

Opera Outbreaks Expansion User Reference Guide

December 1st, 2022

1. OVERVIEW & PURPOSE

Beginning on December 5th, 2022, **all non-reportable respiratory pathogen outbreaks, in addition to COVID-19 outbreaks, are to be investigated in Opera Outbreaks.** This change addresses feedback from LPHA/Tribes requesting a streamlined process for mixed-pathogen respiratory outbreak investigation moving into the 2022-2023 respiratory season. To achieve this goal, respiratory outbreaks with one or more pathogens will now be investigated under a single outbreak record in Opera Outbreaks (NOTE: reportable respiratory pathogens other than COVID-19 will remain in Orpheus Outbreaks).

Respiratory pathogens to be investigated in Opera Outbreaks include:

- COVID-19
- Influenza
- RSV
- Adenovirus
- Rhinovirus
- Enterovirus
- Parainfluenza
- Human metapneumovirus (HMPV)

NOTE: any non-respiratory manifestations of the above pathogens should be investigated in Orpheus Outbreaks, e.g., gastrointestinal illness associated with adenovirus.

The purpose of this guide is to introduce Orpheus/Opera users to these changes, clarify data management expectations, and provide materials for reference when creating, investigating, and documenting respiratory outbreaks in Opera Outbreaks.

2. DATABASE CHANGES

2.1 Opening Outbreaks

LPHA/Tribal users are able to create their own outbreaks for all pathogens in Opera Outbreaks, provided the user has been granted outbreak creation privileges (email OPERA.support@odhsoha.oregon.gov to request). This eliminates the need for LPHA/Tribal users to call in respiratory outbreaks to the ACDP epi on call for creation, though users should continue to contact the epi on call to open non-respiratory outbreaks and outbreaks of reportable respiratory pathogens other than COVID-19 (e.g. legionella, pertussis, etc.) in Orpheus Outbreaks.

Outbreak records in Opera Outbreaks should be opened in alignment with the [Respiratory Disease Outbreak Investigative Guidelines](#) and [COVID-19 Investigative Guidelines](#). For detailed guidance on opening your own outbreaks, please see the Opera Outbreak Creation Instructions document.

2.2 Etiologies

This update allows for selection of multiple etiologies on the Basics tab, with the former Etiology tab omitted (it's accessible via a button on the Cases tab for historical data, if you need it). On the Cases tab, users do not toggle between multiple etiologies as with Orpheus Outbreaks, but instead use the overall "Total respiratory cases" field and further fields counting lab confirmed cases of each pathogen present.

As respiratory illnesses often present similarly, individuals with respiratory symptoms and no lab-confirmed etiology in an outbreak setting are effectively presumptive cases for every respiratory etiology present. As such, only presumptive COVID-19 cases will be counted: those that are presumptive on the basis of a positive at-home test or otherwise a presumptive case linked in Opera.

2.3 Other mixed syndrome/pathogen outbreaks:

For mixed-pathogen outbreaks with both respiratory and non-respiratory viruses present (e.g., flu and norovirus), two outbreak records must be created: one in Orpheus Outbreaks (norovirus) and one in Opera Outbreaks (flu). There is a new field on the Basics tab in both databases to capture the outbreak number of the associated outbreak in the other database.

Examples of mixed-pathogen outbreaks requiring two outbreak records, one in each database:

- COVID-19 and norovirus (respiratory and gastrointestinal syndrome outbreaks)
- RSV and pertussis (both respiratory pathogens, but pertussis is a reportable disease other than COVID-19 and has linked cases in Orpheus)
- Influenza and *gastrointestinal* adenovirus (all non-respiratory presentations should be investigated in Orpheus Outbreaks)

2.4 Closing outbreaks

Outbreaks officially end when two incubation periods have passed since the last case onset date. With mixed-pathogen respiratory outbreaks, the outbreak closes when two incubation periods *of the pathogen with the longest incubation period* have passed since the last case onset of any etiology. For instance, in a mixed COVID-19/influenza outbreak, the upper end of the COVID-19 incubation period is 14 days while that of influenza is 7 days; the outbreak will remain open until 28 days have passed since the last case's onset, regardless of laboratory confirmation or etiology.

Below are the approximate incubation periods and days until an outbreak of a given etiology ends; a mixed pathogen outbreak will close after the longest number of days of any pathogens present in the outbreak. For simplicity and ease of use, we've grouped pathogens into either 14-day or 7-day incubation periods based on the scientific literature. If there is no known etiology in an outbreak, the lower incubation period will be used and the outbreak will close after 14 days.

Pathogen	Approximate upper end of incubation period	Days until outbreak closes
COVID-19	14	28
Adenovirus (respiratory)	14	28
Influenza	7	14
RSV	7	14
Rhinovirus	7	14
Enterovirus (respiratory)	7	14
Parainfluenza	7	14
Human metapneumovirus	7	14

2.5 OHA Epidemiological Support

After an outbreak has been opened in Opera Outbreaks, OHA epidemiologists will be assigned to provide outbreak support as follows:

- For outbreaks with **only** COVID-19 present, the regional epidemiologist will be assigned as OHA lead
- For outbreaks **without** COVID-19, a UERT epidemiologist will be assigned as OHA lead
- For outbreaks with **both** COVID-19 and any other respiratory viruses present, both a regional and UERT epidemiologist will be assigned with lead depending on proportion of each etiology and LPHA/Tribe needs
 - This also applies when new pathogens are added over the course of the outbreak investigation, with either UERT or regional epidemiologist added to the existing outbreak

3. DATA MANAGEMENT GUIDE

3.1 Opera Outbreaks home page changes

The screenshot shows the Opera Outbreaks home page. At the top, there is a navigation bar with icons for Home, List, Record, New OB, Find OB, People, Reports, Print, Help, and DUDE. The user is logged in as Meagan McLafferty. Below the navigation bar, there is a 'DISPLAY FILTERS (optional)' section with buttons for Location, COVID, Flu, RSV, Other, Mixed, and All. A table of 'RECENT CLUSTERS (N = 18410)' is displayed, with columns for ID, Start Date, Name, Exposure Location, and Exposure Site. A filter menu is open, showing options for multi-county and multi-state, and a list of counties including Baker, Benton, Clackamas, Linn, Lane, Clackamas, Marion, Lane, Jackson, Washington, Malheur, and Yamhill. A yellow box highlights the 'Location' filter button, and an orange box highlights the filter menu. A gold box highlights the 'COVID' filter button in the table.

ID	Start Date	Name	Exposure Location	Exposure Site
2022-68128	11/29/22	Outbreak names hidden for confidentiality	Multnomah	Nursing Home/LTC/ALC
2022-68129	11/29/22		Multnomah	Nursing Home/LTC/ALC
2022-68130	11/29/22		Baker	Nursing Home/LTC/ALC
2022-68131	11/29/22		Linn	Nursing Home/LTC/ALC
2022-68132	11/29/22		Lane	Nursing Home/LTC/ALC
2022-68133	11/29/22		Clackamas	Nursing Home/LTC/ALC
2022-68135	11/29/22		Marion	Other congregate setting /
2022-68136	11/29/22		Lane	Nursing Home/LTC/ALC
2022-68137	11/29/22		Lane	Other congregate setting /
2022-68138	11/29/22		Jackson	Nursing Home/LTC/ALC
2022-68140	11/29/22		Jackson	Hospital / Other congregate
2022-68141	11/29/22		Washington	Nursing Home/LTC/ALC /
2022-68143	11/29/22		Malheur	Nursing Home/LTC/ALC
2022-68144	11/29/22		Jackson	Other congregate setting /
2022-68145	11/29/22		Jackson	Nursing Home/LTC/ALC
2022-68146	11/29/22		Washington	Nursing Home/LTC/ALC /
2022-68149	11/29/22		Multnomah	Nursing Home/LTC/ALC
2022-68151	11/29/22		Multnomah	Nursing Home/LTC/ALC
2022-68155	11/29/22		Josephine	Home health
2022-68156	11/29/22		Josephine	Shelter/transitional housing
2022-68102	11/28/22		Multnomah	Other congregate setting /
2022-68103	11/28/22		Multnomah	Other congregate setting /
2022-68105	11/28/22		Multnomah	Nursing Home/LTC/ALC
2022-68106	11/28/22		Marion	Other congregate setting /
2022-68107	11/28/22		Yamhill	Nursing Home/LTC/ALC
2022-68108	11/28/22		Yamhill	Nursing Home/LTC/ALC
2022-68110	11/28/22		Marion	Other congregate setting /
2022-68111	11/28/22		County: (unspecified)	Nursing Home/LTC/ALC
2022-68113	11/28/22		Jackson	Nursing Home/LTC/ALC
2022-68115	11/28/22		Lane	K-12 / Learning Pod
2022-68116	11/28/22		Multnomah	Other congregate setting /
2022-68117	11/28/22		Clackamas	Other congregate setting /

5714 clusters so far this year : 57 added so far this week (week 48)
 Nursing Homes Restaurants Update

- New disease filters (fuchsia)
 - Selecting a single disease will show all outbreaks where that etiology alone is present
 - Selecting more than one disease will show you all outbreaks each of those etiologies are solely present (e.g., selecting COVID-19 and RSV will get you all COVID-19 only outbreaks and all RSV-only outbreaks), NOT outbreaks where they are BOTH present
 - Selecting the 'Mixed' filter will show all multiple etiology outbreaks
 - Selecting the 'Other' filter will show outbreaks where any etiology other than COVID-19, influenza, or RSV are present
- Location filters are now found via the 'Location' button, shown expanded in above example (orange)
- New disease column on home page outbreaks list (gold)

3.2 Basics tab changes

The screenshot shows the OPERA system interface for a test outbreak. The main header displays '2020-50000 TEST OUTBREAK: TRAINING' and 'Coronavirus SARS-CoV2, Influenza, Parainfluenza'. The 'Basics' tab is active, showing various input fields for location, exposure, and etiology. A table of respiratory cases is visible, with columns for Total Respiratory Cases, 1st Onset, Last Onset, Outbreak end date, and Report due date. A dropdown menu for etiology is open, showing options like A/H1 Seasonal, B, A (not subtyped), A/H1N1 Pandemic, A (untypeable), A, unknown, and A/H3 Seasonal. A 'Related ORPHEUS Outbreak' field is highlighted in green, containing the value '1900-3021'.

- Etiology captured in checkboxes on home page (fuchsia)
- When a pathogen with possible subtype options is selected, a button will appear that expands when clicked to show subtype options for selection (orange)
- 'Total respiratory cases' field captures the total number of people sick with respiratory illness, onsets and other dates are generated based on all respiratory cases regardless of etiologies (gold)
- New 'Related ORPHEUS Outbreak' field to capture outbreak number for associated outbreak record in Orpheus Outbreaks if applicable. If clicked on, will open Orpheus and take user to the outbreak (green)
 - Similar field added in same location on Orpheus Outbreaks basics tab: 'Related OPERA Outbreak'

3.3 Cases tab changes

Opera 50000

2020-50000 TEST OUTBREAK: TRAINING Montana, North Carolina Coronavirus SARS-CoV2, Influenza, Parainfluenza

Basics Cases Methods Documentation Etiology

Was a formal case definition used? Y N

If yes, specify Lab-confirmed or...

Earliest known onset date 11/22/22 Total Respiratory Cases 22

Latest onset 11/29/22

	COVID-19	Flu	RSV	Other	Total Confirmed
Confirmed case count	2	1	4	1	8
Presumptive case count	9				

Do these tallies include any non-Oregon residents? If yes, provide details in comment box

Symptom profiles were systematically collected from how many confirmed and presumptive cases?

Of those, how many had... Cough

	COVID-19	Flu
Residents	85	40
Staff	68	16

Schools: Students Staff/Volunteers STATE USE ONLY ODE school operating status: _____

Evidence of transmission at school? Y N

OPERA related cases (only displays cases to which you have access) 4

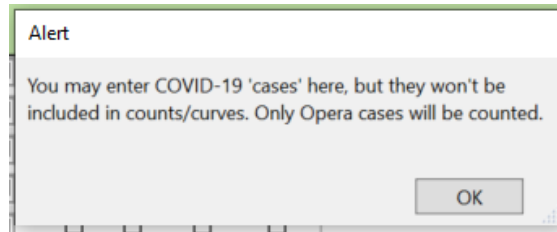
Case ID	Name	Age	Sex	County	Onset	Status	Subtype	Deceased	Eplink	Brkthru
727357	Record, Test Fake	40	F	Multnomah	3/19/2020	X				SP
50025628		39	M	Lincoln	7/7/2020	X				SP
51054770	McTestface, Test	31	M	Marion	9/2/2021	X	COVID-19			SP
51683816	Kprw, Doncookies A	69	M	Clackamas	10/21/2022	C	COVID-19			SP Y

Case Log Update OB

Comments

- 'Total respiratory cases' field captures all confirmed and presumptive cases of respiratory illness, i.e. individuals epi-linked to the outbreak with respiratory symptoms, regardless of laboratory confirmation or etiology (fuchsia)
 - This field (and onset dates) are populated from both the linked cases in Opera and the case log via the 'Update OB' button
- Confirmed case count fields for COVID-19, influenza, and RSV are always on cases tab, 'Other' refers to any etiologies not listed and includes a label with etiology name beneath case count (orange)
 - Presumptive case count field is present for COVID-19 only to capture presumptive Opera cases linked to the outbreak and at-home test based presumptive cases
- Added percent vaccinated for influenza in addition to COVID-19; this box appears when 'Nursing Home/LTC/ALC' is selected as an exposure site (gold)
- Etiology button for access to *historical* data from former etiology tab (green)
 - Expanded view of etiology button contents below:

- c. Respiratory case definition (used to determine who is counted in 'Total respiratory cases'): either lab confirmed respiratory etiology OR at least one respiratory symptom (blue)
- NOTE: COVID-19 cases are pulled into the cases tab from linked cases in Opera, NOT from the case log. If you want a COVID-19 case included in the outbreak case counts, you must create a case in Opera for them or enter counts manually. If you mark a case log entry as having lab confirmed COVID-19, you will see the following message:



- d. Online case log is available to use, share with facilities, and import into case log. Users are able to create their own online case logs.

3.5 Other outbreak record changes

- a. Removed outdated fields on Methods tab not relevant to respiratory outbreaks

3.6 Required data elements for outbreak completion

During outbreak creation/on Basics tab

- Outbreak name
- 1st notification to LHD
- Investigation start date
- Exposure jurisdictions
- Likely etiology
- Specimens expected at OSPHL
- Brief overview
- Exposure site(s)
- Location/Facility name

Additional Basics tab

- Lab confirmed etiolog(ies)
- Add LPHA/Tribe lead on outbreak and any other LPHA/Tribe staff involved
- Related Orpheus outbreak, if applicable

Cases tab

- Earliest known onset date
- Latest onset
- Total respiratory cases
- Confirmed case count for all pathogens present, if applicable

- Presumptive COVID-19 case count if there are presumptive cases linked in Opera or additional home test-based presumptives
- Percent vaccinated for COVID-19 and influenza in congregate care settings, if available

Methods tab

- None. All fields on the Methods tab are *optional*, though it can be helpful to record a variety of outbreak investigation activities that took place there (OHA appreciates it too!)

Documentation tab

- Narrative investigative summary, AKA “report”
 - This only needs to be as long as is indicated by the scope of the outbreak. It can be 1-2 sentences if very little happened or can be multiple paragraphs if there were many associated public health activities or findings. Someone new to the outbreak should be able to read this section and understand what happened.