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Tracking Communicable Disease Electronic Laboratory Data in New York State

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Objective

Ensure all reportable communicable disease data coming through the Electronic Clinical Laboratory Reporting System (ECLRS) is reported to the Communicable Disease Electronic Surveillance System (CDESS) in a timely and complete manner.

Introduction

All positive laboratory tests of reportable conditions on persons residing in New York State (NYS) are mandated to be sent to the NYS Department of Health (NYSDOH) via ECLRS. NYS, excluding New York City (NYC), receives over 100,000 ECLRS messages on general communicable diseases (CD) and hepatitis (HEP), not including Lyme disease and Influenza, annually. Although ECLRS is integrated with CDESS, the local health departments (LHD) need to review each lab report for proper initiation of a case investigation. Once the investigation is created, the LHD may need supportive evidence to create a reportable case or may dismiss it if evidence does not support the case definition.

Our goal is to follow all ECLRS records from official retrieval by the LHD through CDESS case creation, to ensure all cases are reported and are done so in a timely manner. Cases for diseases that are nationally notifiable are sent to CDC the following week for publication in the Morbidity and Mortality Weekly Report. Timely reporting to CDC allows for more accurate description of disease occurrence, which is essential for public health planning and response.[1]

Methods

All ECLRS records transferred to CDESS by LHD staff are recorded in an interface table with a key that is unique to the investigation created on CDESS. Any ECLRS records or CDESS investigations that are dismissed are recorded with a reason for dismissal which includes: Does not meet case definition; Duplicate report; Negative; Out of state/NYC; Not a human report; Not a sterile site; False positive; Not a reportable disease; and Case already reported. Any reasons deemed unacceptable are followed up on with the LHD.

The LHD is given 60 days before the NYSDOH contacts them regarding outstanding laboratory reports. Routinely, ECLRS records are matched by the unique key with CDESS and any records that do not match are reviewed. Records are de-duplicated by patient name, date of birth, and disease prior to follow-up.

Timeliness is calculated as the number of days between the ECLRS official retrieval date and the CDESS investigation creation date and is used as a performance measure. Very high priority diseases must have an investigation created on CDESS within one day of official retrieval, average priority diseases three business days, low priority diseases five business days.

Results

From January 2012 through May 2014, ECLRS received 85,730 CD messages. Thirty-four percent were dismissed prior to becoming investigations, the primary reason being duplicate report (27%), followed closely by negative report (26%). Sixty-six percent of the ECLRS CD messages were transferred to CDESS. Of the 56,395 transferred messages, 38,236 became unique investigations. The percent of cases created from CD investigations increased from 69.8% in 2012 to 76% in Jan-May 2014. Accordingly, the percent of dismissed investigations has decreased 30.2% in 2012 to 23.7% in Jan-May 2014. The majority of CD investigations were dismissed (>50%) because they did not meet case definition. Tickborne diseases accounted for 44% of CD dismissed investigations because they did not meet case definition.

Of the 187,560 ECLRS HEP messages received, 12.1% were dismissed from ECLRS, of which 55% were dismissed as a duplicate report. Yearly, from Jan 2012-May 2014, on average 90% of the unique HEP investigations became cases or updated existing cases.

A performance incentive program was conducted from November 1, 2013 through April 30, 2014 with comparison of 2012 data for timeliness. The percentage of timely reports created went from 83.3% for lowest priority diseases through 88.6% for highest priority diseases in 2012, to 98.5% for low priority and 100% for high priority in 2014.

Conclusions

Follow-up of CD messages ensures complete reporting of all diseases. All laboratory reports can be tracked through our systems. The high percentage of duplicate reports needs review as it increases the work of the LHDs. The performance measures reports for LHDs will continue as incentives for continued timeliness.

Keywords

surveillance; data; communicable; laboratory; tracking

References

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