

Electronic Test Order & Result Data Flow

Lab Web Portal Overview

LIMSConnect Overview



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Objective

- ⑩ ETOR Overview
- ⑩ Understand Data flow for ETOR Activities
- ⑩ Lab Web Portal ETOR Platform Overview
 - ⑩ Representative Screenshots from ARLN LWP for Reference

ETOR Overview

- ETOR stands for **Electronic Test Ordering and Results** system.
 - ETOR is a web-based portal for submitters to enter test orders for specimens to a testing laboratory and view/download results for samples that have completed testing in the testing laboratory.
 - Rapid transfer of data between submitter and tester
 - Eliminates the need for multiple points of data entry
 - Decreases the potential for user errors (typos, transpositions)



ETOR Overview

- An ETOR portal provides a view of sample information, including:
 - Submitter Data
 - Patient information
 - Specimen & Test Order Data
 - Specimen Status: Submitted, Received, In Progress, On Hold, Completed
 - Tracking Information: including the ability to track the sample as it flows through testing workflow in the laboratory
 - Results data: view and download test results (via pdf file) after testing is completed
 - Data Visualization Tools



ETOR DATA FLOW



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Critical Success Factors

- **Design** flexible, extensible ETOR system
- ETOR: LIMs/ EMR System Agnostic
- **Accommodate** multiple workflow submission modes:
 - Paper, Web-based, EMR Submission, LIMS Synchronization
- **Leverage** existing resources and share best practices
- **Ensure** solution standardization, while maintaining flexible approach



LAB WEB PORTAL V2

Enhancements



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LWP Version 2:

LWP Version 2: Enhanced Functionality:

- Batch Upload
- Form Builder
- Epi Prioritization & Approval Workflow with AOE questions
- Commentary panel
- Improved TRF error handling
- Dynamic timeline of specimen life cycle



LWPv2 Functionality: Patient Centric System

- Ability to track patients over time, across systems
- Ability to manage patient demographics, insurance, diagnosis, medications
- Ability to define custom patient metrics
- Ability to view trends and track patient results over time



LIMSCONnect Overview

What is LIMSCONnect?

- High level: Smart data **synchronization service** that provides near-real time data flow between LWP and LIMS



LIMSCONNECT Overview

What are some of the Pros of LIMSCONNECT?

- Near real-time data updates between LWP and LIMS
- Much shorter implementation cycle:
 - Initial development and deployment effort focuses on establishing the LIMSCONNECT interface with LIMS (i.e. “main pipe”).
 - After initial integration development, all laboratory tests can be ordered and resulted with minimal additional effort.



The next set of slides are representative of an instance of LWP built for the ARLN and are provided for reference.



ARLN LWP: Batch Ordering

≡ WA Batch Input

ANDREW SINYAVER

ADD ROW

COPY LAST

RESET COLUMNS

Name of Person ordering this test

Submitting Facility +

Last Name *	First Name *	Job title	State/LHJ/Facility Name *	Requisition Submission D...	Has the scr
Sinyaver	Andrew	Title admin	ABC CLINIC	05/11/2019	

≡ WA Batch Input

ANDREW SINYAVER

ADD ROW

COPY LAST

RESET COLUMNS

Submitting Facility +

Name of Person ordering this test

State/LHJ/Facility Name *	First Name *	Last Name *	Job title	Requisition Submission D...	Has the scr
ABC CLINIC	Andrew	Sinyaver	Title admin	05/11/2019	Yes
ABC CLINIC	Andrew	Sinyaver	Title admin	05/11/2019	Yes



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ARLN LWP: Batch Ordering

≡ WA Batch Input

ANDREW SINYAVER

Batch Upload / WA Batch Input

ADD ROW

COPY LAST

RESET COLUMNS

Patient Information		Sample Information		Name of Person ordering this test		Submitting Facility	
Last Name *	First Name	Date/Time Collected *		Last Name *	First Name *	State/LHJ/Facility Name *	Has the screening
WHYNOT	TIM	05/01/2019 12:03 am		Stevenson	Jane	ABC CLINIC	Yes
Trollie	Juju	05/08/2019 11:03 am		Jarlison	Lillian	ABC CLINIC	No
TIPPEN	JIM	05/06/2019 10:03 am		Thatcher	Christine	ABC CLINIC	Yes
SHISHKA	BOB	05/09/2019 02:04 am		Balraj	Alice	ABC CLINIC	Yes
Olar	Kellie	05/02/2019 11:26 am		Gamble	Allan	ABC CLINIC	Yes
Solo	Han	05/13/2019 12:04 am		Bruce	Mysha	ABC CLINIC	No
ROSA	ALINA	05/14/2019 12:04 pm		Bowden	Abby	ABC CLINIC	No
Quinzel	Harleen	05/06/2019 03:04 pm		Keller	Naomi	ABC CLINIC	Yes
Popa	Adi	05/06/2019 10:04 am		Cleveland	Jai	ABC CLINIC	Yes
MILLER	TOM	05/12/2019 03:04 pm		Rich	Balraj	ABC CLINIC	No
Grim	Ken	05/06/2019 10:45 am		Marriott	Burhan	ABC CLINIC	Yes



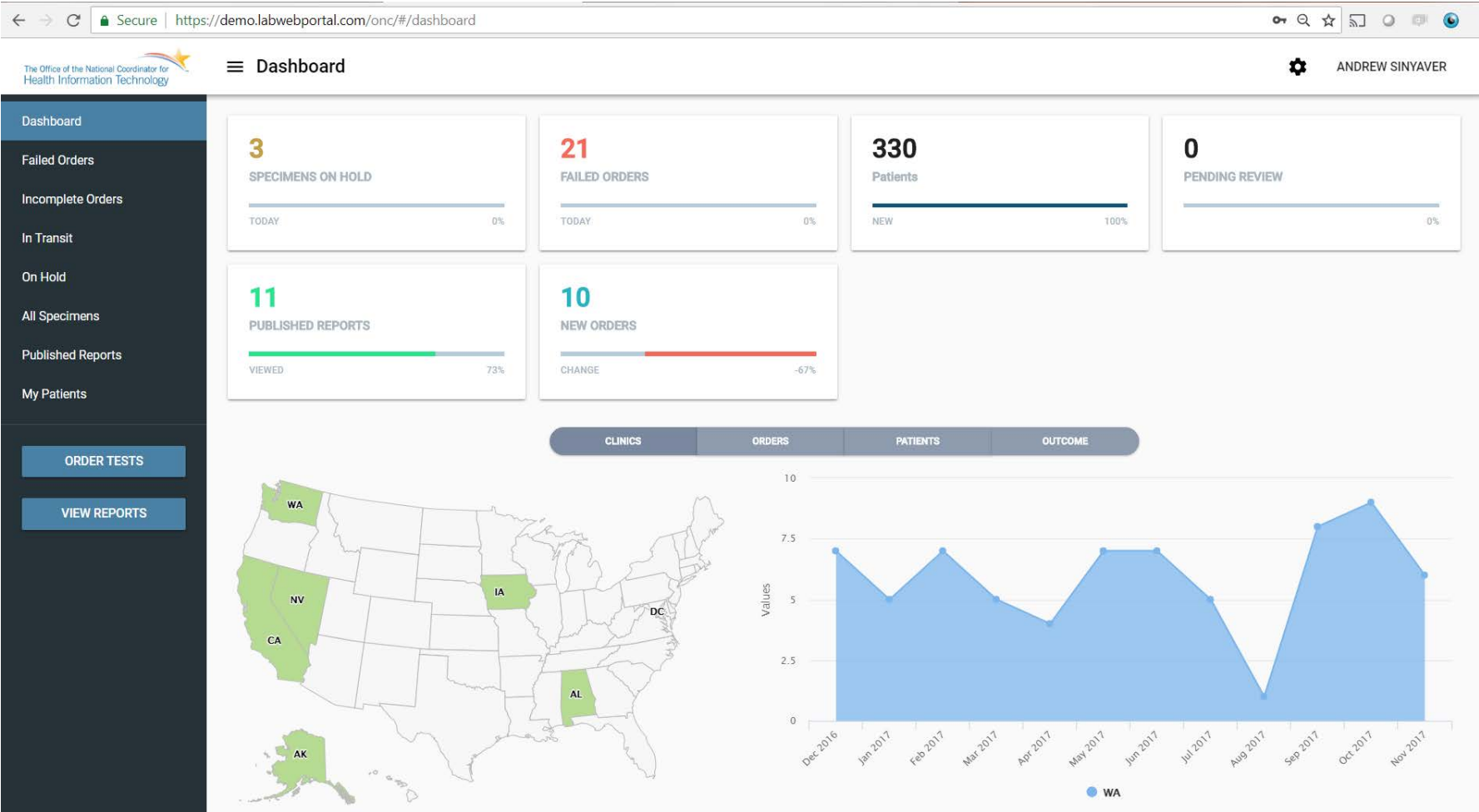
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ARLN LWP: Bulk Upload



ARLN LWP: Dashboard



ARLN LWP: Patient Information

Dashboard

Failed Orders

Incomplete Orders

In Transit

On Hold

All Specimens

Published Reports

My Patients

ORDER TESTS

VIEW REPORTS

Cricket, Jimmy D

Office Patient Id:
SSN: 798465202
DOB: 01/16/1974
Gender: Male

2
Medications

25
Orders

4
Insurances

Orders 12 months: 25
Orders YTD: 25

Trends

Personal Information

Last Name
Cricket

First Name
Jimmy

Middle Initial
D

Date of Birth
01/16/1974

Gender
☐ Female ☒ Male

SSN
798-46-5202

Office Patient ID

Phone

Email

Address

Address

Address (2nd line)

City
Jacksboro

State
TN

Zip
37757

EDIT

ARLN LWP: Patient Tracking

Dashboard

Failed Orders

Incomplete Orders

In Transit

On Hold

All Specimens

Published Reports

My Patients

ORDER TESTS

VIEW REPORTS



Cricket, Jimmy D

Office Patient Id:

SSN: 798465202

DOB: 01/16/1974

Gender: Male



Demographics



Medications and Diagnoses



Insurances

Orders

2 Medications 25 Orders 4 Insurances

Orders 12 months: 25

Orders YTD: 25

Trends



Quick Search

	Specimen Id	Collected	Submitted	Received	Facility Name	Specimen Type	Status
	EMRONC13	06/11/2018 09:00 ...	06/13/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	testw324	06/13/2018 08:36 ...	06/13/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	EMRONC12	06/10/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Urine	Released
	EMRONC11	06/10/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Urine	Released
	ANDREW069	06/12/2018 04:39 ...	06/12/2018	06/12/2018	ABC CLINIC	Urine	Released
	EMRONC10	06/10/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Urine	Released
	EMRONC09	06/07/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Oral Fluid	Released
	EMRONC08	05/31/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Oral Fluid	Released
	EMRONC06	06/06/2018 05:00 ...	06/12/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	EMRONC05	06/08/2018 05:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Oral Fluid	Released
	EMRONC004	06/05/2018 05:00 ...	06/12/2018	01/01/0001	ABC CLINIC	Oral Fluid	InTransit
	EMRONC03	06/04/2018 05:00 ...	06/12/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	EMRONC02	06/03/2018 05:00 ...	06/12/2018	01/01/0001	MED PLUS SC	Oral Fluid	InTransit
	EMRONC01	06/10/2018 05:00 ...	06/12/2018	01/01/0001	MED PLUS SC	Oral Fluid	InTransit
	EMRORDER0004	06/04/2018 09:00 ...	06/11/2018	01/01/0001	MED PLUS SC	Oral Fluid	InTransit
	EMRORDER0003	06/04/2018 09:00 ...	06/11/2018	06/11/2018	ADAPT PROGRAMS LLC ...	Oral Fluid	ReceivedInLat
	EMRORDER0002	06/03/2018 09:00 ...	06/11/2018	01/01/0001	ABC CLINIC	Oral Fluid	InTransit
	EMRONC07	06/03/2018 09:00 ...	06/12/2018	06/12/2018	ABC CLINIC	Oral Fluid	ReceivedInLat
	SFTST009	01/17/2018 12:34 ...	01/16/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	123456780	04/24/2018 10:16 ...	05/08/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	111111114	04/25/2018 09:49 ...	05/01/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	test00201	04/18/2018 01:19 ...	04/19/2018	01/01/0001	ABC CLINIC	Urine	InTransit
	test00017	04/18/2018 12:57 ...	04/18/2018	01/01/0001	ABC CLINIC	Urine	InTransit

EXPORT

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ARLN LWP: Specimens Tracking

≡ All Specimens 913

⚙️ ANDREW SINYAVER

🔍 Quick Search

☐	Specimen Id	Patient Name	Patient DOB	Collected	Submitted	Received	Facility Name	Specimen Type	Status	Trend	Outcome
☐	EMRONC025	Duddupudi, Rajesh	01/01/1990	04/28/2018 09:00 pm	05/01/2018	05/01/2018	ABC CLINIC	Oral Fluid	ReceivedInLab		
☐	2 ANDREW060	Cruz, Tom J	01/23/1961	05/01/2018 03:36 pm	05/01/2018	05/01/2018	ABC CLINIC	Urine	Released		NEGAT
☐	ANDREW059	Cruz, Tom J	01/23/1961	05/01/2018 02:42 pm	05/01/2018	05/01/2018	ABC CLINIC	Urine	ReceivedInLab		
☐	ANDREW058	Cruz, Tom J	01/23/1961	05/01/2018 10:14 am	05/01/2018	01/01/0001	ABC CLINIC	Urine	InTransit		
☐	1 ANDREW058	Duddupudi, Rajesh	01/01/1990	05/01/2018 02:14 pm	05/01/2018	05/01/2018	ABC CLINIC	Urine	ReceivedInLab		
☐	EMRONC999	Duddupudi, Rajesh	01/01/1990	04/27/2018 09:00 pm	05/01/2018	01/01/0001	ABC CLINIC	Oral Fluid	PendingReview		
☐	2 EMRONC022	Duddupudi, Rajesh	01/01/1990	04/27/2018 09:00 pm	05/01/2018	05/01/2018	ABC CLINIC	Oral Fluid	Released		NEGAT
☐	ANDREW057	Cruz, Tom J	01/23/1961	04/27/2018 11:35 am	05/01/2018	05/01/2018	ABC CLINIC	Urine	Released		NEGAT
☐	ANDREW056	Cruz, Tom J	01/23/1961	04/27/2018 07:30 am	05/01/2018	01/01/0001	ABC CLINIC	Urine	PendingReview		
☐	2 EMRONC021	Duddupudi, Rajesh	01/01/1990	04/23/2018 12:00 am	04/30/2018	01/01/0001	ABC CLINIC	Oral Fluid	Released		POSITIV
☐	ANDREW055	Cruz, Tom J	01/23/1961	04/30/2018 09:57 pm	04/30/2018	01/01/0001	ABC CLINIC	Urine	Released		POSITIV
☐	ANDREW054	Cruz, Tom J	01/23/1961	04/30/2018 09:39 pm	04/30/2018	01/01/0001	ABC CLINIC	Urine	ReceivedInLab		
☐	ANDREW051	Cruz, Tom J	01/23/1961	04/30/2018 08:44 pm	04/30/2018	01/01/0001	ABC CLINIC	Urine	PendingReview		
☐	EMRONC020	Duddupudi, Rajesh	01/01/1990	04/28/2018 12:00 am	04/30/2018	01/01/0001	ABC CLINIC	Oral Fluid	Released		POSITIV
☐	EMRONC007	Duddupudi, Rajesh	01/01/1990	04/26/2018 09:00 pm	04/30/2018	01/01/0001	ABC CLINIC	Oral Fluid	InTransit		
☐	EMRONC005	Duddupudi, Rajesh	01/01/1990	04/26/2018 09:00 pm	04/30/2018	04/30/2018	ABC CLINIC	Urine	ReceivedInLab		

EXPORT

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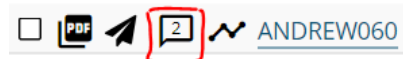
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ARLN LWP: Specimens Tracking

Timeline displays key events in specimen life



Commentary panel enables secure message exchange between clinics and laboratory



- A** Andrew Sinyaver
05/01/2018 11:43 am
answered all the AOE questions. let me know if anything else is needed
- T** Test User
05/01/2018 11:44 am
roger that

ARLN LWP: Test Ordering

≡ TRF

ANDREW SINYAVER

Specimen Id *

ONC110211

1 Physician Information

Physician Name *

DOE, JANE MD



Facility Name *

ABC CLINIC

2 Patient Information

Last Name *

Cruz



First Name

Tom

Middle Initial

J

Birth Date

01/23/1961

Gender

Male

Address

City

Philadelphia

State

PA

Address (2nd line)

Zip

23121

Billing Method *

☒ Insured ☐ Self-Pay ☐ Uninsured



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ARLN LWP: Ask at Order Entry Questions

Answer few questions.

Is patient pregnant? *

☐ Yes ☒ No

Date of Exposure?

06/06/2018 

Symptoms (select all that apply):

☒ Cough

☐ Fever

☒ Chills

CANCEL SUBMIT

ARLN LWP: Epidemiologist Review & Approval

≡ Orders to Review ⁴

⚙️ TEST USER

2 modified CANCEL SUBMIT

	Specimen Id	Patient Name	Patient DOB	Collected	Submitted	Facility Name	Epi Program Name	Priority	Review	Specimen Type	Key
☐	  testbb555	WHYNOT, TIM	11/12/1975	06/13/2018 09:12 am	06/13/2018 01:13 am	ABC CLINIC	Zika	High	▼ Approved	▼ Urine	OIDON180001243
☐	  test3424o	Vera, Oscar	10/02/1976	06/12/2018 12:43 pm	06/12/2018 04:44 am	ABC CLINIC	Zika		▼	▼ Urine	OIDON180001059
☐	  ANDREW067	Wayne, John	10/16/1917	06/12/2018 12:35 pm	06/12/2018 04:38 am	ABC CLINIC	FLU	Low	▼ Rejected	▼ Urine	OIDON180001057
☐	  test342pp	WHYNOT, TIM	11/12/1975	06/12/2018 06:37 am	06/12/2018 04:37 am	ABC CLINIC	Zika		▼	▼ Urine	OIDON180001056

EXPORT



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ARLN LWP: Published Patient Reports

Published Reports ¹⁰³

ANDREW SINYAVER

Quick Search

☐	SpecimenId	LimsAccessionId	PatientName	PatientDateOfBirth	DateCollected	DateReceived	Outcome
☐	OIDPR180001260	170700048	pregnancy, nancy	10/10/2010	07/27/2017 11:12 am	07/27/2017 11:12 am	POSITIVE
☐	OIDPR180001259	170700046	pregnancy, nancy	10/10/2010	07/26/2017 01:31 pm	07/26/2017 01:31 pm	POSITIVE
☐	OIDPR180001256	170700042	pregnancy, nancy	10/10/2010	07/20/2017 01:56 pm	07/20/2017 01:56 pm	POSITIVE
☐	OIDPR180001255	170700041	pregnancy, nancy	10/10/2010	07/20/2017 01:38 pm	07/20/2017 01:38 pm	POSITIVE
☐	OIDPR180001235	170700017	pregnancy, nancy	10/10/2010	07/06/2017 07:58 am	07/06/2017 07:58 am	
☐	OIDPR180001233	170700012	pregnancy, nancy	10/10/2010	07/01/2017 12:00 am	07/05/2017 10:04 am	POSITIVE
☐	OIDPR180001232	170700011	pregnancy, nancy	10/10/2010	07/01/2017 12:00 am	07/05/2017 09:17 am	POSITIVE
☐	OIDPR180001231	170700010	pregnancy, nancy	10/10/2010	07/01/2017 12:00 am	07/05/2017 09:11 am	POSITIVE
☐	OIDPR180001230	170700009	pregnancy, nancy	10/10/2010	07/01/2017 12:00 am	07/05/2017 09:07 am	POSITIVE
☐	OIDPR180001229	170700008	pregnancy, nancy	10/10/2010	07/01/2017 12:00 am	07/05/2017 09:02 am	POSITIVE
☐	OIDPR180001228	170700007	pregnancy, nancy	10/10/2010	07/05/2017 08:54 am	07/05/2017 08:54 am	POSITIVE
☐	OIDPR180001227	170700006	pregnancy, nancy	10/10/2010			
☐	OIDPR180001218	170600127	GORDON, FLASH	11/12/1941			
☐	OIDPR180001216	170600124	GORDON, FLASH	11/12/1941			
☐	OIDPR180001212	170600118	GORDON, FLASH	11/12/1941			
☐	OIDPR180001211	170600116	GORDON, FLASH	11/12/1941			
☐	OIDPR180001209	170600113	GORDON, FLASH	11/12/1941			

Send to Physician

If you would like to share this patient report with another physician, please enter his or her email address below. Please note that you are responsible for verifying that the receiver has appropriate rights to see this patient's PHI. This email is not encrypted.

Subject

patient report

(optional)

Emails *

3rd_party_physician@abchospital.com

Message

please take a look at the attached report

(optional)

CLOSE

SUBMIT



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ARLN LWP: Help Page

≡ Help

ANDREW SINYAVER

Resources

CONTACT US

Corporate Info

phone (415) 287-2300

fax (415) 287-2450

email customercare@caredx.com

3260 Bayshore Blvd

Brisbane, CA 94005

Documents

[AlloMap](#)

[Draw site locator](#)

[Quick Guide](#)

[Quick guide example](#)

Frequently Asked Questions

🔍 Quick Search

How do I submit a test order?



Go to Dashboard and click on "Click to Order" tile to open electronic Test Requisition Form.

How do I track my test order?



How to view published lab report?



How to view submitted order?



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