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COVID-19 Case Investigation Training
April 2020

- **Viral respiratory illness caused by SARS-CoV-2**
- **Causes mild to severe symptoms**
- **Older adults and persons with underlying medical conditions may be at higher risk for severe illness**
- **No treatment**
- **No vaccine**

COVID-19 Clinical Features

Fever



Cough



**Shortness
of breath**



• Other symptoms

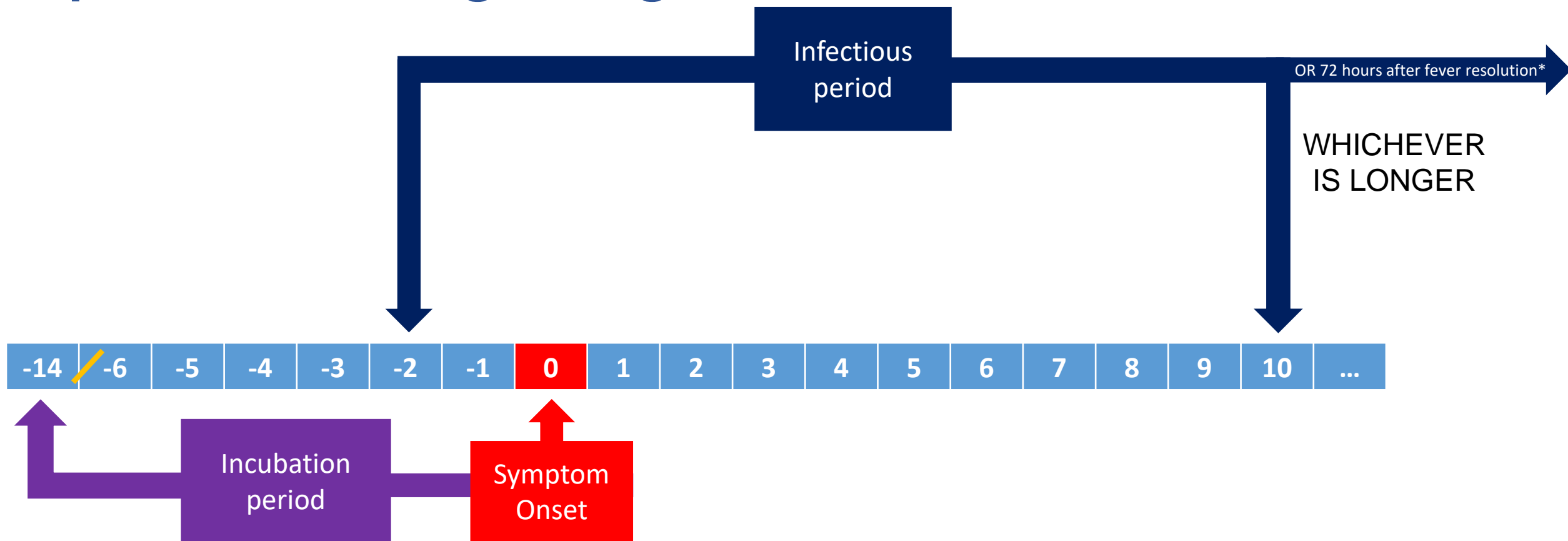
- Muscle aches
- Headache
- Sore throat
- Loss of smell or taste

• Complications

- Pneumonia
- Multi-organ failure
- Death

COVID-19 Clinical Features

- Spread person to person through respiratory droplets produced through cough, sneeze, talk



*with significant improvement in other symptoms

COVID-19 Reporting and Isolation Requirements

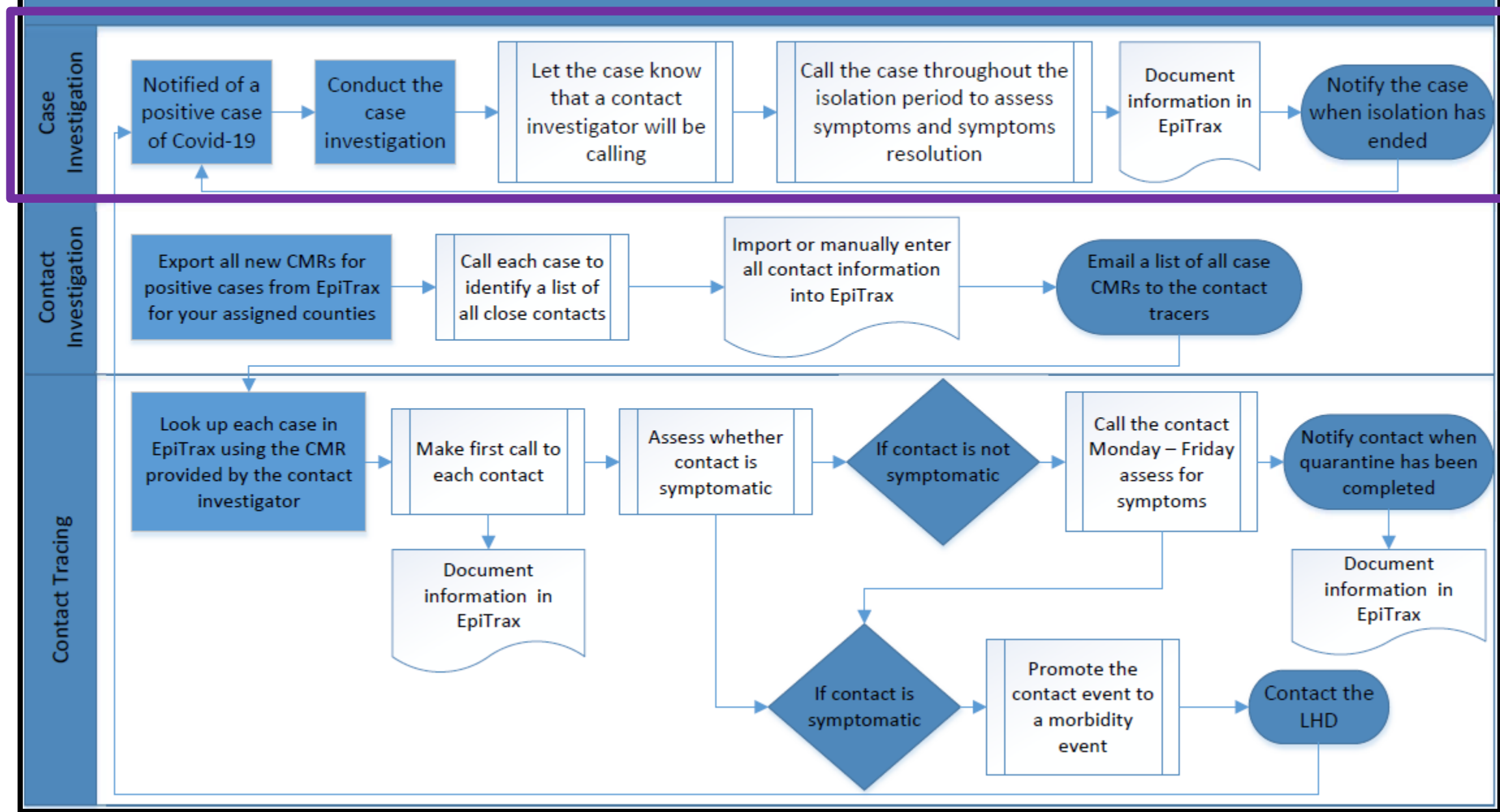
- **K.A.R. 28-1-2 (newly recognized disease)**
 - Suspect and confirmed COVID-19 cases required to be reported within 4 hours by telephone
- **K.A.R. 28-1-6 (authorized by K.S.A. 65-128)**
 - Persons with COVID-19 (suspected or confirmed) are required to be isolated either for 10 days following onset of symptoms or 72 hours following resolution of fever (without fever-reducing meds) and significant improvement in other symptoms, whichever is longer

- **Polymerase Chain Reaction (PCR) - preferred**
 - Detects viral RNA from respiratory specimens
 - Nasopharyngeal (NP) swab is preferred
 - Intended for use in symptomatic persons
- **Serology (total antibody, IgM, IgG)**
 - Detects presence of antibodies from blood
 - Should not be used for diagnostic purposes or to inform infectious status
 - Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains

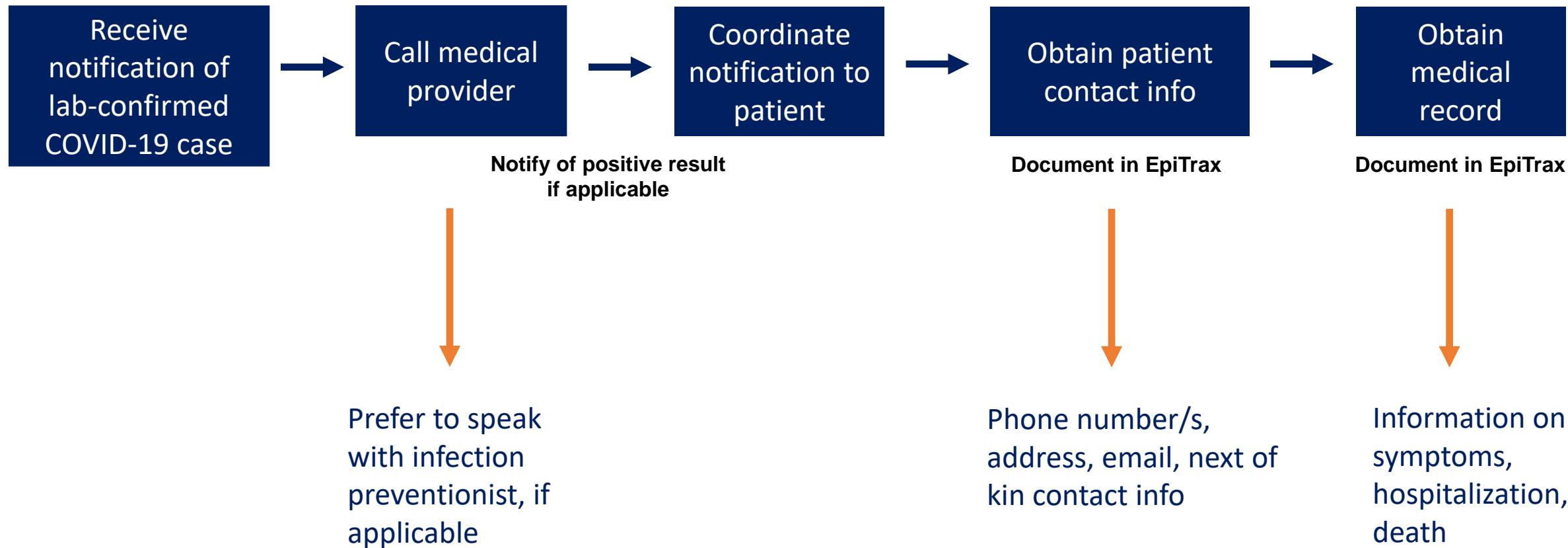
COVID-19 – Four Key Steps for Public Health

- 1 Initial notification of confirmed or suspected case of COVID-19**
- 2 Interview patients, walking through entire infectious period and recalling everyone they were in contact with and exposure period to determine source. Provide isolation instructions.**
- 3 Locate and notify contacts that they have been exposed, to monitor for symptoms daily and provide linkage to care and resources. Provide quarantine instructions.**
- 4 Monitor contacts. Daily report of symptoms and temperature for 14 days after last contact while patient was infectious.**

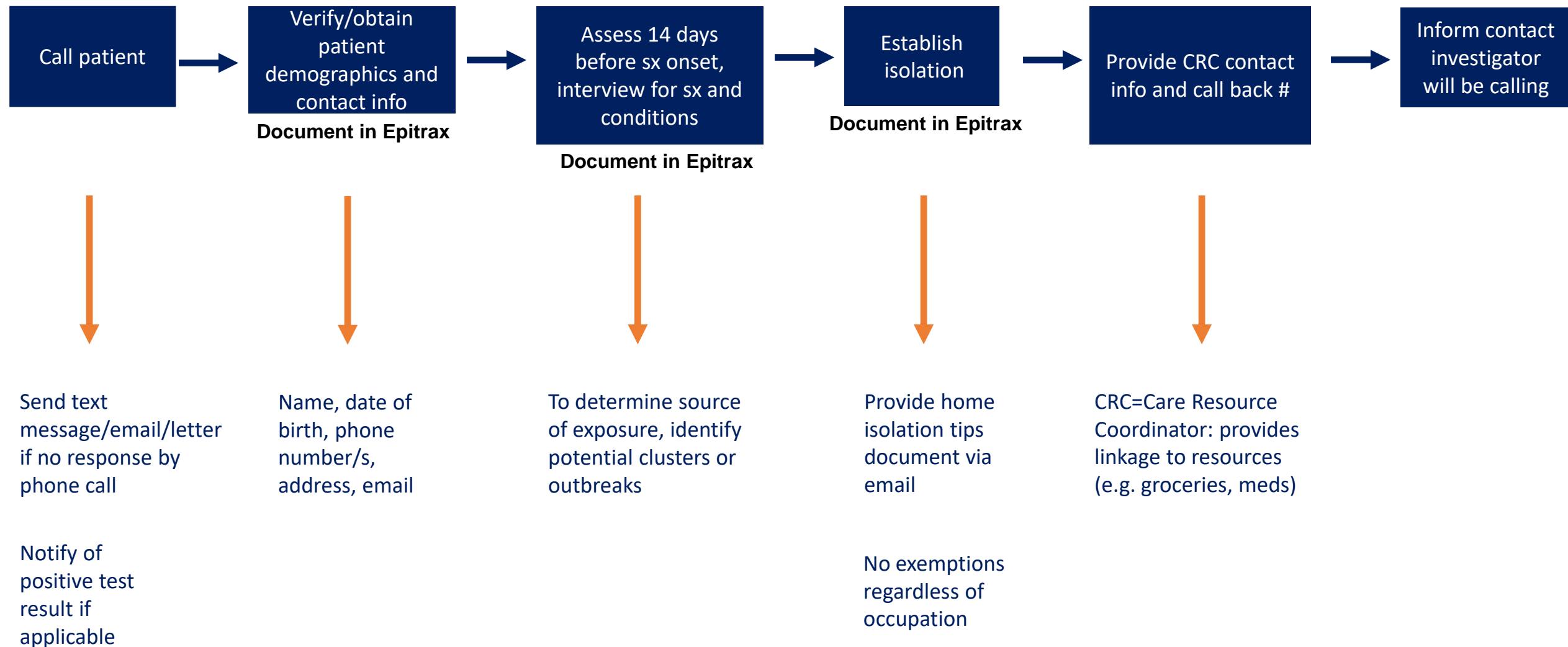
Case and Contact Investigation Work Flow



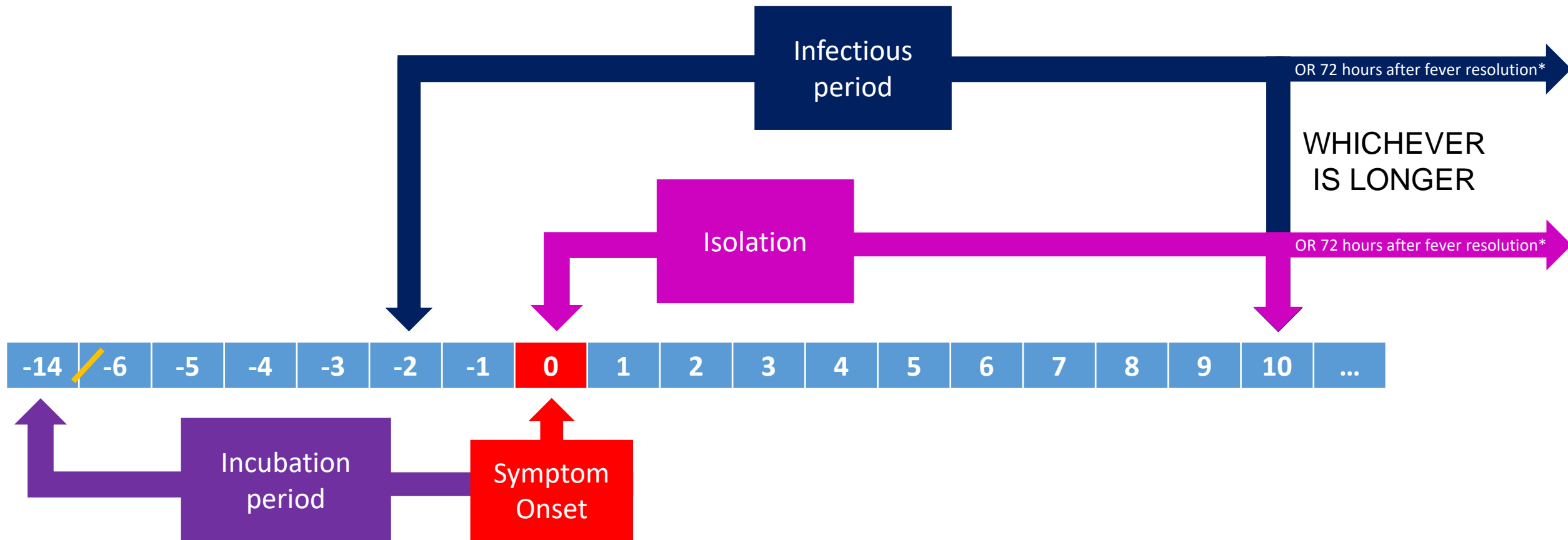
COVID-19 Case Investigation – Call Medical Provider



COVID-19 Case Investigation – Call Case



COVID-19 Case Investigation Timeline (Days)



*with significant improvement in other symptoms

-Symptomatic persons with unknown exposure that test negative for COVID-19 **do not** have to continue 10 day or 72 hour fever free with symptom improvement isolation and contact investigation not warranted.

COVID-19 Source of Exposure





https://www.kdheks.gov/epi/download/Novel_Coronavirus_2019_COVID-19_Exposure_Timeline.pdf

Novel Coronavirus 2019 (COVID-19) Exposure Timeline

Part 1: Identifying Sources of Infection

	Date	Day	Location (with times)	Contacts
Earliest Exposure Date		-14		
		-13		
		-12		
		-11		
		-10		
		-9		
		-8		
		-7		
Exposure Period		-6		
		-5		
		-4		
		-3		
		-2		
		-1		
		0		
Symptom Onset		0		

COVID-19 Isolation Guidance

INSTRUCTIONS While awaiting test results or if you test positive for COVID-19	
	<p>Go straight home and do not leave your home unless it is in an emergency.</p> <p>Avoid one-on-one interaction within 6-feet of another person. If possible, separate yourself from other people in your home. Stay in a different room from others and use a separate bathroom, if available.</p>
	<p>Stay in isolation while you are waiting for your results and stay in isolation if your result is positive</p> <p>You must stay away from other people and not go to work or anywhere else until you know your test results. If your test result is positive, then you will need to stay either at home or where the local health department has arranged for you to stay until it has been at least 10 days since you started feeling sick or 3 days with no fever and significant improvement in your symptoms, whichever is longer. This means that you will be in isolation for a minimum of 10 days if you are a positive case.</p> <p>There are two different outcomes if your test result is negative. If you were tested because you had an exposure, for example you were a close contact of someone else who was positive for COVID-19 or you travelled somewhere where you might have been exposed, then you must finish your 14 day quarantine even if you tested negative. If you were tested and did not have an exposure, then you no longer need to be in isolation.</p>
	<p>Monitor your symptoms. Watch for fever, cough or trouble breathing.</p> <p>If you become ill and need non-emergency medical attention for any reason, call your healthcare provider. Before you seek care and tell your healthcare provider that you are being tested for or are positive for COVID-19. Use a facemask before when you go the healthcare facility.</p> <p>If you are in a medical emergency and need to call 911, notify the dispatch personnel that you have been diagnosed with COVID-19. If possible, put on a facemask before emergency medical services arrive.</p>
	<p>Make sure you have the supplies and support you need.</p> <p>Arrange for an appropriate caregiver and make sure to avoid direct contact. If possible, try to stock up on necessities like food or water or have it delivered by friends, family, or delivery services. Make sure to keep at least 6-feet apart when accepting deliveries.</p>

<https://www.coronavirus.kdheks.gov/DocumentCenter/View/956/Home-Isolation-PDF---5-4-20>

COVID-19 Isolation Requirements



**Adapted from TN Dept of Health*

RELEASING CASES AND CONTACTS FROM ISOLATION AND QUARANTINE

CASES

Must be isolated for a minimum of 10 days after onset and can be released after afebrile and feeling well (without fever-reducing medication) for at least 72 hours, whichever is longer.

Note: Lingering cough should not prevent a case from being released from isolation.

Examples:

- A case that is well on day 2, and afebrile and feeling well for 72 hours, can be released from isolation on day 10.
- A case that is well on day 6, and afebrile and feeling well for 72 hours, can be released from isolation on day 10.
- A case that is well on day 14, and afebrile and feeling well for 72 hours, can be released from isolation on day 17.

Onset date



(or specimen collection
date if onset unclear or
asymptomatic)

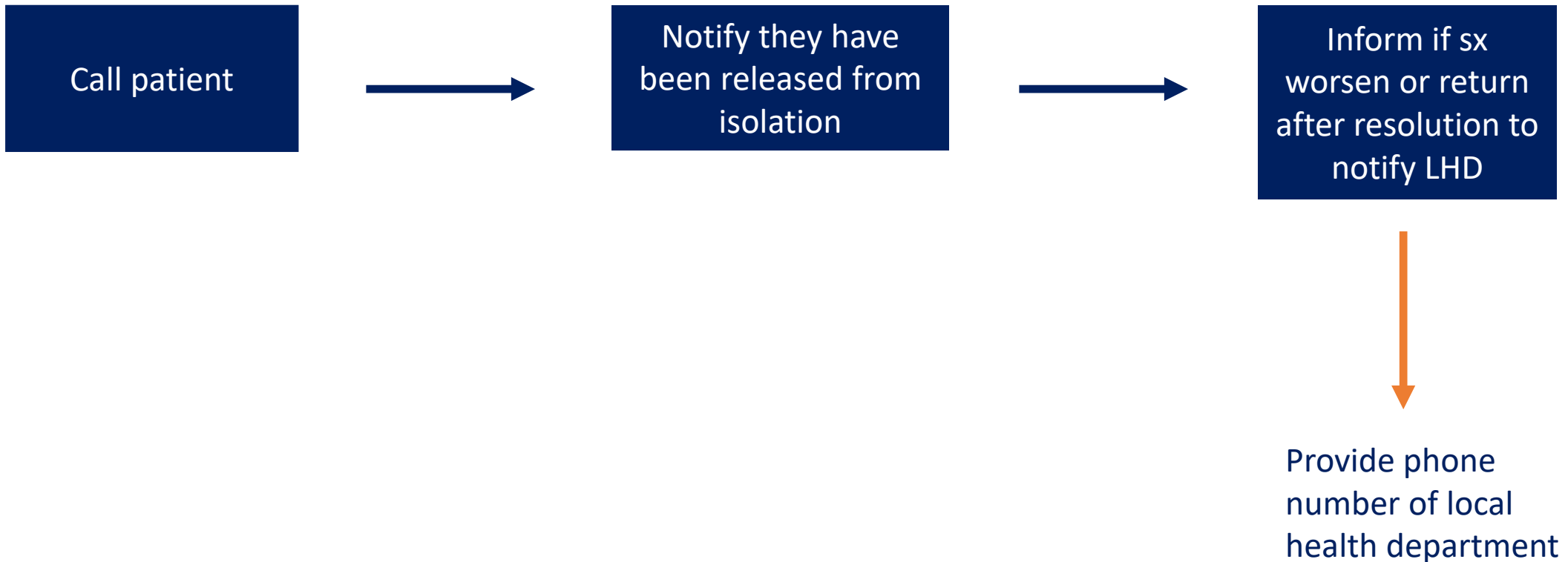
Minimum 10 days



**+ Afebrile and feeling
well for at least 72
hours**

Case released from
isolation

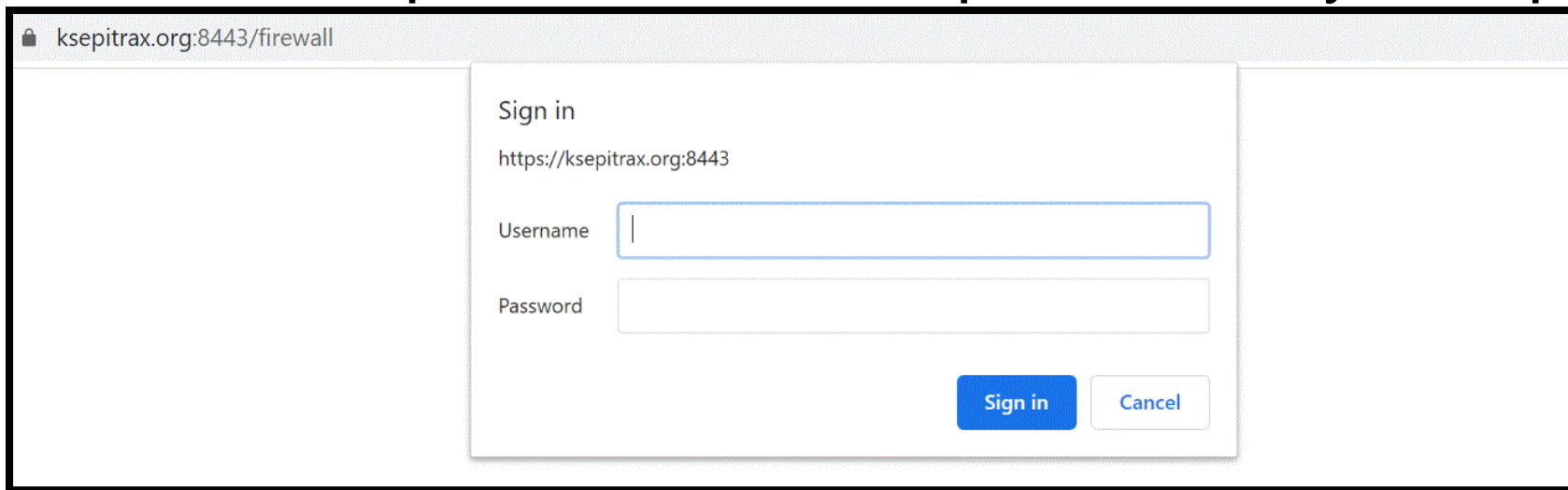
COVID-19 Case Investigation – Call Case



- **Open source, comprehensive disease surveillance and outbreak management database used by KDHE**
- **Information in EpiTrax is CONFIDENTIAL**
 - Only used for COVID-19 investigation documentation and search for patient contact information
 - Cannot be shared

- **IP-based firewall**

- Authentication required daily/weekly
- Username and password: will be provided to you separately

A screenshot of a web browser window showing a login page for ksepitrax.org:8443/firewall. The page has a white background with a central sign-in form. The form includes a 'Sign in' heading, the URL 'https://ksepitrax.org:8443', and two input fields labeled 'Username' and 'Password'. Below the input fields are two buttons: a blue 'Sign in' button and a white 'Cancel' button with a blue border. The browser's address bar shows 'ksepitrax.org:8443/firewall'.

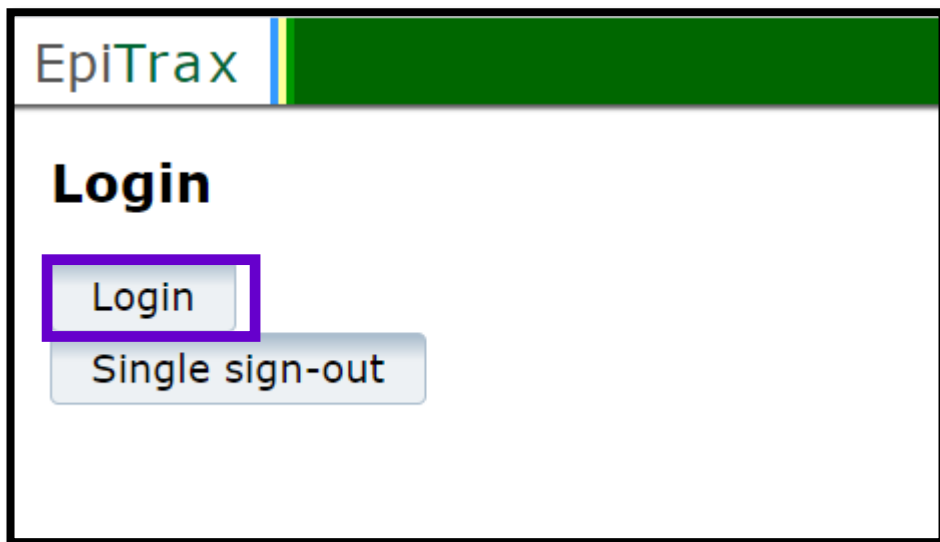
Server Firewall

Your IP address, 174.234.0.34, was already whitelisted in the firewall. Go ahead and access [production site](https://ksepitrax.org/nedss/) at <https://ksepitrax.org/nedss/>

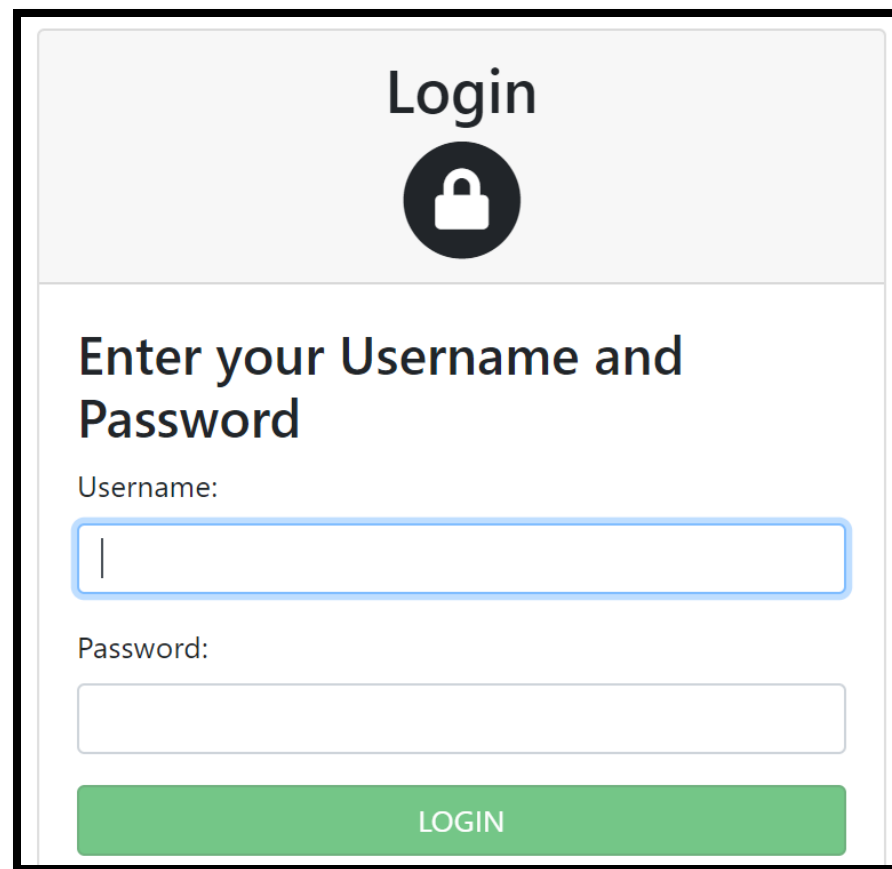
Please contact your administrator if you run into any problems.

- **Log in**

- Username and password: will be provided to you separately



The image shows a screenshot of the EpiTrax web application. At the top, there is a header with the text "EpiTrax" in a green font, followed by a green bar. Below the header, the word "Login" is displayed in a bold, black font. Underneath "Login", there are two buttons: a "Login" button with a purple border and a "Single sign-out" button with a light blue background.



The image shows a screenshot of a login form. At the top, the word "Login" is displayed in a black font, followed by a black circular icon containing a white padlock. Below this, the text "Enter your Username and Password" is displayed in a bold, black font. Underneath, there are two input fields: one for "Username:" and one for "Password:". At the bottom of the form, there is a green button with the text "LOGIN" in white capital letters.

- **Dashboard on homepage**
 - Click “CMR search”

EpiTrax | Welcome, CHELSEA RAYBERN | [NEW CMR](#) | [EVENTS](#) | [OUTBREAKS](#) | [FACILITIES](#) | **[CMR SEARCH](#)** | [EXPORTS](#) | [PEOPLE](#) | [AVR](#) | [SETTINGS](#) | [LOGOUT](#)

Dashboard

Tasks

[View Options](#)

(Tasks 0 - 0 of 0, Page: 1/1) First Previous Next Last 50 ▼										
Due Date ↕	Case ↕	Name ↕	Condition ↕	Title of task ↕	Description of task	Category ↕	Priority ↕	Assigned to ↕	Status ↕	Edit
No records found.										
(Tasks 0 - 0 of 0, Page: 1/1) First Previous Next Last 50 ▼										

• CMR search

- Obtain EpiTrax record number from local health department
- Input EpiTrax record number in “Record Number”
- Click “Search”

CMR Search

Person name	Last name	First name	Middle name	DOB	Record number
<input type="text" value="Last, First, Middle"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="mm/dd/yyyy"/>	<input type="text" value="20201153159"/>

▶ Advanced Search

▶ Export

(Events 0 - 0 of 0, Page: 1/1)

Record Number	Event Type	Name	DOB(Current Age)	Gender	Condition	City	County	Agency	Event Date
No records found.									

(Events 0 - 0 of 0, Page: 1/1)

- **CMR search**
 - Click on the case record number

Advanced Search

Export

Search Export Clear

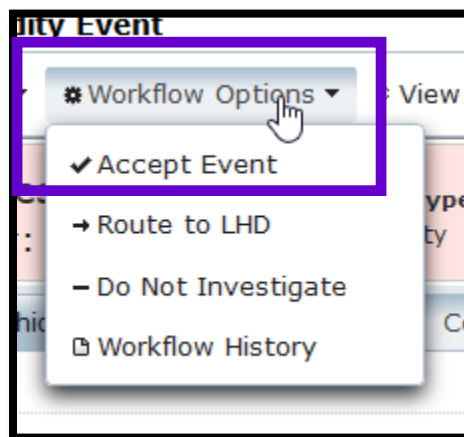
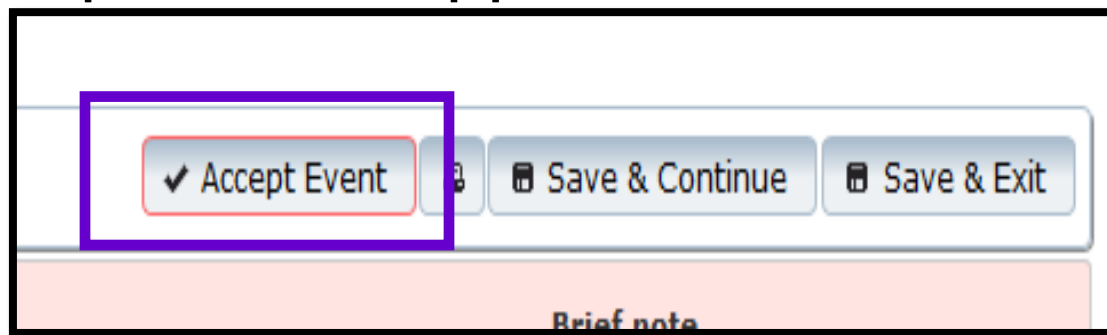
(Events 1 - 1 of 1, Page: 1/1) 1 50

Record Number	Event Type	Name	DOB(Current Age)	Gender	Condition	City	County	Agency	Event Date
20201153159	Morbidity	sandalltest, shannon	01/01/1901(119)	Female	Coronavirus Disease 2019 (COVID-19)			Deleted	03/27/2020

(Events 1 - 1 of 1, Page: 1/1) 1 50

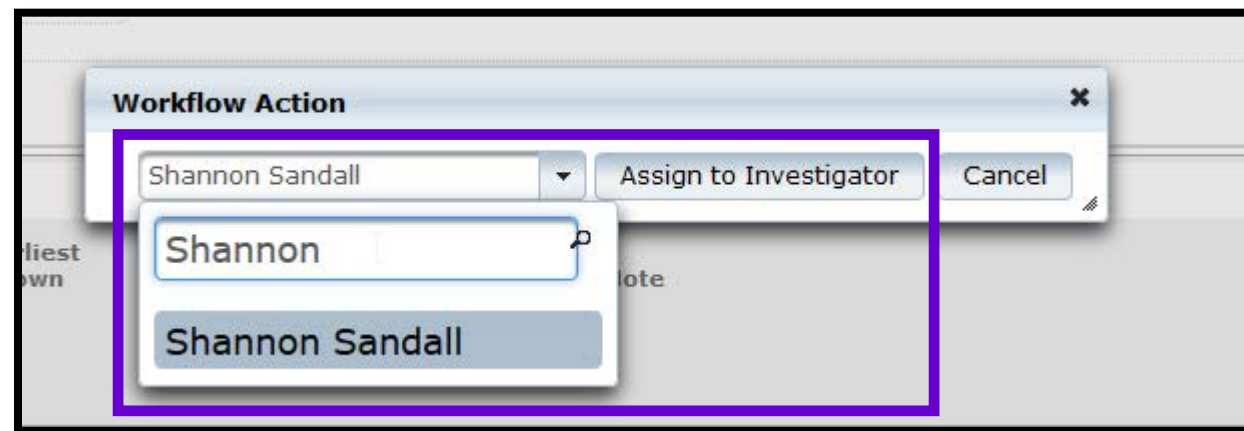
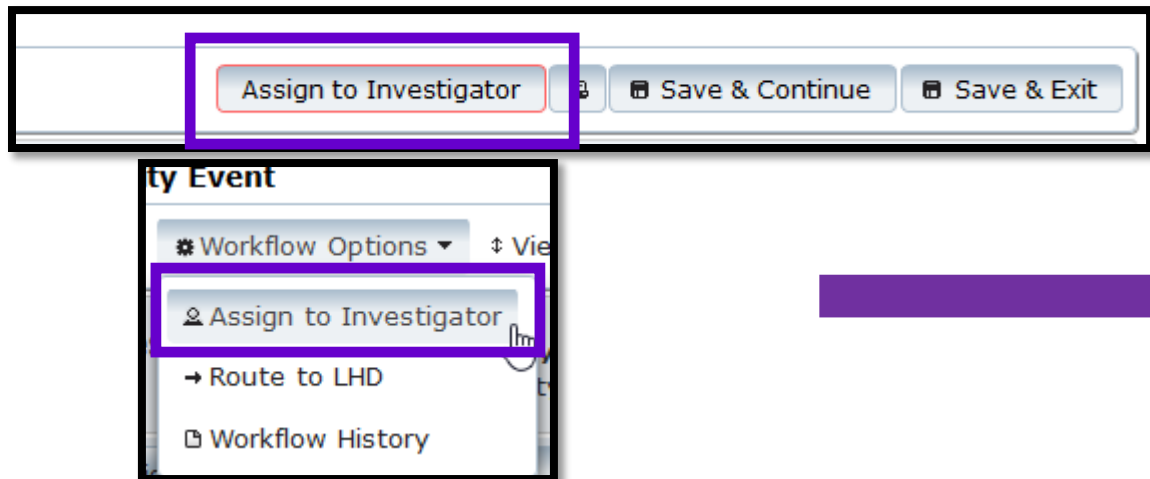
- **Event workflow**

- Select “Accept Event” in upper right hand corner OR under “Workflow Options” in upper left hand corner



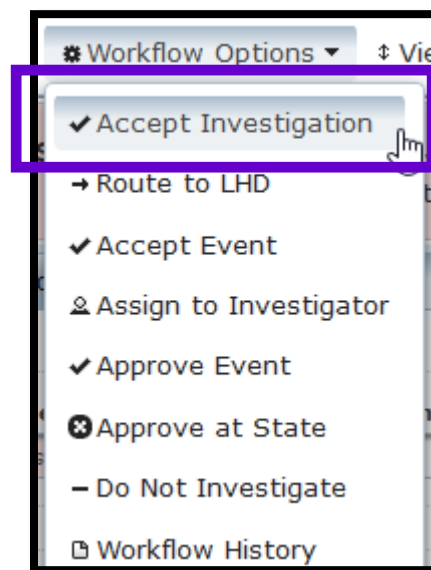
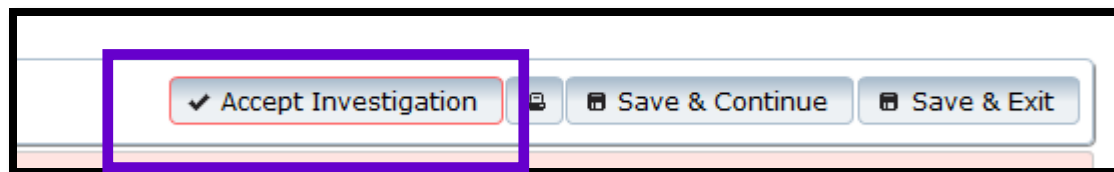
- **Event workflow**

- Select “Assign to Investigator” in upper right hand corner OR under “Workflow Options” in upper left hand corner
- Assign your name to case from drop down menu
- Select “Assign to Investigator”



- **Event workflow**

- Select “Accept Investigation” in upper right hand corner OR under “Workflow Options” in upper left hand corner



- “Clinical” tab within COVID-19 case record
 - Locate healthcare facility/provider name

Demographic **Clinical** Laboratory Contacts Encounters Investigation Notes Administrative

Disease

Disease: Coronavirus Disease 2019 (COVID-19) Onset date: mm/dd/yyyy Date diagnosed: mm/dd/yyyy

Relevant Comorbidities

LN, FN, MN / Record #	Disease	State Status	Local Status	Investigating Agency	Workflow Status	Event Date
No relevant comorbidities found.						

Facility / Clinician / Hospitalized Status

Visit type: Please select... Coronavirus Disease 2019 (COVID-19) caused hospitalization?: Please select...

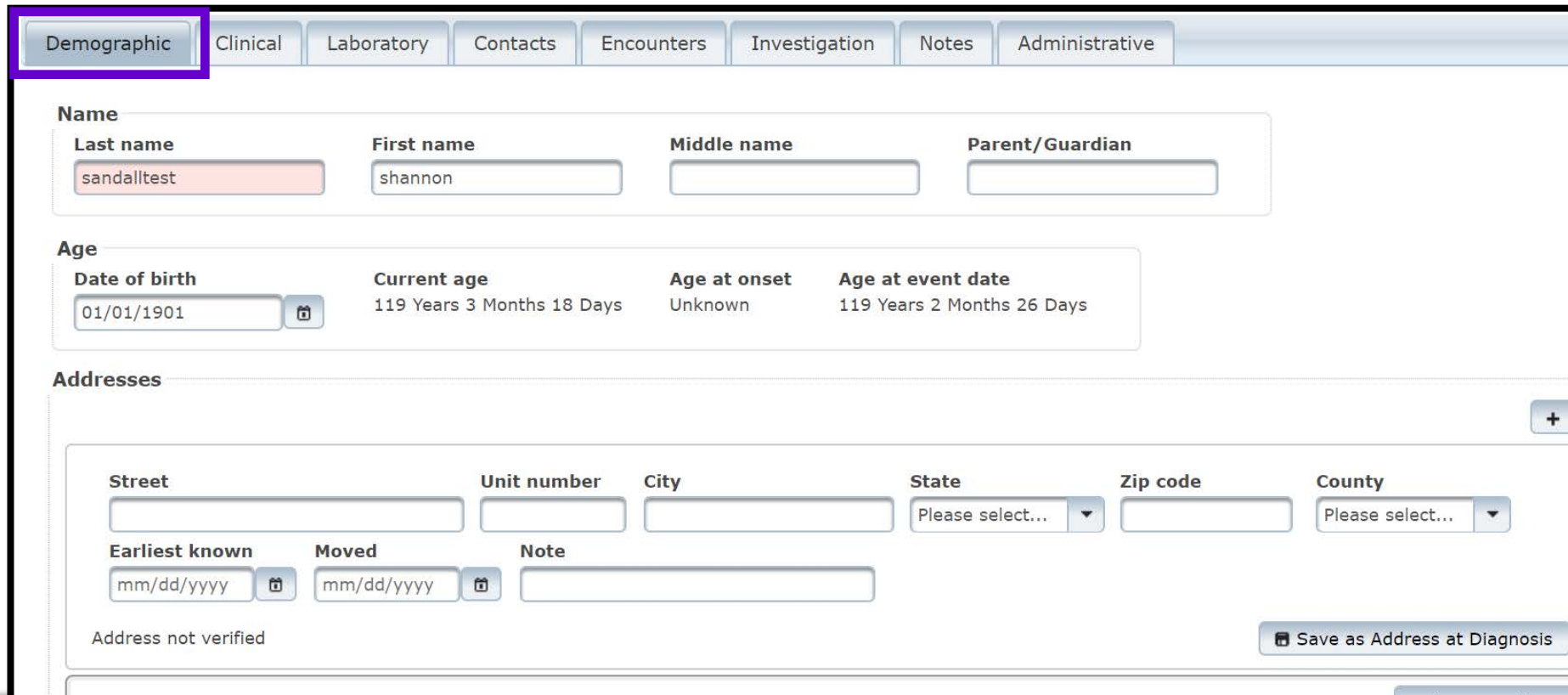
Health facility: New Wesley Medical Center Type: Clinic / Doctor's Office, Hospital / ICP, Laboratory Address / Phone: 550 N Hillside Street, Wichita, Kansas 67214

Clinician: Conant Merrill (620)225-1650 + New Visit start: mm/dd/yyyy Visit end: mm/dd/yyyy Medical record number:

Facility comment (Refrain from disease specific comments, they may be visible in other cases)

EpiTrax – Verify/Enter Case Contact Information

- **“Demographic” tab within COVID-19 case record**
 - Address, phone number/s, email, next of kin info
 - Sex, race, ethnicity



The screenshot shows the 'Demographic' tab selected in the EpiTrax interface. The tab is highlighted with a purple border. Below the tab bar, the form is organized into sections: 'Name', 'Age', and 'Addresses'. The 'Name' section contains fields for 'Last name' (sandalltest), 'First name' (shannon), 'Middle name' (empty), and 'Parent/Guardian' (empty). The 'Age' section contains fields for 'Date of birth' (01/01/1901), 'Current age' (119 Years 3 Months 18 Days), 'Age at onset' (Unknown), and 'Age at event date' (119 Years 2 Months 26 Days). The 'Addresses' section contains fields for 'Street', 'Unit number', 'City', 'State' (Please select...), 'Zip code', and 'County' (Please select...). Below these fields are 'Earliest known' (mm/dd/yyyy), 'Moved' (mm/dd/yyyy), and 'Note' (empty) fields. A 'Save as Address at Diagnosis' button is located at the bottom right of the form. The text 'Address not verified' is displayed at the bottom left of the form.

Demographic Clinical Laboratory Contacts Encounters Investigation Notes Administrative

Name

Last name First name Middle name Parent/Guardian

sandalltest shannon

Age

Date of birth Current age Age at onset Age at event date

01/01/1901 119 Years 3 Months 18 Days Unknown 119 Years 2 Months 26 Days

Addresses

Street Unit number City State Zip code County

mm/dd/yyyy mm/dd/yyyy Note

Address not verified

Save as Address at Diagnosis

- **“Demographic” tab within COVID-19 case record**
 - Enter address
 - Address will verify after you enter “Street”, “City”, and “State” (automatically fill in “Zip code” and “County”)

Blandingtest, Justin Record #: 20201168125	Event type Contact	Workflow status Not participating in workflow.	Investigator Not assigned	Disease Coronavirus Disease 2019 (COVID-19)	Investigating Agency Deleted	Event date 03/26/2020	Parent patient shannon sandalltest	Brief note <input type="text"/>	Save
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Demographic

Clinical

Laboratory

Contacts

Encounters

Investigation

Notes

Administrative

Name

Last name: Blandingtest

First name: Justin

Middle name:

Parent/Guardian:

Age

Date of birth: 02/19/1986

Current age: 34 Years 1 Month 26 Days

Age at onset: Unknown

Age at event date: 34 Years 1 Month 8 Days

Addresses

+ Enter Address

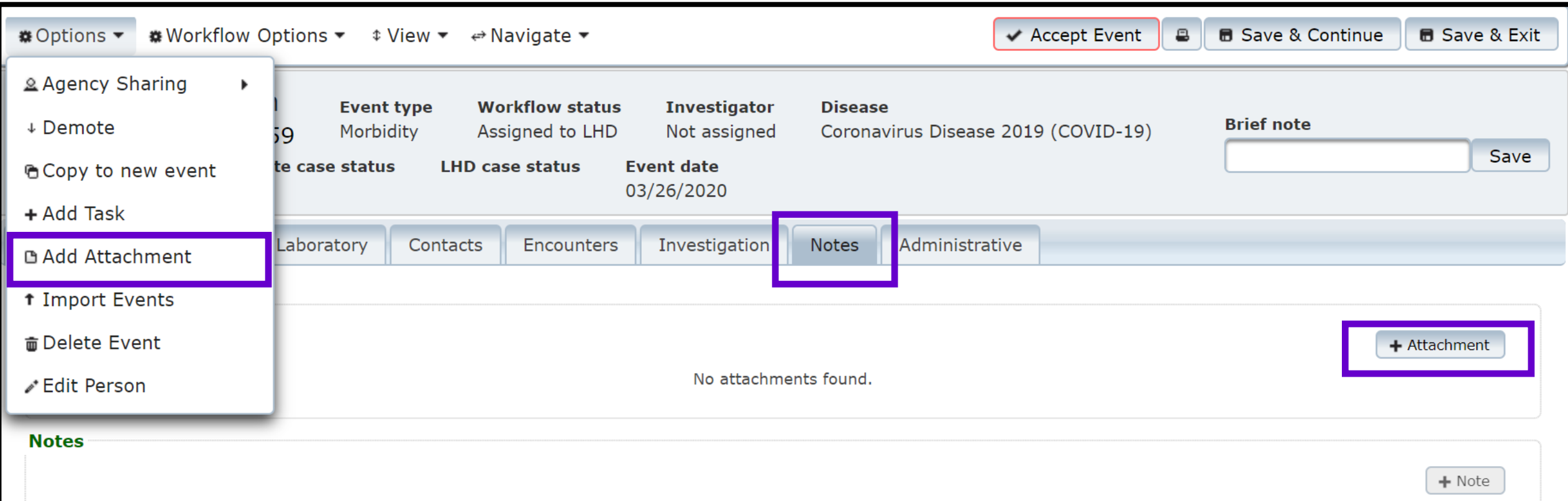
Street	Unit number	City	State	Zip code	County	Earliest known	Moved	Note
<input type="text"/>	<input type="text"/>	<input type="text"/>	Please select...	<input type="text"/>	Please select...	mm/dd/yyyy	mm/dd/yyyy	<input type="text"/>

Address not verified

Save as Address at Diagnosis Cancel

EpiTrax – Attach Case Medical Record

- **“Notes” tab within COVID-19 case record**
 - Select “+ Attachment” or select “Add Attachment” under “Options”



The screenshot displays the EpiTrax interface for a COVID-19 case record. The top navigation bar includes 'Options', 'Workflow Options', 'View', and 'Navigate'. On the right, there are buttons for 'Accept Event', 'Save & Continue', and 'Save & Exit'. The main content area shows a table with columns for 'Event type', 'Workflow status', 'Investigator', and 'Disease'. The 'Event type' is 'Morbidity', 'Workflow status' is 'Assigned to LHD', 'Investigator' is 'Not assigned', and 'Disease' is 'Coronavirus Disease 2019 (COVID-19)'. Below this, there are tabs for 'Laboratory', 'Contacts', 'Encounters', 'Investigation', 'Notes', and 'Administrative'. The 'Notes' tab is highlighted with a purple box. To the left, the 'Options' dropdown menu is open, showing various actions, with 'Add Attachment' highlighted by a purple box. At the bottom right, there is a '+ Attachment' button, also highlighted with a purple box. The bottom section is labeled 'Notes' and contains a '+ Note' button.

Event type	Workflow status	Investigator	Disease
Morbidity	Assigned to LHD	Not assigned	Coronavirus Disease 2019 (COVID-19)

Event date: 03/26/2020

Buttons: Accept Event, Save & Continue, Save & Exit

Options menu:

- Agency Sharing
- Demote
- Copy to new event
- Add Task
- Add Attachment**
- Import Events
- Delete Event
- Edit Person

Tabs: Laboratory, Contacts, Encounters, Investigation, **Notes**, Administrative

Buttons: + Attachment, + Note

- **“Notes” tab within COVID-19 case record**
 - Select “+ attachment uploader” and choose saved document on computer
 - Select “upload the selected file(s)”
 - Select “Medical Record” for “Category”

The screenshot shows a dialog box titled "Attachment Upload" with a close button (X) in the top right corner. Inside the dialog, there is a "Category" dropdown menu with "Medical Record" selected. To the right of the dropdown, it says "Maximum file size is 30 MB." Below the dropdown, there are three buttons: "+ attachment uploader", "upload the selected file(s)", and "cancel uploading the selected file(s)". The first two buttons are highlighted with purple boxes, corresponding to the instructions in the list above.

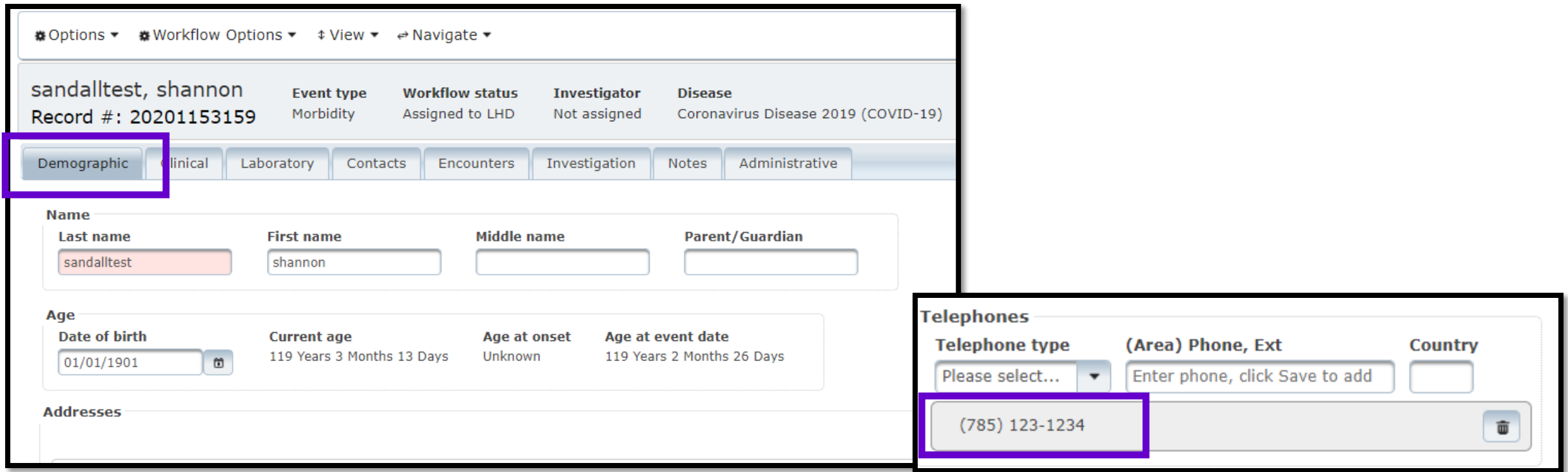
- “Clinical” tab within COVID-19 case record
 - Enter information regarding hospitalization and death

The screenshot shows the 'Clinical' tab of the EpiTrax system. The form is divided into several sections:

- Disease:** A dropdown menu is set to 'Coronavirus Disease 2019 (COVID-19)'.
- Relevant Comorbidities:** A section for listing comorbidities, currently showing 'No relevant comorbidities found.'
- Facility / Clinician / Hospitalized Status:**
 - Visit type:** A dropdown menu with 'Please select...'.
 - Coronavirus Disease 2019 (COVID-19) caused hospitalization?:** A dropdown menu with 'Please select...'.
 - Health facility:** A text field containing 'New Wesley Medical Center'.
 - Clinician:** A text field containing 'Conant Merrill (620)225-1650' with a '+ New' button.
 - Visit start:** A date field with the format 'mm/dd/yyyy'.
 - Facility comment:** A text area for additional notes.
- Other Facility / Clinician / Hospitalized Status:**
 - Was the patient hospitalized?:** Radio buttons for 'Yes' (selected), 'No', and 'Unknown'.
 - If yes, admission date (MM/DD/YYYY):** A date field with the format 'mm/dd/yyyy'.
 - If yes, discharge date (MM/DD/YYYY):** A date field with the format 'mm/dd/yyyy'.
- Mortality Status:**
 - Died?:** A dropdown menu with 'Yes' selected.
 - Date of death:** A date field with the format 'mm/dd/yyyy'.
 - Coronavirus Disease 2019 (COVID-19) caused death?:** A dropdown menu with 'Please select...'.

EpiTrax – Locate COVID-19 Case's Phone Number

- **“Demographic” tab within COVID-19 case record**
 - Locate phone number under “Telephones”



Options ▾ Workflow Options ▾ View ▾ Navigate ▾

sandalltest, shannon
Record #: 20201153159

Event type: Morbidity
Workflow status: Assigned to LHD
Investigator: Not assigned
Disease: Coronavirus Disease 2019 (COVID-19)

Demographic Clinical Laboratory Contacts Encounters Investigation Notes Administrative

Name

Last name: sandalltest First name: shannon Middle name: Parent/Guardian:

Age

Date of birth: 01/01/1901 Current age: 119 Years 3 Months 13 Days Age at onset: Unknown Age at event date: 119 Years 2 Months 26 Days

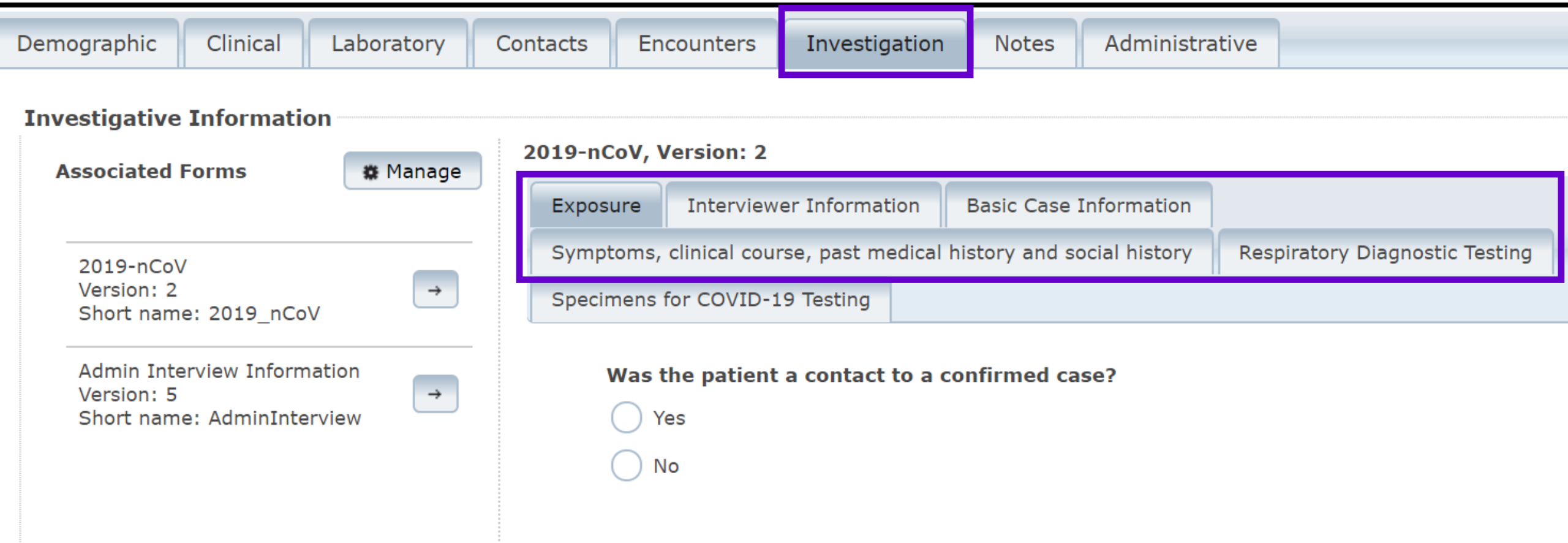
Addresses

Telephones

Telephone type: Please select... (Area) Phone, Ext: (785) 123-1234 Country:

EpiTrax – Interview Patient for Symptoms and Exposure

- **“Investigation” tab within COVID-19 case record**
 - Enter information in all tabs excluding “Specimens for COVID-19 Testing”



Demographic Clinical Laboratory Contacts Encounters **Investigation** Notes Administrative

Investigative Information

Associated Forms [Manage](#)

2019-nCoV
Version: 2
Short name: 2019_nCoV [→](#)

Admin Interview Information
Version: 5
Short name: AdminInterview [→](#)

2019-nCoV, Version: 2

Exposure	Interviewer Information	Basic Case Information	
Symptoms, clinical course, past medical history and social history			Respiratory Diagnostic Testing
Specimens for COVID-19 Testing			

Was the patient a contact to a confirmed case?

☐ Yes

☐ No

- **“Investigation” tab within COVID-19 case record**
 - If case was promoted from a contact event then have to select “2019-nCoV” form to complete for interview
 - Will be on left hand side of page under “Associated Forms”

The screenshot displays the 'Investigative Information' section of a COVID-19 case record. Under the 'Associated Forms' heading, there is a 'Manage' button with a gear icon. Below this, three forms are listed, each with a right-pointing arrow button. The first form is 'COVID-19 Contact Form' (Version: 2, Short name: Contact). The second is 'Admin Interview Information' (Version: 5, Short name: AdminInterview). The third is '2019-nCoV' (Version: 2, Short name: 2019_nCoV). A red arrow points to the arrow button next to the '2019-nCoV' form, which is also enclosed in a purple rectangular box.

Investigative Information	
Associated Forms ⚙️ Manage	
COVID-19 Contact Form Version: 2 Short name: Contact	→
Admin Interview Information Version: 5 Short name: AdminInterview	→
2019-nCoV Version: 2 Short name: 2019_nCoV	→

- **“Investigation” tab within COVID-19 case record**
 - Scroll down to bottom of page
 - Enter job title in “Occupation”

Demographic Clinical Laboratory Contacts Encounters **Investigation** Notes Administrative

Investigative Information

Associated Forms [Manage](#)

2019-nCoV
Version: 2
Short name: 2019_nCoV [→](#)

Admin Interview Information
Version: 5
Short name: AdminInterview [→](#)

2019-nCoV, Version: 2

[Exposure](#) [Interviewer Information](#) [Basic Case Information](#)

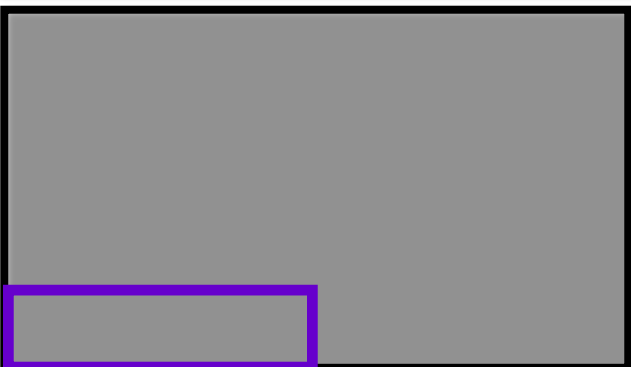
[Symptoms, clinical course, past medical history and social history](#) [Respiratory Diagnostic Testing](#)

[Specimens for COVID-19 Testing](#)

Was the patient a contact to a confirmed case?

☐ Yes

☐ No



EpiTrax – Associate Case to Outbreak (if applicable)

- **“Administrative” tab within COVID-19 case record**
 - Select “Yes” under “Outbreak associated”
 - Select name of outbreak under “Outbreak name”

Demographic	Clinical	Laboratory	Contacts	Encounters	Investigation	Notes	Administrative
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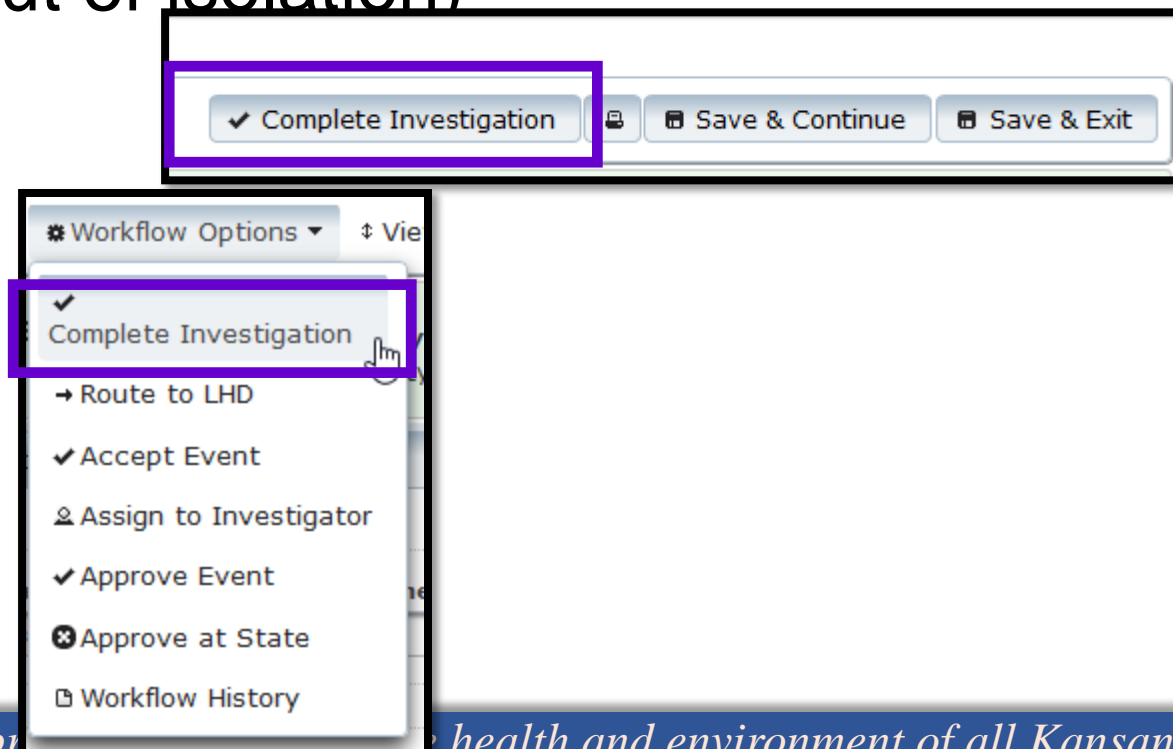
Event Information				
Event id	Record number	MMWR year	MMWR week	Date record created
719933	20201153159	2020	13	03/27/2020 10:58 AM

Case / Outbreak			
LHD case status	State case status	Outbreak associated	Outbreak name
<div>Please select... ▼</div>	<div>Please select... ▼</div>	<div>Please select... ▼</div>	<div>No associated outbreak ▼</div>

Queue

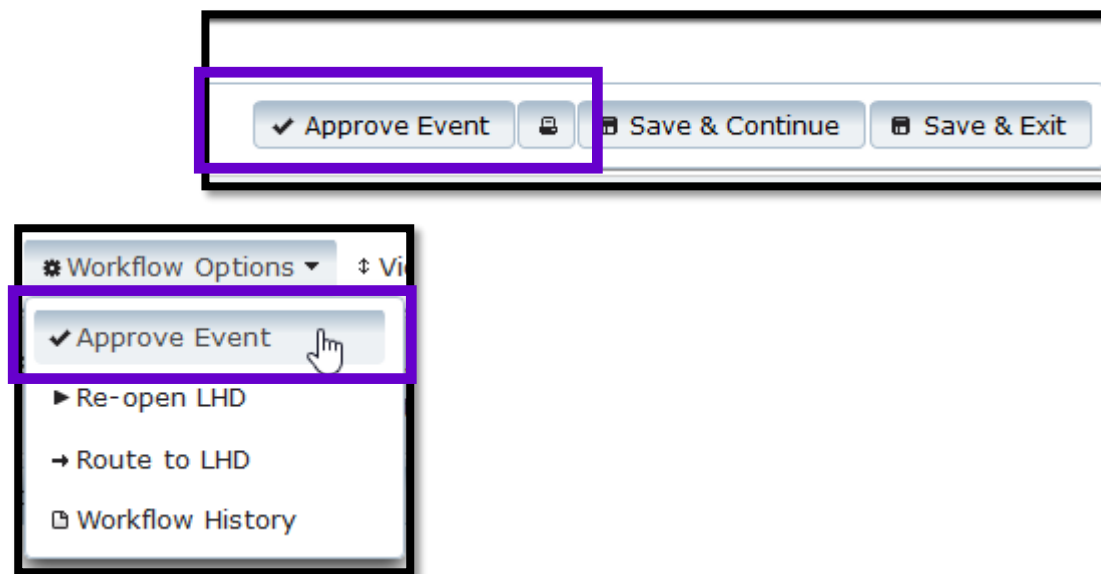
- **Event workflow**

- Select “Complete Investigation” in upper right hand corner OR under “Workflow Options” in upper left hand corner
- Interview is complete and documented, and case is no longer infectious (out of isolation)



- **Event workflow**

- Select “Approve Event” in upper right hand corner OR under “Workflow Options” in upper left hand corner
- Case interview and 14-day quarantine for contacts completed



- **Select “Save & Continue” often while in EpiTrax**
 - Between tabs
 - When selecting items that are found in searches
- **Select “Save & Exit” when done entering everything into the EpiTrax case**
 - The record is locked while a person is entering information. “Save & Exit” unlocks the record for others.
- **Make sure to complete workflow of case (accept, assign investigator, complete, approve)**

COVID-19 Case Investigation Resources

- Interview scripts will be provided for case investigators
- <https://www.coronavirus.kdheks.gov/170/Healthcare-Providers>
 - Click “Local Health Departments” Tab and many resources can be found under the “Local Health Department Toolkit” and “Isolation and Quarantine” sections
- https://www.kdheks.gov/epi/disease_investigation_guidelines.htm
 - Click on “C” and scroll down to click on “Coronavirus Disease 2019 (COVID-19)” for links to multiple resources

Questions



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Infectious Disease Epidemiology and Response Section

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