CSTE

Council of State and Territorial Epidemiologists

2010 NEDSS ASSESSMENT

BACKGROUND

The National Electronic Disease Surveillance System (NEDSS) enables disease surveillance systems to transfer public health, laboratory, and clinical data securely from health care providers to public health departments at the local, state, and federal levels. In order to assess additional information regarding states' progress, challenges and obstacles regarding electronic disease surveillance system implementation, the Council of State and Territorial Epidemiologists (CSTE) conducted a follow up assessment to what was conducted in 2007.

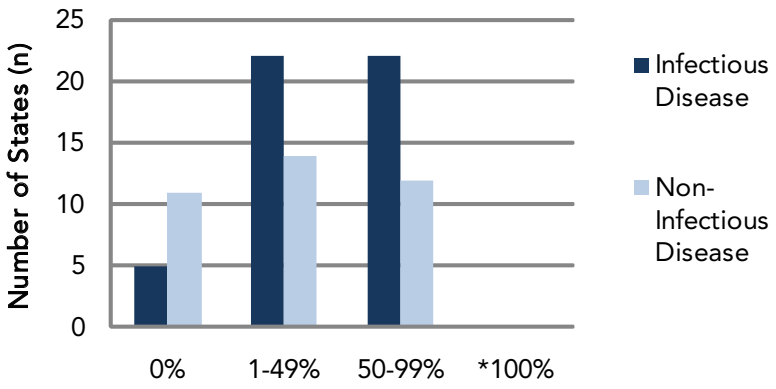
METHODS

CSTE distributed a questionnaire to all NEDSS project coordinators and State Epidemiologists. Each jurisdiction completed a series of multiple-choice questions. All 50 states responded to this assessment.

RESULTS

For surveillance of general communicable diseases, STDs, vectorborne/zoonotic diseases, and cancer, there is fairly equal distribution of types of electronic surveillance systems amongst the respondents (Table 1). Two-thirds (66%) of jurisdictions reported no operational electronic injury surveillance system and nearly as many (63%) did not have an electronic

Figure 1. Percentage of lab reports received electronically by number of states.



* No state reported receiving 100% of laboratory reports electronically for infectious or non-infectious diseases.

Table 1. Characteristics of operational and implemented NEDSS modules/components for data that are being sent to CDC: No. (%)

	COTS*	State-developed	CDC-developed	State hybrid**	N/A	Total States
General Communicable Disease	12 (24)	15 (30)	15 (30)	8 (16)	0 (0)	50
HIV Surveillance	4 (8)	1 (2)	32 (65)	8 (16)	4 (8)	49
STD Surveillance	7 (14)	11 (22)	20 (41)	9 (18)	2 (4)	49
Lead Surveillance	1 (2)	15 (35)	14 (33)	5 (12)	8 (19)	43
Vectorborne/Zoonotic Disease Surveillance	10 (21)	12 (26)	14 (30)	11 (23)	0 (0)	47
Animal Disease Surveillance	8 (18)	12 (27)	9 (20)	6 (13)	10 (22)	45
Environmental Disease Surveillance	2 (5)	12 (30)	2 (5)	6 (15)	18 (45)	40
Poisoning Surveillance	2 (5)	12 (30)	3 (8)	4 (10)	19 (48)	40
Cancer Surveillance	9 (21)	8 (19)	8 (19)	6 (14)	12 (28)	43
Injury Surveillance	3 (8)	6 (16)	3 (8)	1 (3)	25 (66)	38
Occupational Disease Surveillance	0 (0)	7 (18)	4 (11)	3 (8)	24 (63)	38
Other Chronic Disease Surveillance	2 (5)	6 (16)	1 (3)	3 (8)	25 (68)	37

* COTS: Commercial-off-the-shelf

**State hybrid: systems that are combinations of State and COTS systems or State and CDC developed systems

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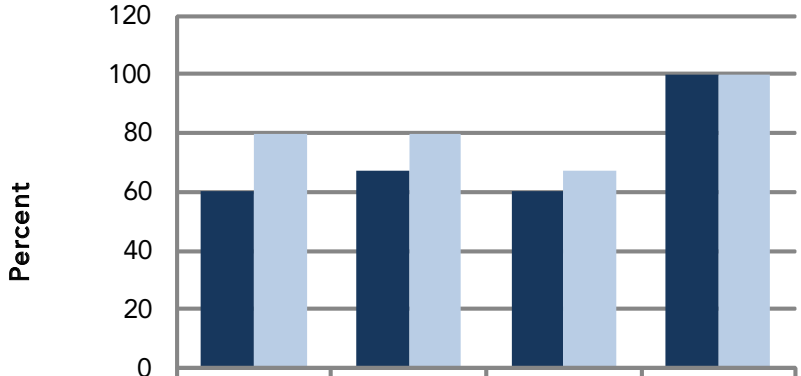
occupational disease surveillance system.

States have less capacity for electronic lab reports (ELR) for non-infectious disease when compared to infectious-disease ELR (Figure 1). Twenty-two states (45%) reported the proportion of infectious disease lab reports received via ELR was 50-99% and 12 states (27%) reported similar capacity for non-infectious diseases.

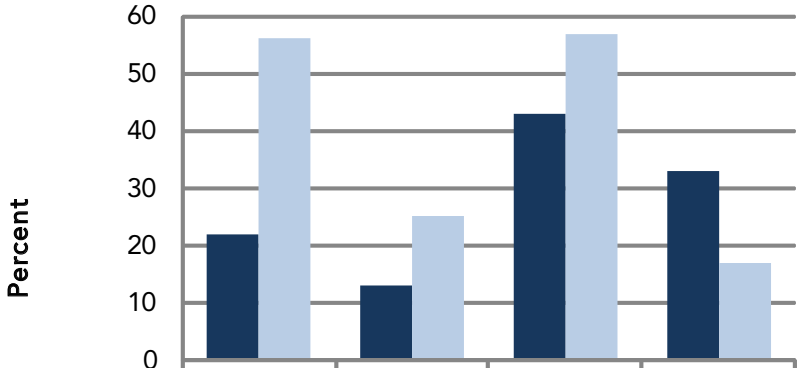
Integration and interoperability functionality of the various surveillance systems varied widely depending on the type of system utilized. All of the states with state-hybrid systems (n=7) for general communicable disease surveillance (Figure 2) reported integration and interoperability (100%). Overall, states with non-CDC-developed systems reported higher levels of integration[3] and interoperability.[4] In contrast to the general communicable disease surveillance systems, cancer surveillance systems (Figure 3) have higher interoperability characteristics for commercial off-the-shelf (COTS), state-developed, and CDC-developed systems.

Figure 2. Level of integration and interoperability for General Communicable Disease Surveillance Systems



	COTS (n=10)	State developed (n=15)	CDC developed (n=15)	State-hybrid (n=7)
Integrated (%)	60	67	60	100
Interoperable (%)	80	80	67	100

Figure 3. Level of integration and interoperability for Cancer Surveillance Systems



	COTS (n=9)	State developed (n=8)	CDC developed (n=7)	State-hybrid (n=6)
Integrated (%)	22	13	43	33
Interoperable (%)	56	25	57	17

DISCUSSION

Overall, COTS and state-developed systems tended to be more integrated and interoperable with the exception of cancer surveillance systems. As state systems have become more complex and sophisticated, capacity for ELR remains a critical factor in ensuring timely notification of disease, consistent data management, and the general movement towards standardized vocabulary. CSTE recommends further analysis into electronic laboratory reporting impelementation at the state level to achieve higher granularity and develop policy that promotes ELR implementation.

[1] http://www.cste.org/dnn/LinkClick.aspx?fileticket=2aFQBVXd2TA%3d&tabid=173&mid=712

[2] Types of systems include: commercial off the shelf (COTS), state developed, CDC developed or state-hybrid (state-CDC or state-COTS system)

[3] Integration is defined as interconnected systems or applications that share a common database and user interface.

[4] Interoperability is defined as the ability of two or more electronic systems to exchange and use information.

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