NEDSS COVID-19 Case Automation Process (aka Workflow Decision Support)

Presented by

Public Health Informatics and Date Exchange Team

Introduction

Objective:

- To provide an overview of the case automation process (aka Workflow Decision Support) that will be implemented in NEDSS on November 11th

COVID-19 Workflow Decision Support Outline

1. What is Workflow Decision Support (WDS)

2. Steps and logic of WDS

3. Review of the case investigations created

4. Walk through how to review in the reports

TEXAS
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What is Workflow Decision Support?

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Workflow Decision Support (WDS) module in NBS provides jurisdictions the ability to automate portions of the daily workflow with a goal of freeing up end-user time to focus on surveillance activities requiring manual input.

- Used with **Electronic Case Reports** (eCRs) and **Electronic Lab Reports** (ELRs)

- Both are used in NEDSS, but we will focus on the **ELR** version

What is Workflow Decision Support? Continued...

1. An incoming lab report matches the defined criteria within an active algorithm.

2. Based upon the 'action' defined in the WDS algorithm, the document will be:

   - First, marked as reviewed

   - Second, lab triggers/creates an investigation, closes it and sends notification to CDC
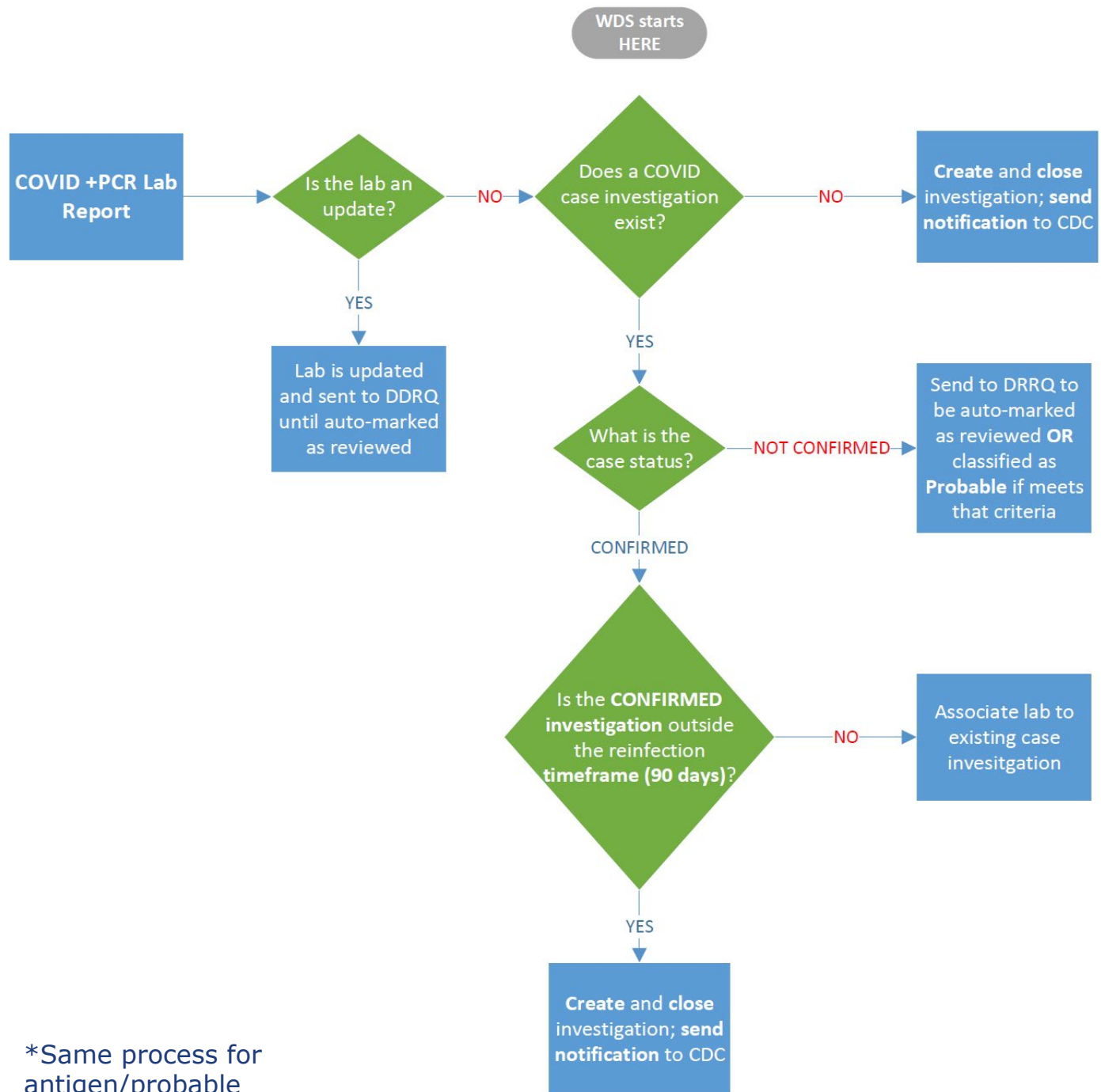
WDS Flowchart for Confirmed Cases

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WDS starts HERE

COVID +PCR Lab Report

Is the lab an update? —NO→ Does a COVID case investigation exist? —NO→ **Create** and **close** investigation; **send notification** to CDC

YES ↓

Lab is updated and sent to DDRQ until auto-marked as reviewed

Does a COVID case investigation exist? —YES↓

What is the case status? —NOT CONFIRMED→ Send to DRRQ to be auto-marked as reviewed **OR** classified as **Probable** if meets that criteria

CONFIRMED ↓

Is the **CONFIRMED investigation** outside the reinfection **timeframe (90 days)**? —NO→ Associate lab to existing case invesitgation

YES ↓

Create and **close** investigation; **send notification** to CDC

*Same process for antigen/probable

Benefits of WDS

- No review needed in DRRQ or manually creating a COVID case for most

- Logic will associate COVID labs to existing cases

- If greater than 90 days, then a new case investigation will be created

- CDC notifications are automatically approved and sent

- Updates can still be made on these cases after closing

Keep in mind….

- Only positive Antigen and PCR tests will trigger cases

- Logic looks for specified result test codes and correlating results;
    - Central office will regularly be updating these
    - Some might not be captured (very small percent) and need to create a case manually

- Cases created will ONLY populate the patient information sent in the lab report

- PCR labs WILL NOT update an existing probable case.

Reports to use for Review

- Pull a list from lab line lists for QA purposes:
  - COVID Simple Lab Line List Report; OR
  - COVID Lab Line List Extended Report
- COVID Case Line List Report
  - All created case will be listed

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	Report Title
Run	Amarillo COVID-19 Negatives Weekly Report
Run	COVID Case Line List Extended Report
Run	COVID Investigation Data
Run	COVID Lab CELR Extract Report
Run	COVID Lab Data DRRQ Replacement
Run	COVID Lab Line List Extended Report
Run	COVID Simple Lab Line List Report
Run	COVID Texas Heakth Trace Extract Report Sorted
Run	COVID-19 Whole Genome Sequencing Lab Results
Run	COVID-19 With Result Codes
Run	COVID-19 report template JG
Run	Covid Auto-marked labs for investigation
Run	PHR 8 COVID-19 Data Extract
Run	PHR 9/10 COVID Line List
Run	PHR8COVIDLineListExtendedReport
Run	TEST PHR 2/3_PHR 7_PHR 8 DSHS Austin Lab results

Public Reports

Expand Subsections

COVID-19 Reports

Reviewing Cases and Labs

- Lab Line Lists will have the '**ASSOCIATED_CASE_ID**' to review all of the cases that were created from the positive labs
- Filter by result_category='Positive'
- Simple lab line list is the example below

ASSOCIATED_CASE_ID	ELECTRON	EVENT_DT	JURISDICTION	LAB_ADDED_DT	LAB_LOCAL_ID	LAB_REPORT_DT	LAB_REVIEW_ST
CAS487984798TX01	Y	10/8/2021 12:28	Grayson CO Health D	10/11/2021 16:50	OBS667205688TX01	10/9/2021 11:07	PROCESSED
CAS487985596TX01	Y	8/28/2021 0:00	Public Health Region	10/11/2021 21:07	OBS667338149TX01	8/28/2021 0:00	PROCESSED
CAS487985715TX01	Y	9/3/2021 0:00	Public Health Region	10/11/2021 21:21	OBS667341656TX01	9/3/2021 0:00	PROCESSED
CAS487958369TX01	Y	10/9/2021 23:27	Dallas CO Health & H	10/11/2021 13:38	OBS667136153TX01	10/10/2021 0:46	PROCESSED
CAS484936018TX01	Y	10/5/2021 0:00	Comal CO Health De	10/11/2021 19:28	OBS667288726TX01	10/7/2021 0:00	PROCESSED
CAS487984351TX01	Y	10/1/2021 0:18	Public Health Region	10/11/2021 15:45	OBS667184776TX01	10/1/2021 0:28	PROCESSED
CAS487545734TX01	Y	7/26/2021 0:00	Tarrant CO Public He	10/11/2021 20:26	OBS667323930TX01	7/27/2021 0:00	PROCESSED
CAS487985861TX01	Y	9/1/2021 0:00	Public Health Region	10/11/2021 21:40	OBS667348396TX01	9/1/2021 0:00	PROCESSED
CAS487985060TX01	Y	10/1/2021 0:00	Public Health Region	10/11/2021 18:01	OBS667244057TX01	10/1/2021 0:00	PROCESSED
CAS487985581TX01	Y	8/25/2021 0:00	Public Health Region	10/11/2021 21:02	OBS667336734TX01	8/25/2021 0:00	PROCESSED
CAS487985581TX01	Y	9/3/2021 0:00	Public Health Region	10/11/2021 21:18	OBS667340928TX01	9/3/2021 0:00	PROCESSED
CAS487984230TX01	Y	10/8/2021 16:20	Dallas CO Health & H	10/11/2021 15:29	OBS667181934TX01	10/10/2021 6:51	PROCESSED
CAS487424934TX01	Y	8/11/2021 0:00	Tarrant CO Public He	10/11/2021 20:43	OBS667330160TX01	8/11/2021 0:00	PROCESSED
CAS487984544TX01	Y	10/9/2021 20:55	Dallas CO Health & H	10/11/2021 16:13	OBS667193171TX01	###########	PROCESSED
CAS487983273TX01	Y	10/8/2021 16:00	Hidalgo CO Health D	10/11/2021 14:07	OBS667153175TX01	10/9/2021 12:01	PROCESSED
CAS487985988TX01	Y	10/6/2021 0:00	Dallas CO Health & H	10/11/2021 22:12	OBS667365093TX01	10/6/2021 0:00	PROCESSED
CAS487983113TX01	Y	10/9/2021 14:36	Austin HHS Division	10/11/2021 13:35	OBS667135394TX01	10/10/2021 5:37	PROCESSED
CAS487984903TX01	Y	10/7/2021 0:00	Houston Dept of HHS	10/11/2021 17:19	OBS667223378TX01	10/8/2021 0:00	PROCESSED
CAS487985658TX01	Y	8/31/2021 0:00	Public Health Region	10/11/2021 21:15	OBS667340304TX01	8/31/2021 0:00	PROCESSED
CAS487986045TX01	Y	10/6/2021 0:00	Public Health Region	10/11/2021 22:27	OBS667374104TX01	10/6/2021 0:00	PROCESSED
CAS487984492TX01	Y	10/9/2021 15:01	San Antonio Metropo	10/11/2021 16:07	OBS667192059TX01	###########	PROCESSED
CAS487848675TX01	Y	10/9/2021 14:21	Houston Dept of HHS	10/11/2021 15:32	OBS667182228TX01	###########	PROCESSED
CAS487984617TX01	Y	10/9/2021 16:23	San Antonio Metropo	10/11/2021 16:21	OBS667194109TX01	###########	PROCESSED
CAS487984159TX01	Y	10/9/2021 20:28	Montgomery CO Hea	10/11/2021 15:09	OBS667173599TX01	10/9/2021 21:23	PROCESSED
CAS487984159TX01	Y	10/9/2021 20:28	Montgomery CO Hea	10/11/2021 15:09	OBS667173597TX01	10/9/2021 21:23	PROCESSED

QA Process

- When reviewing the COVID lab line lists, look for any positive PCR or antigen tests that were not picked up (~95% will be captured)
  - ASSOCIATED_CASE_ID will be blank for these
- Review patients in these lists that had PCR and antigen results come in
  - Fix any that might have had a PCR come in that would need to be changed from 'Probable' to 'Confirmed'
- Routine QA process will be performed by central office

Case Investigation Examples

- CPL example from a PCR positive that created a confirmed case below
- Case is immediately marked as reviewed, assigned case status, closed and sent notification;
  - Case is associated with the lab
  - Edits to cases can still be made after being closed

Expand

Go to: Investigations | Lab Reports | Morbidity Reports | Vaccinations | Treatments | Documents | Contact Records

Patient Events History

Investigations (1)

Compare | Add Ne

	Start Date	Status	Condition	Case Status	Notification	Jurisdiction	Investigator	Investigation ID
☐	10/11/2021	Closed	Novel Coronavirus 2019	Confirmed	COMPLETED	Corpus Christi-Nueces CO PH Dist		CAS487983198TX01

Lab Reports (1)

Add Ne

Date Received	Reporting Facility/Provider	Date Collected	Test Results	Associated With	Program Area	Even
10/11/2021 1:50 PM Ⓔ	**Reporting Facility:** Clinical Pathology Laboratories **Ordering Provider:** VIRGINIA E BELLAMY	10/08/2021	**Admitted to ICU for condition:** No **Employed in healthcare setting:** No **First test for condition of interest:** Yes **Has symptoms for condition:** No **Hospitalized for condition of interest:** No **Pregnancy status:** Not pregnant **Resides in a congregate care setting:** Unknown **SARS-CoV-2 RNA Resp QI NAA+probe:** Positive **Reference Range:** (SEE NOTE) - (Final)	CAS487983198TX01 **Novel Coronavirus 2019**	COVID-19	OBS

Case Investigations Examples (AOEs)

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Medical History
Collapse Subsections
Pre-Existing Conditions
Does the patient have any underlying health conditions? If yes, please select status of each of the following?:

Medical History
Is the patient pregnant?: No
Diabetes Mellitus:
Cardiovascular disease:
Hypertension:
Chronic Pulmonary Disease:
Chronic Kidney disease:
Chronic Liver disease:
Immunosuppressive Condition:
Asthma:
Hemoglobin disorders (e.g. sickle cell disease, thalassemia):
Severe Obesity (BMI >=40):
Specify Other Underlying Condition or Risk Behavior:

Hospitalization Information
Collapse Subsections
Hospital
Was the patient hospitalized for this illness?: No
Hospital:
Admission Date:
Discharge Date:
Total Duration of Stay in the Hospital (in days):
Was the patient admitted to an ICU?: No
ICU Admission Date:

Signs And Symptoms
Collapse Subsections
COVID-19 Case Details
Date of first positive specimen collection:
Diagnosis Date:
Earliest Date Suspected:
Date of Symptom Onset:
Date of Symptom Resolution:
Illness Duration:
Illness Duration Units:
Age at Onset:
Age at Onset Units:
Long COVID Indicator:
Symptoms present during course of illness: No
Symptoms

Test Results
Admitted to ICU for condition:
No
Employed in healthcare setting:
No
First test for condition of interest:
Yes
Has symptoms for condition:
No
Hospitalized for condition of interest:
No
Pregnancy status:
Not pregnant
Resides in a congregate care setting:
Unknown
SARS-CoV-2 RNA Resp Ql NAA+probe:
Positive
Reference Range: (SEE NOTE) - (Final)

- **Ask Order Entry** (AOE) questions can come in with lab report (shown below)

- These will be populated in the case investigation (shown left)

← **AOE**s from lab report

Case Investigation Example (Facility)

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- Reporting facility and ordering provider from lab populate these fields in the 'Case Info' tab

Reporting Information	
Collapse Subsections	
Key Report Dates	
Date of Report: 10/11/2021	
Earliest Date Reported to County:	
Earliest Date Reported to State:	
Reporting Organization	
Reporting Source Type:	
Reporting Organization: Clinical Pathology Laboratories	
Reporting Provider	
Reporting Provider:	
Reporting County	
Clinical	
Collapse Subsections	
Physician	
Physician: VIRGINIA E BELLAMY 2882 HOLLY RD CORPUS CHRISTI, Texas 78415 361-814-2001	

Antigen/Probable Example

- An example of an antigen test creating a probable case

Go to: Investigations | Lab Reports | Morbidity Reports | Vaccinations | Treatments | Documents | Contact Records

Patient Events History

Investigations (1) | Compare | Add New

	Start Date	Status	Condition	Case Status	Notification	Jurisdiction	Investigator	Investigation ID
☐	10/11/2021	Closed	Novel Coronavirus 2019	Probable	APPROVED	Public Health Region 2/3		CAS487984936TX01

Lab Reports (3) | Add New

Date Received	Reporting Facility/Provider	Date Collected	Test Results	Associated With	Program Area	Event
10/11/2021 5:24 PM Ⓔ	**Reporting Facility:** MedExpress Waxahachie N Highway 77 **Ordering Provider:** Jennifer Perez	10/07/2021	**Admitted to ICU for condition:** Unknown **Employed in healthcare setting:** Unknown **Has symptoms for condition:** Unknown **Hospitalized for condition of interest:** Unknown **Pregnancy status:** Unknown **Resides in a congregate care setting:** Unknown **SARS-CoV+SARS-CoV-2 Ag Resp QI IA.rapid:** Positive	CAS487984936TX01 **Novel Coronavirus 2019**	COVID-19	OBS6

Contact Info

For questions or concerns regarding NEDSS, please contact:
NEDSS@DSHS.Texas.Gov

For questions or concerns regarding COVID-19, please contact:
EAIDU-coronavirus@dshs.texas.gov