The Public Health Need for ETOR

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A Fundamental Capability for Public Health Laboratories

The nation depends on public health laboratories to conduct critical and complex tests to keep our country safe from emergent threats, environmental contaminants, and food-borne illnesses. Accurate data and efficient turn around time for results is crucial. Electronic Test Orders and Results (ETOR) enables laboratories and health care providers to directly exchange test orders and results across different facilities and electronic information systems using agreed upon standards. The sooner laboratories receive and process test orders, the faster they can return results that are essential for surveillance, outbreak and public health emergency response and early intervention, which leads to better patient care.

ETOR is quickly becoming standard protocol across clinical laboratories, and is increasingly being defined as a required business need for providers.

Public Health Laboratories are Behind the Curve

Out-dated technologies for sending data
Providers still have to rely on mail or a fax to receive time-sensitive results which can take up to a week.

Manual Entry of Data
Hundreds of thousands of entries come through a laboratory, and each must be manually accepted and entered by staff. When data are missing, staff must contact providers to complete or verify the information — a time-consuming and error-prone process.

Inefficient Workflow
Laboratories are often not notified of incoming orders and specimens. Because test orders and specimens usually travel together, laboratories cannot anticipate or plan for what tests will need to be run beforehand and are unaware when a specimen is lost or does not arrive.

ETOR Can Bring Public Health into the Future

Real Time Results
ETOR presents results to be viewed in near real-time, enabling quick action to be taken if needed for early intervention.

Electronic Entry of Data
Providers send data that is already in their system. No data has to be duplicated and entered on the laboratory side. With ETOR, the sample, orders and results are all automatically linked to identification information of the patient - reducing workforce burden and leading to less errors.

Forecasting
Because the test order typically arrives before the sample, laboratories are able to prepare, schedule and appropriately determine needs in advance. If a specimen is overdue, the laboratory can contact the provider or shipper to prevent loss of critical or time-sensitive specimens.
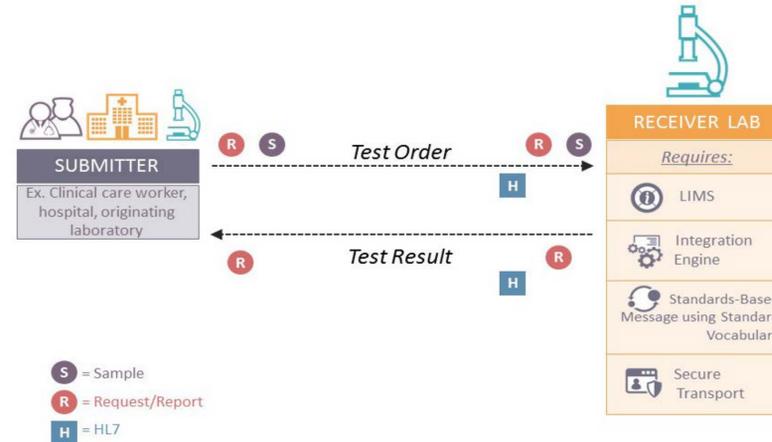
How do we get there?

Funding
There must be sustained financial support to stand-up a comprehensive system, connect networks, engage in fruitful public-private partner-ships and employ experts to implement data sharing tools.

Legal Framework
Individual jurisdictions have unique legal frameworks around data exchange. Federal guidance, as well as a resource library with templates and data use sharing contract examples, would help mitigate complexity.

Workforce
Skilled informatics professionals are essential for implementing, sustaining and improving initiatives like ETOR. Laboratories must be able to support their training and retention to ensure success.

Adoption & Buy-In
ETOR potential won't be achieved without complete buy-in and dedication from the laboratory and provider. Federal incentives, similar to Meaningful Use, could help drive adoption of an ETOR solution.

ETOR Considerations for Implementation

SUBMITTER
Ex. Clinical care worker, hospital, originating laboratory

Test Order

RECEIVER LAB
Requires:
- LIMS
- Integration Engine
- Standards-Based Message using Standard Vocabulary
- Secure Transport

Test Result

S = Sample
R = Request/Report
H = HL7

Establishing ETOR capability can be an onerous and time-consuming initiative. Without an advocate in the laboratory, and commitment to the cause, achieving ETOR is unattainable. For a laboratory's first use case, it is ideal to establish one interface with a trusted and equally committed customer or submitter who already has experience implementing ETOR. Specifically, the customer should be a high-volume submitter, for greater pay-off.

1. Define the team
   - Staff and IT support on both the laboratory and provider side is critical. IT teams need to determine how they will address firewall issues and allow outside systems to interact.
   - Who will be doing the integrated testing? Who will be ordering? Who will be accepting? They all need to be included early in the process to run through the actual scenarios and considerations.

2. Establish protocol with trading partners
   - Laboratories and agencies need to identify their rules for account management, security for Health Information Portability and Accountability Act (HIPAA), support model, features, business rules for result access, legal review and disclaimers.
   - Determine message transport mechanism (e.g., sFTP, PHINMS, Web Services, etc.) right away.
   - Mutually agree to an implementation guide, determine the language of communication (Health Level 7 (HL7), 2.5.1, etc.), and clearly define the expectations of all parties.
   - Ideally, the laboratory should have one implementation guide based on HL7 standards, but often will have to customize slightly with each vendor and issue slight variances in the guides depending on their partner's capabilities.
   - The implementation guide should feature (or provide access to) the ask-at-order entry questions and a compendium for list of tests.

3. Consider common scenarios that require decision making from the start:
   - Can a laboratory communicate add-on tests performed back to the provider if it wasn't part of the initial request?
   - Does the laboratory's internal systems have the capacity to handle batched submissions in one request? Or do test orders need to be submitted separately?
   - Can a test order include multiple tests for a single specimen?

Web Portals to Support ETOR
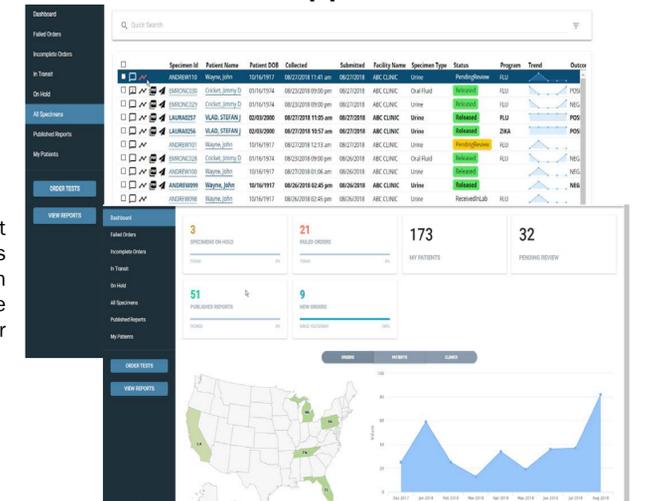
It is a significant undertaking for a laboratory to achieve ETOR functionality, and because every laboratory's needs and capabilities are different, one size does not fit all. The use of web portals is a great way to enhance and support ETOR functionality, and allows for some additional customization. These web-based tools allow stakeholders to submit test requests and receive test results in a timely and efficient manner through a shared centralized system. Portals eliminate the need for double data entry or transcribing hand-written requests, which greatly reduces data errors and man hours for the laboratory. Additionally, portals:

- Allow interaction between multiple stakeholders (e.g., laboratories, epidemiologists, CDC) both inside and outside the laboratory for a variety of use cases.
- Bypass the need to have a one-to-one connection with every provider's information system.
- Serve as an opportunity to collect data from low-volume customers who don't have the ability to build more complex systems or who otherwise would continue to use paper.

For More Information
Visit the Informatics Program area on www.aphl.org for more information on Informatics initiatives, FAQs, etc.

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