

2012 National Survey on Health Information Exchange in Clinical Laboratories

If you have questions, please call 1-800-975-2754

Please answer questions in this survey about:

Your Privacy is Protected. All information that would let someone identify you will be kept private. NORC at the University of Chicago will not share your personal information with anyone without your OK. Your responses to this survey are also completely **confidential**. You may notice a number on the cover of the survey. This number is used **only** to let us know if you returned your survey so we don't have to send you reminders.

Your Participation is Voluntary. You may choose to answer this survey or not.

What To Do When You're Done. Once you complete the survey, place it in the envelope that was provided, seal the envelope, and return the envelope to:

National Survey on Health Information Exchange in Clinical Laboratories NORC 1 N STATE ST, FL 16 CHICAGO, IL 60602-9925

If you want to know more about this study, please call toll-free at 1-800-975-2754 or email LabSurvey@norc.org.

Statement of Burden

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is (0955-0014). The time required to complete this information collection is estimated to average 20 minutes per response, including the time to review instructions, search existing data sources, and gather the data needed, and complete and review the information collection. In you have comments concerning the accuracy of this time estimate(s) or suggestions for improving this form, please write to: U.S. Department of Health & Human Services, OS/OCIO/PRA, 200 Independence Ave., S.W., Suite 336-E, Washington D.C. 20201, Attention: PRA Reports Clearance Officer

DEFINITIONS (Ordered Alphabetically)

An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization. Any computerized exchange typically transmitted over the internet or through a network, using health information technologies such as Electronic Health Records (EHRs) and direct access via a
health information technologies such as Electronic Health Records (EHRs) and direct access via a
lab portal. Please do not include fax machines.
The electronic movement of health-related information among organizations according to nationally recognized standards.
An organization that oversees and governs the exchange of health-related information among organizations according to nationally recognized standards.
A messaging standard that can be used to send laboratory results from a laboratory to an Electronic Health Record (EHR). Health Level Seven International (HL7) is the global authority on standards for interoperability of health information technology with members in over 55 countries.
A collection of computerized methods to acquire, analyze, store, and report laboratory data.
A computerized clinical laboratory information system (LIS) is a software system used in a clinical laboratory to computerize laboratory business processes such as test processing, test scheduling, specimen and sample tracking, inventory control, reporting, quality control and quality assurance management, and statistical analysis and surveillance.
Terminology used to provide consistent naming of datasets that includes standard codes for laboratory test names; for example, "Test name: Salmonella Stool Culture LOINC Code: 20955-1"
A set of rules that allow information to be shared and processed in a uniform and consistent manner. Messaging standards are particularly important because they define how information is packaged and communicated from one party to another. Such standards set the language, structure and data types required for seamless integration from one system to another.
A physician or, when appropriate, a non-physician practitioner who orders services for the patient.
An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be drawn from multiple sources while being managed, shared, and controlled by the individual.
Hosted and maintained by a provider or payer organization, without transferring access and control and use of the information to the individual, are not considered PHRs based on this definition.
Usually large, commercial laboratories with locations throughout the country that perform both routine and specialized laboratory tests. Reference labs often have small, satellite labs serving several communities that collect specimens to be sent to the larger "parent" laboratory for testing.
A standard terminology that includes standard codes for organisms and other results; for example, "Test name: Salmonella Enteridis, SNOMED CT Code:7352500."
Documentation of discrete data using controlled vocabulary, creating fixed fields within a record or file, or another method that provides clear structure to information (is not completely free text).
A clinical diagnostic laboratory service. Service and test are synonymous.
A laboratory test that is (1) ordered by a provider; (2) performed on received specimens; and (3) finalized and results have been produced. The laboratory has incorporated and calculated reference data to produce the results referenced.

Section 1. General Information

We would like to begin by asking you a few background questions about you and your laboratory.

This survey is being sent to a random sample of clinical laboratories. Some laboratories are owned by a company that has multiple locations; others are a single entity and have only one location.

For purposes of this survey, we would like you to only respond for the location to which this survey was mailed.

Q1. Does your laboratory have multiple locations or only a single location?

- 1
 Multiple locations
- ² Only a single location (this one) \rightarrow (Go to Q2)

If multiple locations:

- Q1a. Are the other locations in this state only or in more than one state?
 - 1 This state only
 - 2 🔲 More than one state

Q2. Which option below best describes your laboratory's organizational affiliation or ownership? Please select all that apply.

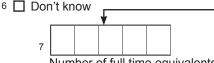
- 1 Affiliated with a University/Academic Center
- ² Clinic or Group Practice
- 3 🗌 Health System
- 4 Commercial laboratory
- 5 🔲 Other (please specify)
- 6 Don't know

Q3. Is your laboratory a reference laboratory?

- 1 🗌 Yes
- 2 🗌 No
- 3 Don't Know

Q4. What is your job title?

- 1 Laboratory Director
- ² Laboratory Manager
- 3 Laboratory Information System Director
- 4 🔲 Medical Laboratory Technician or Clinical Laboratory Technician
- 5 🔲 Medical Technologist or Clinical Laboratory Scientist
- 6 🗌 Staff Pathologist
- 7 Chief Information Officer
- 8 Other (please specify)
- 9 Don't know
- Q5. How many full time equivalents (FTEs) currently work only in the laboratory? This would not include administrative and information technology staff who are shared with other parts of the laboratory system.
 - 1 🗌 Fewer than 15
 - 2 🗌 15 to 30
 - 3 □ 31 to 45
 - 4 🗌 46 to 60
 - 5 🔲 61 or more (if selected, please provide number) _



Number of full time equivalents

Q6. Which option below best describes the type of testing your laboratory performs?

- ² Clinical pathology testing
- 3 🔲 Both
- Q7. Does your laboratory perform any of the following types of <u>clinical pathology</u> testing?

	Yes	No	Don't know
a. Routine chemistry	1	2	3 🔲
b. Clinical Microbiology (e.g., Virology, immunology)	1	2	3 🔲
c. Hematology	1 🗌	2	3 🗌
d. Genetics e. Other <i>(please specify)</i>	1 🗌	2	3 🗖
	1 🗌	2 🗌	3 🔲

Section 2. Current Systems and Technical Architecture

We would like to ask you about your laboratory's current practices on software-based information management systems. In particular, we are interested in learning about your use of Laboratory Information Systems (LIS) or Laboratory Information Management Systems (LIMS). To facilitate completion of the following sections, we suggest working with your LIS manager.

- Q8. Does your laboratory currently use a Laboratory Information System (LIS/LIMS)?
 - 1 🗌 Yes
 - 2 □ No → (Go to Q12)
 - ³ \Box Don't Know \longrightarrow (Go to Q12)
- Q9. Does your Laboratory Information System (LIS/ LIMS) support multiple laboratories in the laboratory system or only your laboratory? By multiple laboratories we mean either a laboratory with multiple physical sites or multiple laboratories located within a single system.
 - 1 I Multiple laboratories
 - ² Only one laboratory
 - 3 🔲 Don't Know
- Q10. What type of Laboratory Information Systems (LIS/LIMS) does your laboratory currently use? Please select all that apply.
 - 1 Commercial system managed by the laboratory
 - ² Commercial system managed by a third-party vendor
 - ³ □ Local or internally developed → (Go to Q12)
 - 4 □ Other (please specify)_
 - ⁵ \Box Don't know \longrightarrow (Go to Q12)
- Q11. Which vendor(s) supplies your Laboratory Information System(s) (LIS/LIMS)? Please select all that apply.
 - 1 🗌 Cerner
 - 2 🗌 CPSI

 - 4 ☐ Healthland
 - 5 □ HMS
 - 6 McKesson
 - 7 🗌 Meditech
 - 8 Middleware Vendor (e.g., Merge)
 - 9 🔲 Orchard
 - 10 SCC Soft
 - 11 Siemens
 - 12 Sunquest
 - 13 Other (please specify)_
 - 14 Don't Know

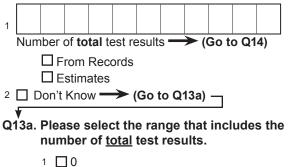
Section 3. Methods Used to Send Test (Lab) Results and Volume of Exchange to Ordering Practioners

PLEASE REMEMBER TO ONLY RESPOND FOR THE LOCATION TO WHICH THIS SURVEY WAS MAILED.

- Q12. We would like to ask you some questions about test results volume for the calendar year 2012. If you cannot report for the calendar year, please identify the period of time used to report the following test volumes and electronic exchange.
 - 1 🗌 2012 calendar year
 - 2 Other than calendar year. Please enter the periods this report will cover.

	From								То						
Мо	nth	Da	ay		Ye	ear		Мо	nth	Da	ay		Ye	ear	
				2	0	1						2	0	1	

Q13. Approximately, how many total test results did your laboratory send to <u>ordering practitioners</u> during 2012? By test results we mean a laboratory test that is (1) ordered by an authorized healthcare provider; (2) performed on received specimens; and (3) finalized and results have been produced. e.g., a Complete Blood Count (CBC), not its component parts, should be counted as a single test result. *Please consult your records to answer this question. If records are not available, please provide your best estimate.*



- 2
 ☐ 1 to 9,999

 3
 ☐ 10,000 to 19,999

 4
 ☐ 20,000 to 29,999

 5
 ☐ 30,000 to 39,999

 6
 ☐ 40,000 to 49,999

 7
 ☐ 50,000 to 59,999

 8
 ☐ 60,000 to 69,999

 9
 ☐ 70,000 to 79,999

 10
 ☐ 80,000 to 89,999

 11
 ☐ 90,000 to 99,999

 12
 ☐ 100,000 to 249,999

 13
 ☐ 250,000 to 999,999
- 14 🗌 1 million to 1.99 million
- 15 2.0 million to 2.99 million
- 16 🔲 3.0 million to 4.99 million
- 17 🗌 5.0+ million

Q14. Did your laboratory send test results to <u>ordering</u> <u>practitioners</u> during 2012 using any of the following methods? *Please answer a-d.*

Yes	No	Don't know
1 🔲	2	3 🔲
1 🗌	2 🗌	3 🗌
1 🗖	2	3 🗖
1 🗖	2 🗖	3 🗌
	1	

Q15. How did your laboratory share test results

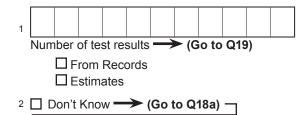
<u>electronically</u> with <u>ordering practitioners</u>? Please consider only results transmitted in 2012 for the following methods. Please answer a-e.

Don't

	Yes	No	know
a. Web portal provided by your laboratory	1	2 🗖	3 🔲
b. Web portal provided by a third party	1 🗌	2 🗌	3 🗌
c. Third party middleware vendor	1	2 🗖	3 🔲
d. Interface to Health Information Exchange (HIE)/Health Information Organization (HIO)	1 🗌	2	3 🗖
e. Interface to Electronic Health Records (EHRs)	1	2	3 🔲

- Q16. Is your laboratory currently capable of sending test results <u>electronically in a structured format</u> (that is, using the HL7 messaging standard and a vocabulary standard such as LOINC) to an ordering practitioner's Electronic Health Record (EHR)?
 - 1 🗌 Yes
 - ² □ No → (Go to Q19)
 - 3 Don't Know —> (Go to Q19)

- Q17. Did your laboratory send test results <u>electronically in a structured format</u> during 2012 to an ordering practitioner's Electronic Health Record (EHR)?
 - 1 □ Yes → (Go to Q18)
 - 2 □ No → (Go to Q19)
- Q18. Approximately, how many test results did your laboratory send <u>electronically in a structured</u> <u>format</u> during 2012 to <u>ordering practitioners</u> using <u>Electronic Health Records (EHRs)?</u> *Please consult your records to answer this question. If records are not available, please provide your best estimate.*



Q18a. Please select the range that includes the number of total test results.

1 🔲 0
2 🔲 1 to 9,999
3 🔲 10,000 to 19,999
4 🔲 20,000 to 29,999
5 🔲 30,000 to 39,999
6 🔲 40,000 to 49,999
7 🔲 50,000 to 59,999
8 🗖 60,000 to 69,999
9 🔲 70,000 to 79,999
10 □ 80,000 to 89,999
11 □ 90,000 to 99,999
12 100,000 to 249,999
¹³ ☐ 250,000 to 999,999
14 1 million to 1.99 million
15 2.0 million to 2.99 million
16 3.0 million to 4.99 million
17 5.0+ million

Section 4. Lab Exchange Standards

In the following section, we will refer to "HL7." HL7 (Health Level 7) is a messaging standard that can be used to send laboratory results from a laboratory to an Electronic Health Record (EHR). To facilitate completion of the following sections, we suggest working with your IT staff or your LIS manager.

Q19. Which of the following messaging standards are currently in use by your laboratory for result reporting? Please select all that apply.

- 1 🗌 HL7 2.3.1
- 2 THL7 2.5.1
- 3 Other HL7 version (please specify)
- 4 D Proprietary
- 5 Other (please specify)_
- 6 🗌 None
- 7 🔲 Don't know

Q20. Which vocabulary standard for laboratory result reporting is currently in use by your laboratory? Please select all that apply.

- 1 LOINC (Logical Observation Identifiers Names and Codes)
- 2 SNOMED CT (Systematized Nomenclature of Medicine)
- $3 \prod$ Both of the above
- 4 🗌 Local Codes
- 5 🔲 Other (please specify)
- 6 🗍 None
- 7 Don't know

Section 5. Barriers to Exchange

We would like to learn about barriers to laboratory information exchange.

- Q21. Which one of the following issues concerning electronic delivery of laboratory test results in a structured format is the primary challenge your laboratory is currently facing? Please select one box
 - 1 EHR systems are unable to receive structured results
 - ² Insufficient information on exchange options available
 - 3 Lack of harmonization of industry accepted standards
 - 4 Inability of Laboratory Information System (LIS) to generate/receive electronic messages/ transactions in structured and standardized format
 - 5 Subscription rates/fees for exchange service providers (including lab hub, third party middleware vendor, and Health Information Exchange providers) are too high
 - 6 Compliance with Clinical Lab Improvement Amendments (CLIA) regulations
 - 7 Other (please specify)
 - 8 🔲 No challenges experienced in delivering structured laboratory results
 - 9 Don't know
- Q22. Which one of the following issues concerning laboratory interfaces for electronic delivery of test results in a structured format to ordering practitioners is the primary challenge your laboratory is currently facing? Please select one box.
 - 1 The time required to build interfaces
 - ² The costs associated with building interfaces
 - 3 Lack of harmonization of industry accepted standards
 - 4 Lack of specific implementation guides
 - ⁵ Lack of trained staff (human capital) needed to implement the interfaces
 - 6 Other (please specify)
 - 7 🗌 No challenges experienced in developing laboratory interfaces for delivery of laboratory results
 - 8 Don't know

Q23. Which of the following issues concerning
adoption of LOINC codes for sending results best
describes the current situation in your laboratory?
Please select all that apply.

- 1 Our laboratory information system (LIS) is not able to store LOINC codes
- 2 Our laboratory does not have LOINC codes/ mapping for some of our tests
- 3 Our laboratory does not have LOINC codes/ mapping for all our tests
- 4 Our laboratory has insufficient resources to maintain LOINC mappings over time
- ⁵ Our laboratory information system (LIS) is not able to send LOINC codes, as it does not have an interface to send laboratory reports with LOINC codes
- 6 LOINC is not robust enough to support local code
- 7 EHRs do not have the ability to accept LOINC codes
- 8 Other (please specify)_
- 9 No issues experienced in using LOINC codes to send laboratory reports
- 10 Don't know

Section 6. Implementation of Guidelines and Regulations

In the following question, we will refer to the "LRI guide." The "LRI guide" is the implementation guide developed by the Office of the National Coordinator's (ONC) Standards and Interoperability Framework Laboratory Results Interface (LRI) Initiative. It is an implementation guide for electronic submission of laboratory results to ambulatory EHRs. LRI is required for Meaningful Use Stage 2. For more information about the S&I Framework initiatives, including the LRI initiative, visit <u>http://wiki.siframework.org/Lab+Results</u> +Interface+(LRI)+Initiative

- Q24. Has your laboratory implemented the LRI guide for laboratory result content and format?
 - 1 🗌 Yes
 - 2 🗌 No
 - 3 🔲 Don't know

- Q25. Does your laboratory allow patients or their legal representatives direct access to their laboratory results?
 - 1 □ No → (Go to Q26)
 - 2 It is not legal in my state to send lab results directly to patients (Go to Q26)
 - 3 🗌 Yes ----> (Go to Q25a) --

4 🔲 Don't Know

Q25a. If YES, please indicate which of the following methods of delivery your laboratory uses to deliver results directly to patients or patients' legal representatives.

	Yes	No	Don't know
a. Mail and/or Fax	1	2	3 🔲
 Web portal solution provided by laboratory 	1	2	3 🔲
c. Transmission of results to a designated Personal Health Record (PHR)	1 🗌	2 🗖	3 🔲
d. Through a community Health Information Organization that provides patient access to			
information	1 🔲	2	3 🔲
e. Through a physician's EHR that provides patients access	1 🔲	2 🗌	3 🗌

Q26. Please enter your laboratory's Medicare Provider Number below.

1				

Q27. Please provide a contact email address and phone number for the person who completed this survey.

EMAIL ADDRESS 1	
EMAIL ADDRESS 2	
PHONE NUMBER 1	
PHONE NUMBER 2	

Please check this box if more than one person helped complete this questionnaire.

End of Questionnaire

Thank you.

Please return the completed questionnaire in the enclosed postage-paid envelope to:

National Survey on Health Information Exchange in Clinical Laboratories NORC 1 N STATE ST, FL 16 Chicago, IL 60602-9925

If you prefer, you may: Fax your completed questionnaire to: **877-504-6296** or e-mail it to LabSurvey@norc.org.

Please make sure to include the survey cover page in your fax or email.

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VERSION B (NON-HOSPITALS: REGIONAL & INDEPENDENT)