Lessons Learned from Implementing Electronic Laboratory Reporting, New York State

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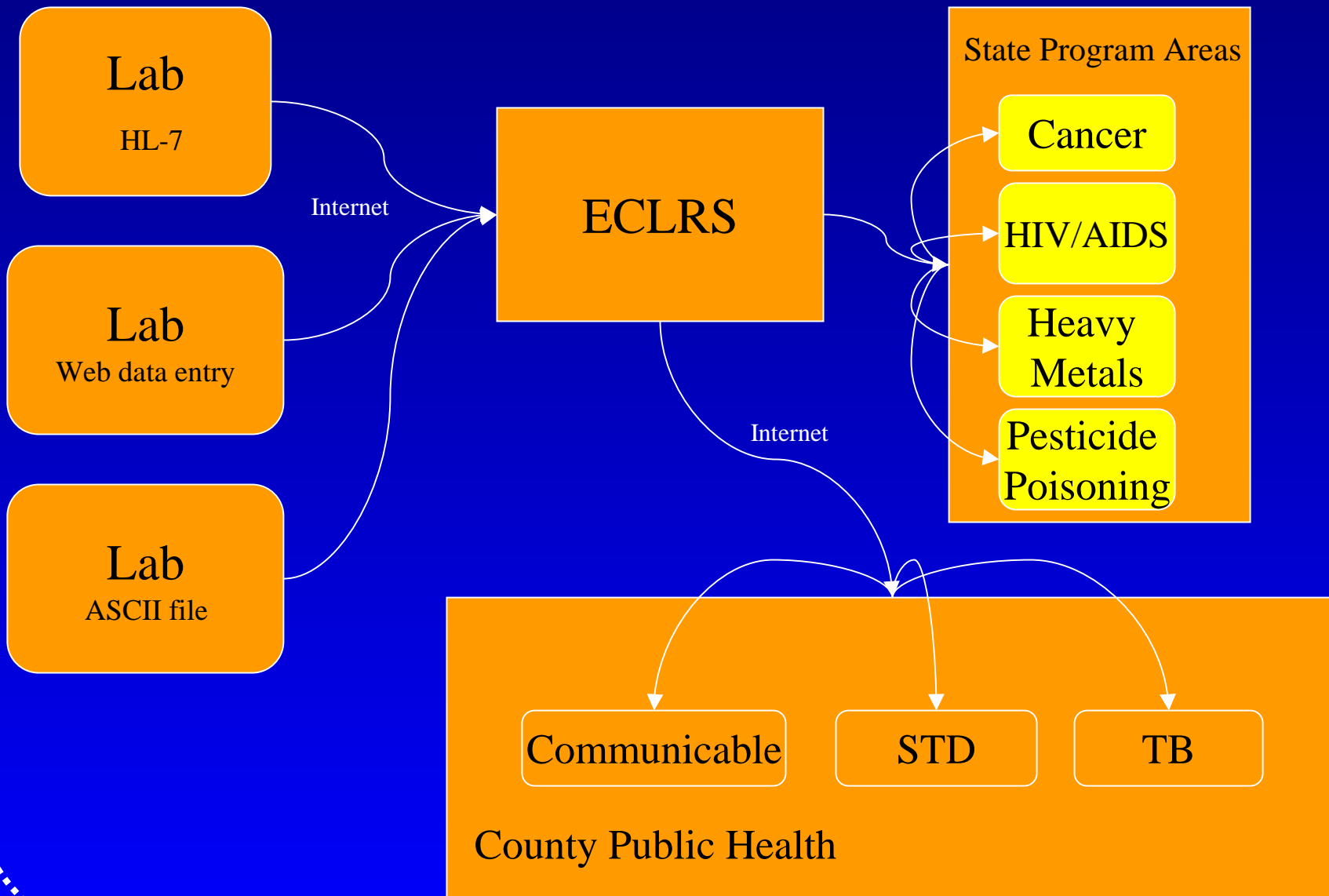Ivan Gotham

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New York's Electronic Clinical Laboratory Reporting System (ECLRS)

Objectives:

- Establish a statewide system for electronic laboratory reporting for public health surveillance

- Reduce laboratory paperwork

- Maintain/improve timeliness, completeness, quality of reporting

- Use NEDSS standards

- Provide an automated alert system for diseases of urgent importance

NYSDOH Electronic Clinical Laboratory Reporting System

HIN/HPN

Lab HL-7

Lab Web data entry

Lab ASCII file

Internet

ECLRS

Internet

State Program Areas

Cancer

HIV/AIDS

Heavy Metals

Pesticide Poisoning

Communicable

STD

TB

County Public Health

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Electronic Clinical Laboratory Reporting System

- Implemented March 2001
- Currently: 74 laboratories

                    57 county health departments

- 302,417 cumulative lab reports

"What we anticipate seldom occurs: What we least expected generally happens."

Benjamin Disraeli

Expectation

Getting consensus on how to implement electronic laboratory reporting will be relatively easy.

The Reality

It wasn't.

Careful planning and consensus building over several years were needed.

How We Proceeded

- Consensus building within New York State
- Executive level commitment
- Dedicated staff
- Funding

Lessons Learned

- Involve all actual and potential system users <u>early</u> in the planning process and keep them informed

- Allow more time than you expect

Expectation

It would be easy for laboratories to report with a standardized format and codes.

The Reality

It wasn't.

Clinical laboratories typically use non-standardized coding schemes and file formats.

Test Result	LOINC	SNOMED
Salmonella, Group B	625-4	L-17300
B. pertussis antibody	24127.3	

How We Proceeded

- ECLRS accommodates three formats:
    - HL-7 (2 labs)
    - Specified ASCII Format (40 labs)
    - HTML Web Pages (32 labs)
- ECLRS accommodates either LOINC/SNOMED coding or text

Lessons Learned

- Some flexibility is needed.
- There are variations among laboratories in the use of HL-7 format and/or LOINC codes that require further standardization if they are to be useful in an automated reporting system.

Expectation

Quality, completeness, and timeliness of reporting would readily improve with electronic reporting.

The Reality

Timeliness did improve, but quality and completeness were variable.

Experience with Electronic Reporting from a National Laboratory, July-December 2001

- Median time (days) from specimen collection to report:
  - Paper--14
  - Electronic--5
- Percent with address:
  - Paper--85%
  - Electronic--59%

Lessons Learned

- A trial period is essential before discontinuing paper reports.

- It is not clear that electronic reports can totally replace paper reports in the near future for some laboratories.

Expectation

ECLRS could be used to provide automated alerts for diseases of urgent importance.

The Reality

Yes, but . . .

- File uploads are often delayed and occur off-hours
- Public health usually already knows the result

Lessons Learned

- Computer generated alerts may not be able to replace human-to-human communication

- Developing an automated alert system has resulted in 24/7 communication capabilities with counties

Conclusions

- Electronic laboratory reporting *can* be successfully implemented.

- The challenges encountered indicate the need for evolutionary changes towards national standards.

- We need close partnerships between laboratories and public health.

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