sent to Reference Laboratory for Typing (date).
- Whole Genome Sequencing requested (date).
- Outbreak Trigger Tool utilised.
- Clinical practice reviews, observations or audits planned or completed.

- Water specific incidents/outbreaks:
    - Source investigation.
    - Water sampling where appropriate as part of incident review (date, outlets tested).
- Ventilation specific incidents/outbreaks:
    - Planned or completed inspection of system.
    - Last validation carried out, and issues identified.
    - Microbiological air sampling planned or completed.

Rationale: Investigatory review is required to inform control measures and identify any quality improvement actions required to prevent ongoing transmission or risk.

Comments: With each update ensure that only the most up to date information are added to this field. All previously submitted text is stored in previous submissions and viewable on E-viz.

HIIORT data item 38.   Working hypothesis

Response required: Essential and mandatory to save form.

Format: Free text.

Definition: A working hypothesis is required to consider the cause of the incident/outbreak and should be a statement of the potential rationale for why the incident/outbreak occurred and is important for lessons learned. A working hypothesis may evolve as new information/results becomes available. The investigations undertaken should assess each of the working hypotheses.

Rationale: A logical explanation following review of epidemiological data and investigations which will inform a proposed route of exposure to the infective agent or the environmental hazard involved.

Comments: With each update ensure that only text/data relevant to the most recent/current situation are held within this field. All previously submitted text is stored in previous submissions and viewable on E-viz. The hypothesis should be reviewed as the understanding of the situation evolves/changes.

Organisational Arrangements

HIIORT data item 39.   ARHAI support requested

Response required: Essential.
Format: Drop-down list. Y // N.
Definition:
Rationale: Ascertain if support requested from ARHAI.
Comments: If support is required, ensure an email request is sent to
nss.ARHAIinfectioncontrol@nhs.scot in addition to selecting Y in this field.

HIIORT data item 40.   Date last PAG/IMT held

Response required: Optional.
Format: DD / MM / YYYY
Definition:
Rationale: Gives indication of whether a PAG/IMT has been held for the incident/outbreak.
Comments:

HIIORT data item 41.   Date next PAG/IMT held

Response required: Optional.
Format: DD / MM / YYYY
Definition:
Rationale: Gives indication of when next PAG/IMT will be held for the incident/outbreak.
Comments:

HIIORT data item 42.   Escalation within board

Response required: Optional.
Format: Drop-down. See appendix 1.
Definition:
Rationale: Defines who in the NHS board the incident/outbreak has been escalated to.
Comments:

HIIORT data item 43.   Escalation within board (if other)

Response required: Optional unless "other (please specify)" has been selected from "Escalation within Board"
Format: Free text.
Definition:
Rationale: Defines who the incident/outbreak in the NHS board has been escalated to.

Comments:

HIIORT data item 44. Specific advice / meetings / information provided to patients or relatives.

Response required: Optional.
Format: Drop-down list. Y // N.
Definition:
Rationale: Indicates additional information provided to patients, relatives and carers.
Comments:

HIIORT data item 45. Media statement prepared.

Response required: Optional.
Format: Drop-down list. Y (released) // Y (holding) // N.
Definition:
Rationale: Gives the status of media communications and must be provided to ARHAI Scotland via the ORT update for all HIIAT Red and HIIAT Amber incidents/outbreaks.
Comments:

HIIORT data item 46. Communication, Duty of Candour and Media Statement.

Response required: Optional.
Format: Free text.
Definition: Include media statements, information shared with patients and family where appropriate and Duty of Candour. Please label statements appropriately. Providing information on Duty of Candour will provide the board with a record that the necessary requirements have been completed/considered. The status of media communications must be provided to ARHAI Scotland via the ORT update for all HIIAT Red and Amber incidents/outbreaks.

  Example Duty of Candour statement:
  Relative/next of kin of patient case(s) have been informed by the clinician that acquisition of xxx has occurred as a consequence of incident/outbreak and documented in the patient clinical notes.

Rationale: Gives the status of media communications and must be provided to ARHAI Scotland via the ORT update for all HIIAT Red and Amber incidents/outbreaks.
Comments:

HIIAT Assessment

HIIORT data item 47.   Severity of illness.

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in <u>appendix 14 of the NIPCM</u>.
Rationale: Required to formulate HIIAT assessment.
Comments:

HIIORT data item 48.   Impact on services

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in <u>appendix 14 of the NIPCM</u>.
Rationale: Required to formulate HIIAT assessment.
Comments:

HIIORT data item 49.   Risk of transmission

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in <u>appendix 14 of the NIPCM</u>.
Rationale: Required to formulate HIIAT assessment.
Comments:

HIIORT data item 50.   Public anxiety

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in <u>appendix 14 of the NIPCM</u>.
Rationale: Required to formulate HIIAT assessment.
Comments:

HIIORT data item 51.   HIIAT

Response required: Auto-derived field based on current answers to Severity of illness, Impact on services, Risk of transmission, and Public anxiety
Format: Red / Amber / Green.
Definition: Please see the definitions in <u>appendix 14 of the NIPCM</u>.
Rationale: Formulates an assessment of the ongoing incident/outbreak.

Comments: This field is automatically calculated from the above fields, if HIIAT needs updated please amend Severity of illness, Impact on services, Risk of transmission or Public anxiety accordingly.

HIIORT data item 52.   Highest HIIAT recorded

Response required: Auto-derived field based on current/previous answers to Severity of illness, Impact on services, Risk of transmission, and Public anxiety**.**
Format: Red / Amber / Green.
Definition: Please see the definitions in [appendix 14 of the NIPCM](). The highest HIIAT reported so far during the incident/outbreak is derived.
Rationale: Returns the highest HIIAT for the incident/outbreak.
Comments: This field is automatically calculated from the above fields.

HIIORT data item 53.   Date HIIAT green

Response required: Auto-derived field based on current/previous answers to Severity of illness, Impact on services, Risk of transmission, Public anxiety**.**
Format: DD / MM / YYYY.
Definition: Please see the definitions in [appendix 14 of the NIPCM](). Returns the date that the HIIAT was last amended from Red/Amber to Green.
Rationale: Returns the date that the incident/outbreak was marked as HIIAT green.
Comments:

Case Numbers

HIIORT data item 54.   Number of new patients confirmed.

Response required: Essential and mandatory to save form.
Format: Numerical.
Definition: Number of **new** confirmed patient cases for incident/outbreak since last update, to capture the incidence of cases over time. If using this field, please complete a corresponding case definition for patients confirmed in the "Case Definition" field.
Rationale: Provides data on incident/outbreak cases.
Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new cases are applicable. Any changes to case numbers should also be reflected in the case summary.

HIIORT data item 55.   Number of new patients probable.

Response required: Essential.
Format: Numerical.
Definition: Number of **new** probable patient cases for incident/outbreak since last update, to capture the incidence of cases over time. Please complete a corresponding case definition for patients probable in the "Case Definition" field.
Rationale: Provides data on incident/outbreak cases.
Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new cases are applicable. Any changes to case numbers should also be reflected in the case summary.

HIIORT data item 56.   Number of new patients possible.

Response required: Essential.
Format: Numerical.
Definition: Number of **new** possible patient cases for incident/outbreak since last update, to capture the incidence of cases over time. If using this field, please complete a corresponding case definition for patients possible the "Case Definition" field.
Rationale: Provides data on incident/outbreak cases
Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new cases are applicable. Any changes to case numbers should also be reflected in the case summary.

HIIORT data item 57.   Number of new staff confirmed.

Response required: Essential and mandatory to save form.
Format: Numerical.
Definition: Number of **new** confirmed staff cases for incident/outbreak since last update, to capture the incidence of cases over time. If using this field, please complete a corresponding case definition for staff confirmed in the "Case Definition" field.

Rationale: Provides data on incident/outbreak cases

Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new cases are applicable. Any changes to case numbers should also be reflected in the case summary.

HIIORT data item 58. Number of new staff probable.

Response required: Essential.

Format: Numerical.

Definition: Number of **new** confirmed staff cases for incident/outbreak since last update, to capture the incidence of cases over time. If using this field, please complete a corresponding case definition for staff probable in the "Case Definition" field.

Rationale: Provides data on incident/outbreak cases.

Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new cases are applicable. Any changes to case numbers should also be reflected in the case summary.

HIIORT data item 59. Number of new confirmed patient deaths.

Response required: Essential.

Format: Numerical.

Definition: Number of **new** confirmed deaths as a direct consequence of the incident/outbreak since last update, to capture new deaths over time.

Rationale: Provides data on incident/outbreak cases and provides information on case severity associated with the incident/outbreak.

Comments: Minus numbers can be entered to adjust totals. Please note 0 if no new deaths are applicable. Any changes to cases/deaths should also be reflected in the case summary.

HIIORT data item 60. Cases giving cause for concern.

Response required: Essential.

Format: Numerical.

Definition: The current number of cases giving cause for concern as a direct consequence of the incident/outbreak at the time of update.

Rationale: Provides information on case severity associated with the incident/outbreak. Allows counting of cases giving cause for concern

Comments: This field is a prevalence figure and can be amended to reflect the number of patients with cause for concern at that point in time.

HIIORT data item 61.   Current number of contacts

Response required: Optional.

Format: Numerical.

Definition: Current number of patient contacts associated with the incident/outbreak.

Rationale: Allows counting of patient contacts including contacts who were outpatients or patients who have been discharged.

Comments: This field is a prevalence figure and can be amended to reflect the number of contacts at that point in time.

HIIORT data item 62.   Was the infectious agent cited as a cause of death on a death certificate?

Response required: Essential if confirmed death recorded.

Format: Free text.

Definition: Patient deaths confirmed to have been caused as a direct consequence of the incident/outbreak, was infectious agent cited on part 1 or part 2 of the death certificate.

Rationale: To identify if the infectious agent was quoted as the primary or secondary cause of death.

Comments:

Cumulative Totals (Auto Generated)

HIIORT data item 63.   Total patients confirmed

Response required: Derived field/non-editable.

Format: Pre-populated total number.

Definition: Total number of probable patient cases for incident/outbreak.

Rationale: Provides data on incident/outbreak cases.

Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

HIIORT data item 64.   Total patients probable

Response required: Derived field/non-editable.

Format: Pre-populated total number.

Definition: Total number of probable patient cases for incident/outbreak.

Rationale: Provides data on incident/outbreak cases.

Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

HIIORT data item 65.   Total patients possible

Response required: Derived field/non-editable.

Format: Pre-populated total number.

Definition: Total number of possible patient cases for incident/outbreak.

Rationale: Provides data on incident/outbreak cases.

Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

HIIORT data item 66.   Total staff confirmed

Response required: Derived field/non-editable.

Format: Pre-populated total number.

Definition: Total number of probable patient cases for incident/outbreak.

Rationale: Provides data on incident/outbreak cases.

Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

HIIORT data item 67.   Total staff probable

Response required: Derived field/non-editable.
Format: Pre-populated total number.
Definition: Total number of probable patient cases for incident/outbreak.
Rationale: Provides data on incident/outbreak cases.
Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

HIIORT data item 68.   Total patients deaths confirmed

Response required: Derived field/non-editable.
Format: Pre-populated total number.
Definition: Total number of confirmed deaths that are a direct consequence of the incident/outbreak.
Rationale: Provides data on incident/outbreak cases and provides information on case severity associated with the incident/outbreak.
Comments: Check to ensure accuracy – can be adjusted using minus numbers in corresponding adjustable data fields.

Incident/Outbreak Closure Details

HIIORT data item 69. Date incident/outbreak closed (if applicable)

Response required: Essential/auto filled once "Incident/outbreak status open/closed" has been marked as "Closed".
Format: DD / MM / YYYY
Definition: Defines the date the NHS board closes the incident/outbreak.
Rationale:
Comments: Autofilled to current date when "Incident/outbreak status open/closed" is marked as "Closed", but can be edited thereafter if required.

HIIORT data item 70. Date ward opened (if applicable)

Response required: Essential if "Date ward closed" has been completed during the incident/outbreak..
Format: DD / MM / YYYY
Definition: Defines the date the affected ward has been re-opened following the closure of an incident/outbreak.
Rationale: Gives indication and timeframe of ward re-opening during incident/outbreak.
Comments:

HIIORT data item 71. Lessons learned (What went well, what did not go well etc)

Response required: Essential once "Incident/outbreak status open/closed" has been marked as "Closed".
Format: Free text.
Definition: Upon closure of the incident/outbreak, it is important to consider what went well and what could be improved.

Examples of lessons learned may include:

- IPC patient management challenges
- Good/ Poor application of IPC Control Measures
    - Early recognition of incident/outbreak
    - Compliance with SICPs and TBPs
    - Assessment of risk
    - Completion of assessment tools
    - Early/delayed closure of ward
    - Decontamination failures
- Issues as a consequence of Built Environment
- Work force planning

Rationale: To implement quality improvement measures where risk has been identified. To allow national collation and dissemination of themes or novel management. To inform future guidance development.

Comments: This can be positive or areas for improvement. May also be added retrospectively after the completion of incident/outbreak debrief.

Data items – Respiratory Short Form

Core/Derived Fields

Respiratory Incident / Outbreak Details

Case Numbers

HIIAT Assessment

Core/Derived Fields

Short form data item 1.   Log number

Response required: Autofilled derived field.
Format: Autogenerated ID.
Definition: Generated ID composed of "HIIAT", the current year, the board code and a unique autogenerated number.
Rationale: Uniquely identifies an incident/outbreak.
Comments: Field is created when first reporting and cannot be amended.

Short form data item 2.   Date of First Reporting

Response required: Essential. Autofilled to current date if submitting new incident/outbreak or date of first reporting if submitting amendment to existing incident/outbreak.
Format: DD / MM / YYYY
Definition: Timestamps the submission with day's date when you click "Add Blank Incident Form".
Rationale: A record of when the incident/outbreak was first created.
Comments: Field cannot be amended later and does not change when updating an incident/outbreak.

Short form data item 3.   Date and Time of Last Update

Response required: Essential. Autofilled to date of most recent update.
Format: DD / MM / YYYY
Definition: Field will update when an incident/outbreak was last saved, regardless of any changes made. Date can be updated when data is confirmed using the "Save All Incidents" button, or when a specific incident/outbreak is set to "Y" under "Should Incident Update be Saved" and the "Save Selected Incidents" is pressed.
Rationale: Provides the date of last update to ensure data are current and reporting frequency is in line with NIPCM.
Comments: Field cannot be amended later and changes with each update.

Respiratory Incident/Outbreak Details

Short form data item 4.   Hospital

Response required: Essential and mandatory to save form.
Format: Drop-down. Predefined as per NHS board/location.
Definition: A list of hospitals specific to the NHS Board.
Rationale: Enable place specific identification of incident/outbreak.
Comments: If any changes are required to the list of hospitals included in the dropdown, please contact ARHAI Scotland.

Short form data item 5.   Organism

Response required: Essential and mandatory to save form.
Format: Drop-down list. COVID-19 // Flu A // Flu B // Flu (Not Specified) // Flu (Mixed) // RSV
Definition: The organism associated with the incident/outbreak.
Rationale: To ascertain organism and facilitate surveillance.
Comments: Only one organism can be selected per incident/outbreak. If there are multiple respiratory organisms within the same incident/outbreak, please report each organism as a new incident/outbreak. Please note for some instances patients may be included as cases under more than one incident/outbreak.

Short form data item 6.   Date of Update

Response required: Essential. Autofilled to current date.
Format: DD / MM / YYYY.
Definition: The date of the update for the current incident. This is autofilled with the date of form completion but can be edited to allow for retrospective updates.
Rationale: To ensure that the latest update is used in analysis.
Comments: Only edit if necessary.

Short form data item 7.   Incident/outbreak Status

Response required: Essential.
Format: Drop-down list. Open // Closed.
Definition: Defines if the incident/outbreak is currently active.
Rationale: Allows for a real time picture of the incident/outbreak.
Comments: This reflects the current status of the incident/outbreak. Must be toggled "Closed" to end the incident/outbreak, and thereafter will be removed from the "Respiratory – Open Incidents" tab. N.B. an incident/outbreak can be opened and closed during the same submission if no further updates are expected.

Short form data item 8. Do IPC measures align with the checklist and NIPCM?

Response required: Essential and mandatory to save form.
Format: Drop-down list. Y // N.
Definition: Note if IPC measures align with the checklist and NIPCM – if so please submit "Y".
Rationale: To ascertain whether IPC measures align with the checklist and NIPCM and identify if incident/outbreak should be reported on the HIIORT form.
Comments: Incidents/outbreaks submitted via the Respiratory Short Form should always have this set to "Y". If IPC measures do not align with the checklist and NIPCM, a full HIIORT form should be completed instead. Previously opened incident/outbreaks can be transferred to the HIIORT form using the "Incident to be transferred to full HIIORT" field if required.

Short form data item 9. Should Update Be Saved?

Response required: Essential.
Format: Drop-down list. Y // N. Autofilled as "Y".
Definition: Notes if an update for that incident/outbreak should be saved if the "Save Selected Incidents" button is used.
Rationale: As there will be multiple incidents/outbreaks open on the form at once, this enables the user to choose only a few to submit an update for, to prevent incidents/outbreaks being flagged as updated erroneously.
Comments: This field will always default to "Y" to remove the risk of data loss, however the user should change to "N" if an update for a given incident/outbreak is not required. The "Save All Incidents" button will bypass this field and save all incidents/outbreaks regardless.

Short form data item 10. Ward/Bay (Free Text)

Response required: Essential and mandatory to save form.
Format: Free text.
Definition: The ward or bay(s) on which the incident/outbreak or outbreak took place.
Rationale: Enable place specific identification of incident/outbreak.
Comments:

Short form data item 11. Ward/Bay Specialty

Response required: Essential and mandatory to save form.
Format: Drop-down. See appendix 1.
Definition: The specialty of the ward or bay(s) on which the incident/outbreak took place.
Rationale: Enable place specific identification of incident/outbreak.
Comments: If the specialty isn't in the list, then "Other" should be selected and the free text "Ward/Bay Specialty if Other" field must be completed.

Short form data item 12.   Ward/Bay Specialty if Other

Response required: Essential when "Ward/Bay Specialty" is "Other". ORT form cannot be saved if left blank.
Format: Free text.
Definition: The specialty of the ward or bay(s) if it was not present on the dropdown list.
Rationale: Enable place specific identification of incident/outbreak.
Comments:

Short form data item 13.   Date of Ward/Bay Closure (if applicable)

Response required: Optional.
Format: DD / MM / YYYY
Definition: The date of first closure of the ward or bay(s) related to this incident/outbreak, if they were closed. Note this is not the date of the closure of the incident/outbreak.
Rationale: Indication of ward/bay closure. Gives a proxy of the timeframe of the incident/outbreak across multiple updates.
Comments:

Short form data item 14.   Date of Ward/Bay Opening (if applicable)

Response required: Optional.
Format: DD / MM / YYYY.
Definition: The date the ward or bay(s) are reopened after being closed.
Rationale: Indication of ward/bay opening again following incident/outbreak. Gives a proxy of the timeframe of the incident/outbreak across multiple updates.
Comments: This should only be completed if "Date of Ward/Bay Closure" has been provided.

Short form data item 15.   ARHAI Support Requested (Y/N)

Response required: Essential
Format: Drop-down list. Y // N.
Definition: If ARHAI support is requested for the management of this incident/outbreak, this field should be set to "Y".
Rationale: Allows for easy requesting of support for the board from ARHAI.
Comments: Incidents/outbreaks on the Respiratory Short Form should always have "ARHAI Support Requested" set to "N". If support is requested on a new incident/outbreak, a full HIIORT form should be completed instead. If support is requested on an existing incident/outbreak, then the incident/outbreak should be transferred to HIIORT form using the "Incident to be transferred to full HIIORT" field.

Case Numbers

Short form data item 16. Patients Confirmed (New / Total)

Response required:　　　Essential and mandatory to save form.

Format:　　Numerical.

Definition:　　Number of **new** confirmed patient cases for incident/outbreak since last update, to capture the incidence of cases over time, and to contribute to the **total** number for the incident/outbreak.

Rationale:　　Provides data on incident/outbreak cases.

Comments: Minus numbers can be entered in the "new" box to adjust totals. Please note 0 if no new cases are applicable.

Short form data item 17. Patients Probable (New / Total)

Response required:　　　Essential and mandatory to save form.

Format:　　Numerical.

Definition:　　Number of **new** probable patient cases for incident/outbreak since last update, to capture the incidence of cases over time, and to contribute to the **total** number for the incident/outbreak.

Rationale:　　Provides data on incident/outbreak cases.

Comments: Minus numbers can be entered in the "new" box to adjust totals. Please note 0 if no new cases are applicable.

Short form data item 18. Staff Confirmed (New / Total)

Response required:　　　Essential and mandatory to save form.

Format:　　Numerical.

Definition:　　Number of new confirmed staff cases for incident/outbreak since last update, to capture the incidence of cases over time, and to contribute to the **total** number for the incident/outbreak.

Rationale:　　Provides data on incident/outbreak cases.

Comments: Minus numbers can be entered in the "new" box to adjust totals. Please note 0 if no new cases are applicable.

Short form data item 19. Staff Probable (New / Total)

Response required:　　　Essential and mandatory to save form.

Format:　　Numerical.

Definition:　　Number of new confirmed staff cases for incident/outbreak since last update, to capture the incidence of cases over time, and to contribute to the **total** number for the incident/outbreak.

Rationale: Provides data on incident/outbreak cases.

Comments: Minus numbers can be entered in the "new" box to adjust totals. Please note 0 if no new cases are applicable.

Short form data item 20. Patient Deaths Confirmed (New / Total)

Response required: Essential and mandatory to save form.

Format: Numerical.

Definition: Number of new confirmed deaths as a direct consequence of incident/outbreak since last update, to capture new deaths over time, and to contribute to the **total** number for the incident/outbreak.

Rationale: Provides data on incident/outbreak cases and provides information on case severity associated with the incident/outbreak.

Comments: Minus numbers can be entered in the "new" box to adjust totals. Please note 0 if no new deaths are applicable for current update.

Short form data item 21. Cases Giving Cause for Concern (Current)

Response required: Essential.

Format: Numerical.

Definition: The current number of cases giving cause for concern as a direct consequence of incident/outbreak at the time of update.

Rationale: Provides information on case severity associated with the incident/outbreak. Allows counting of cases giving cause for concern

Comments: This field is a prevalence figure and can be amended to reflect the number of patients with cause for concern at that point in time.

HIIAT Assessment

Short form data item 22. Severity of Illness

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in [appendix 14 of the NIPCM](#).
Rationale: Required to formulate HIIAT assessment.
Comments:

Short form data item 23. Impact on Services

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in [appendix 14 of the NIPCM](#).
Rationale: Required to formulate HIIAT assessment.
Comments:

Short form data item 24. Risk of Transmission

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in [appendix 14 of the NIPCM](#).
Rationale: Required to formulate HIIAT assessment.
Comments:

Short form data item 25. Public Anxiety

Response required: Essential and mandatory to save form.
Format: Drop-down list. Minor // Moderate // Major.
Definition: Please see the definitions in [appendix 14 of the NIPCM](#).
Rationale: Required to formulate HIIAT assessment.
Comments:

Short form data item 26. HIIAT (Current / Highest)

Response required: Auto-derived field based on current answers to Severity of illness, Impact on services, Risk of transmission, Public anxiety.
Format: Red // Amber // Green.
Definition: Please see the definitions in [appendix 14 of the NIPCM](#).
Rationale: Formulates an assessment of the ongoing incident/outbreak.

Comments: This field is automatically calculated from the above fields. The top field is the current HIIAT score; if current HIIAT needs updated please amend Severity of illness, Impact on services, Risk of transmission or Public anxiety accordingly. The bottom returns the highest HIIAT for the incident/outbreak.

Short form data item 27. Incident/outbreak to be transferred to full HIIORT

Response required: Essential.

Format: Drop-down list. Y // N.

Definition: If the incident/outbreak is to be transferred to a full HIIORT form, which should only occur for **existing** short form incidents/outbreaks that have either not aligned with the checklist and NIPCM or have requested ARHAI support.

Rationale: Allows for an incident/outbreak to be escalated to provide more information based on the criteria within the definition.

Comments: This should always be "N" unless **either** of the criteria for not aligning with the checklist/NIPCM or ARHAI support is met. NHS boards can also transfer an incident/outbreak from the Respiratory Short Form to the full form for any other reason if deemed appropriate. Once transferred via this method, the incident/outbreak will now be visible via the "HIIORT – Open Incidents" tab and can be updated using the full HIIORT form update method.

Appendix 1 – Reference lists

HIIORT Reference Lists

Escalation within board

- Clinical service manager
- Executive Lead for HAI
- Head of Service for clinical area
- Head of Service for Infection Prevention & Control (IPC)
- ICD
- ICM
- IPC ICD Lead
- IPC Lead Nurse
- Medical Director
- Senior ICN
- Senior management
- Other (please specify)

Systematic classification of clinical specialties

Table 1: Specialties included within the ORT and details of sub-specialties within specialty classification.

Specialty	Sub-specialties within specialty classification
Accident & emergency	
Cardiology	
Cardio-thoracic surgery	
Care of the elderly	
Ear, nose and throat	
General surgery	Including: upper and lower bowel surgery, acute surgery and Surgical High Dependency Unit
Haematology	
Infectious disease	
Intensive care	Adult, Paediatric, Neonatal (SCBU and NICU)
Maxillofacial surgery	

Specialty	Sub-specialties within specialty classification
Medicine	Including: General medicine, Acute medicine, Respiratory medicine, Dermatology, Palliative care, Medical high dependency unit
Mental health	
Neonatology	
Neurosurgery	Including: spinal surgery
Obstetrics & gynaecology	
Oncology	
Ophthalmology	
Orthopaedic surgery	
Paediatrics	
Plastic surgery	Including: burns units
Rehabilitation medicine	
Renal medicine	
Transplant surgery	
Urology	
Vascular surgery	

Appendix 2 – Frequently asked questions (FAQs)

Can an MS Excel tool be used by more than one user at a time?

No. Only one person can complete data at a time.

How can I permanently enable Macros in Excel?

Enabling Macros in MS Excel is essential to facilitate the completion of the ORT.

The pathway for permanently enabling macros for Excel can be found under the Methods section.

Macros can be **permanently** enabled through personal Excel settings (File > Options > Trust Centre > Trust Centre Settings > Macro Settings > Enable all Macros)

Or, users can click to enable macros **each time the file is opened** through the button which should appear below the main toolbar ribbon, but permanent enabling of macros is recommended to avoid possible issues.

If you miss a mandatory field, will the tool alert you to this?

Yes. There are some fields which must be completed to facilitate saving data within the ORT, these are listed within the data items as "mandatory to save form". Once "save record" / "update record" has been clicked the record will be checked and a pop-up will appear if any mandatory fields have been missed. There are also "essential" fields whereby it may be left blank in the first instance, but these should be completed as and when data are available. All fields including mandatory fields should be reviewed with each new update.

I need to complete a HIIORT incident/outbreak for a location not on the Hospital list – how do I do this?

If there is a new Hospital location within your NHS board then please get in touch with ARHAI Scotland to add this location to the drop-down list on your local tool. If you are reporting for a non-hospital location (e.g. a care home, dental practice or other community health centre/GP) then please use the "Non-hospital" form to complete data for submission to ARHAI Scotland.

How do I add a record for more than one ward within the same hospital?

If an incident/outbreak involves more than one ward, please complete free text ward information (e.g. ward 1 and ward 2).

How do I find respiratory syncytial virus (RSV) in the HIIORT form?

When completing a full HIIORT form the "Organism Genus" should be set to "Pneumovirus" and "Organism Species" can be selected as "respiratory syncytial virus" (RSV). Note that RSV incidents/outbreaks can be reported through the Respiratory Short Form unless IPC measures are not aligned with the checklist and NIPCM or support from ARHAI is requested.

How do I submit a mixed organism incident/outbreak?

On the HIIORT form, you can select "mixed" under the "Organism Genus" field and complete the mixed organisms as free text in the "organisms if mixed" field.

For respiratory incidents/outbreaks of COVID-19, influenza and RSV, these should be reported as separate incidents/outbreaks on both the Respiratory Short Form and on the HIIORT form. This is to facilitate surveillance of COVID-19, influenza and RSV.

Can I have an incident/outbreak without an identifiable organism?

Yes – within the HIIORT form only. Complete the organism fields as 'NA' or 'Unknown'.

Can I have an incident/outbreak with no cases?

Yes - within the HIIORT form only. Complete the new cases fields as zero but please specify why no cases are applicable within "Case Summary" and add other information as appropriate in the investigation/working hypothesis fields.

How do I amend an incident/outbreak if a result is confirmed as a false positive?

To make this change please enter a minus number in the "Number of new patients confirmed" or "Number of new staff confirmed" data item when amending the incident/outbreak. This will amend the totals.

If patients in an incident/outbreak are discharged should these be removed from the patient case totals?

No. These cases should still be included in the patient case totals as case fields are collected as cumulative incidence.

If contacts of the incident/outbreak are readmitted and are confirmed positive, should they be included in the case numbers for the incident/outbreak?

Yes. As long as the incident/outbreak remains currently open then these cases should be included in the case numbers for the incident/outbreak.

What if I submit multiple updates on the same day?

ARHAI Scotland will always use the most recent update each calendar day for review and reporting. If you make multiple updates on the same day, please ensure that all relevant content/free text is included within the last update of the day, instead of cleared/replaced as per the guidance for investigations/case summary etc.

Can I save multiple updates to the Respiratory Short Form at the same time?

Yes, multiple incident updates can be saved using the "Save All Incidents". Please note that this will update the latest incident update date for all incidents in the form.

Alternatively, select "Save Selected Incidents" to save all incidents where the form includes the data item field "Should Incident Update be Saved?" toggled to "Y". Only incidents marked "Y" will be saved and receive the new update date.

Can we change the date of first reporting/date of update?

The "day of update" field is autofilled to the current date (saved as date of first reporting for new incidents/outbreaks). This can be changed to a previous date to submit data retrospectively e.g. a new incident/outbreak or an update from a weekend. Please ensure retrospective updates are added in consecutive order so that cumulative totals for the incident/outbreak are correct for each update.

How do I make a data correction?

Users should firstly assess if real time updates can be made to a currently open incident/outbreak which would capture any desired changes e.g. case numbers or the incident/outbreak case summary, investigations, etc.

There may be situations where data needs to be amended/fixed retrospectively, where the tool should be returned to ARHAI Scotland (NSS.ARHAIdatateam@nhs.scot). Please contact ARHAI Scotland and attach the current version of the tool, alongside any details or corresponding ID numbers if:

- New cases/updates need to be added to an incident/outbreak after it has been closed.
- Data has been entered to the wrong incident/outbreak.
- Data entered was incorrect (such as an incorrect death added which affected the HIIAT status).
- An amendment is needed to a field which cannot be edited after the first submission, i.e. Hospital or Specialty of the incident/outbreak.
- There is a duplicate of the same incident/outbreak on the tool.

Whilst appropriate changes/fixes are being performed by ARHAI Scotland, **do not continue to enter data into a local copy of the tool as these edits will not be retained in the corrected version.** ARHAI Scotland will send new version of the tool back which will include the date in the file name. The previous version of the tool can be deleted or archived and replaced with the new version.

I have a pop-up box that there is an error with the tool. How do I fix this?

If it appears there has been an error in the tool, please save the Excel file, close and reopen and try again. If the problem persists, please contact ARHAI Scotland D&I team (NSS.ARHAIdatateam@nhs.scot) to discuss and return your tool to be fixed. If possible, please include a screenshot of any error message or details of which incident/outbreak you were working on when problems may have arisen.

Generic error message example:
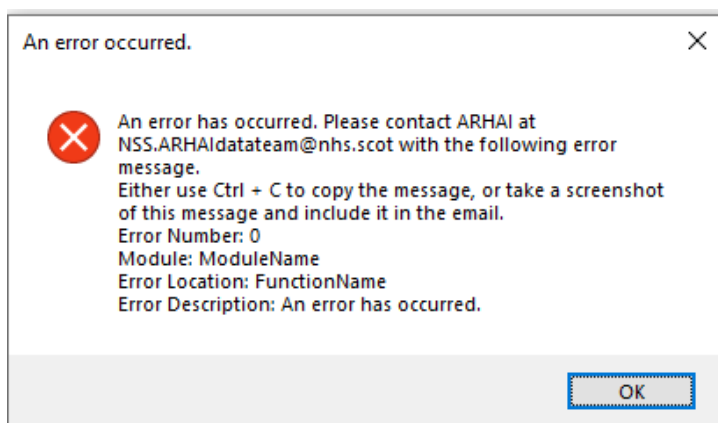
What do I need to do if I receive an updated version of the tool?

If you receive an updated tool, ensure that your new version is saved appropriately, and that new data is only entered into the new version of the tool.

Please also review the changes made and ensure that the version number of your tool matches that of the protocol. If not, return tool to the ARHAI Scotland (NSS.ARHAIdatateam@nhs.scot). ARHAI Scotland will add your existing data to the new version of tool and send the updated version back to you to replace your current local version. **While this process is taking place do not continue to enter data into the old tool as this will not be included in the corrected version.**

Appendix 3 – Revisions relevant to this publication

Table 2: Revisions to the ORT and accompanying protocol since launch in October 2020.

ORT version	Protocol version	Date of release	Description of changes	Rationale for changes
v1.0	v1.0	October 2020	Initial launch of the ORT, to collect COVID-19 clusters in addition to HIIORT incidents/outbreaks.	Collection of COVID-19 clusters as part of pandemic response.
v1.1	v1.0	October 2020	Bug fixes/updates to form interface and internal validation.	Improved functionality.
v1.2	v1.0	October 2020	Bug fixes/updates to form interface and internal validation.	Improved functionality.
v1.3	v1.3	February 2021	Bug fixes/updates to form interface and internal validation.	Improved functionality.
v1.4	v1.4	December 2023	Launch of the Respiratory Short Form. Control measures checklist transferred from ORT to NIPCM. Reporting of control measures through ORT by exception only. Protocol published on the NIPCM.	Align reporting of COVID-19 to the NIPCM and reduce the burden of data collection.

Appendix 4 – Reporting of HIIORT incidents/outbreaks and Respiratory Short Form data on the ARHAI Scotland E-Viz platform

All data that NHS boards enter on the Outbreak Reporting Tool (ORT) is automatically compiled on a daily basis and displayed on the ARHAI Scotland "E-Viz" platform. All ORT exports sent in by **9am** and **3pm** will be included within dashboard updates at **10:30am** and **4:30pm** respectively every weekday.

The ARHAI E-Viz dashboards contain aggregated summary data at NHS Scotland level, and detailed data at NHS board level (where NHS board users will be able to see their own data only). Users will also be able to view auto-generated Situation / Background / Assessment / Recommendation (SBAR) style reports for individual incidents/outbreaks within their own NHS board. Data are presented exactly as per submitted to the ORT. If any changes are required, then a new update/submission should be made through the ORT process as above.

Log-in and access

1. Use your NSS Username and Password to log in (same as existing details used to access Discovery).

    - Check you have an account already here
    - Reminder of Username here
    - Password reset here

2. If you don't have Log-in details, please go to: https://useraccess.nhsnss.scot.nhs.uk/ where you can register for an NSS account.
3. After receiving your NSS account username & details, you should contact ARHAI Scotland data and intelligence (D&I) Team (NSS.ARHAIdatateam@nhs.scot) to set up specific permissions to the ORT content on E-Viz.
4. The platform can then be accessed via the following link: ARHAI Scotland – Landing Page: ARHAI E-Viz Landing Page – NSS eViz

Please contact the ARHAI Scotland D&I Team with any questions or issues relating to the ARHAI Scotland E-Viz Platform (NSS.ARHAIdatateam@nhs.scot).