

# NEDSS

National Electronic Disease  
Surveillance System

# NEDSS Purpose

- Monitor status of communicable disease within the State and Nation
- Use Internet based technology to enhance the transmission, speed, quality and availability of information related to tracking of communicable diseases

# NEDSS Background

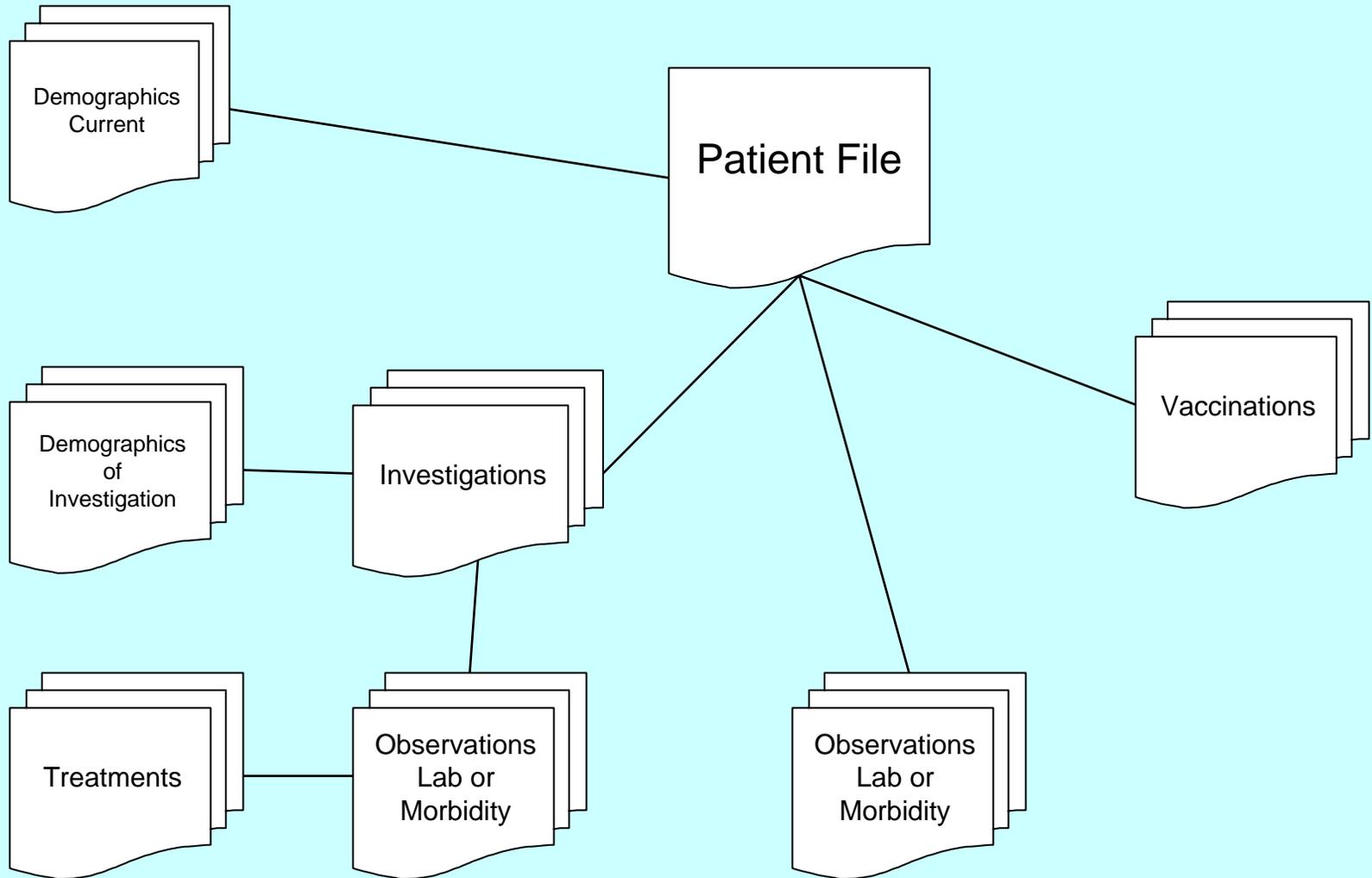
- Until 2003 communicable disease data was collected individually by Douglas, Lancaster Co. Health Depts. and the State using desktop software NETSS\*
- Communicable disease reports were received via mail or fax then manually entered into the NETSS database
- Statewide data was consolidated and reported to CDC weekly via secure FTP

\*National Electronic Telecommunications System for Surveillance (in use since 1989)

# NEDSS Background

- NEDSS implemented in early 2003
- Nebraska first state nationally – 16 currently using the CDC NEDSS software
- Initially included only three jurisdictions: Douglas County, Lancaster County, and all other counties
- All Nebraska local health departments were included in first part of 2005

# NEDSS Data Structure



# NEDSS Security Layers

External Entities – Hospitals & Laboratories Add Data Only

## Public Health Case Workers

Demographics

Vaccinations

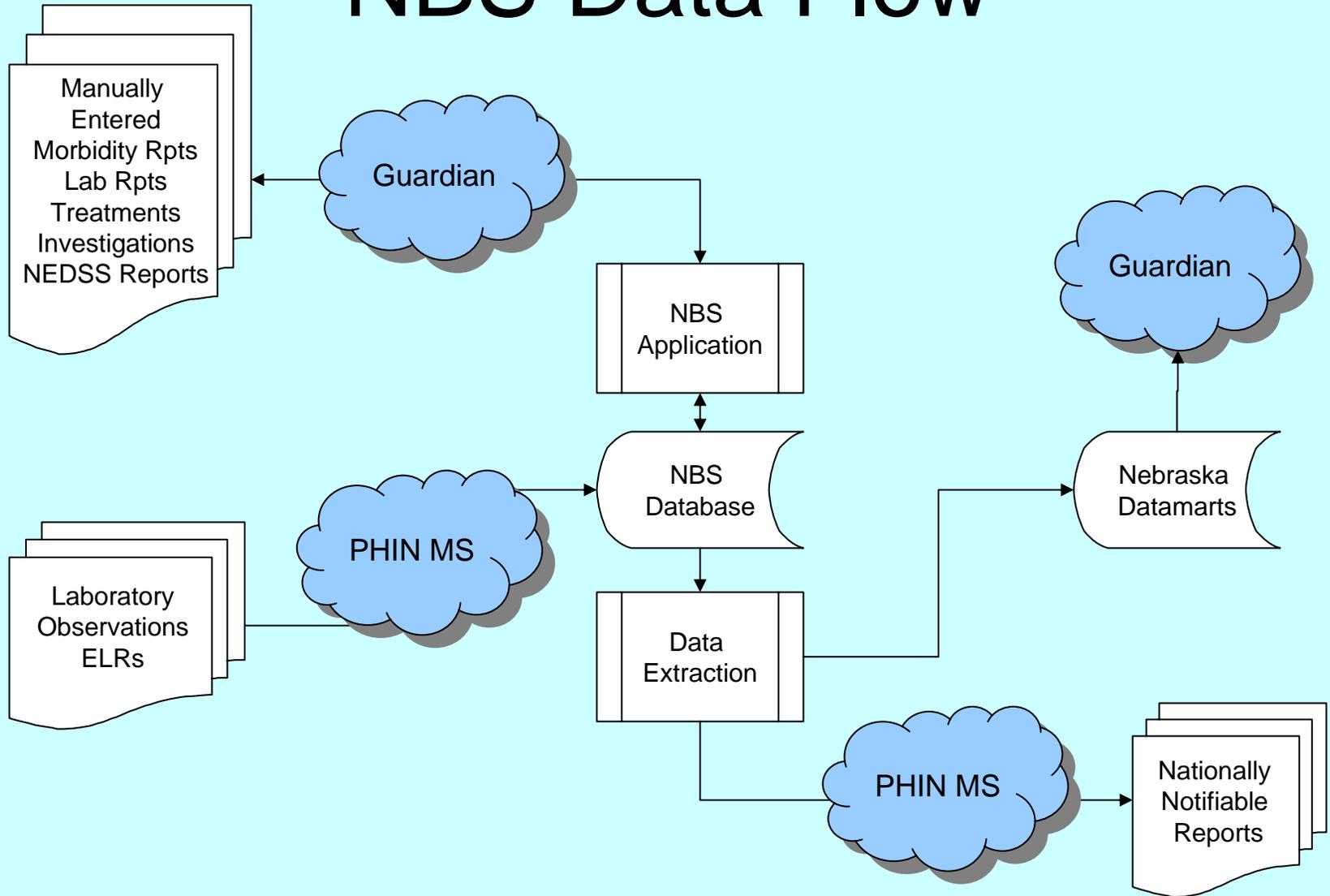
## Program Area and Jurisdiction

Investigations

Observations  
Morbidity

Observations  
Lab Report

# NBS Data Flow



# NEDSS Expected Outcomes

- Monitor status of communicable disease in a more timely manner
- Enhance the transmission, quality, speed and availability of disease related information to public health

# NEDSS Actual Outcomes

## Positive

- Communicable disease laboratory reports now moved electronically from laboratories to the NEDSS system within hours (and sometimes minutes) not days or weeks
- Public Health workers start investigations much sooner
- Cases immediately available for analysis at state level and with in hours at the national level

# ELR Progress

## Laboratory and Start Date

<u>Laboratory</u>	<u>Start Date</u>
LabCorp	Mar-2004
Methodist HS	May-2005
Creighton UMC	Oct-2005
UNMC	Dec-2005
Mayo	Mar-2006
Alegent	Projected 2007
Regional West	Projected 2007

# NEDSS Actual Outcomes

## Positive

- Electronically transmitted data does not need to be re entered by public health professionals
- Transcription errors are reduced
- Data is available statewide for analysis and action as soon as entered
- Disease investigation activity is easily extendable to additional public health entities
- Greater year to year continuity data

# NEDSS Actual Outcomes Problematic

- Application lacks robust, state specific configurability
- Reporting data formats not coincidental to NETSS – data not easily imported
- Not suitable for HIV, STD, TB, Lead Poisoning case management
- Report generation cumbersome - lacks analysis capacity

# Critical success factors and areas of success

- Comprehensive Implementation
  - All Nebraska local health departments use NEDSS
- Electronic laboratory reporting
  - ELR from 2 national labs and 3 in state labs, 2 more in state labs soon
- First and most experienced
  - 15 other states using the system
- Data extraction and use of Locally Defined Fields
  - West Nile Virus, Lab and Investigation data marts

# Challenges

- Adding ELR hospitals and laboratories
- Integrating STD, Lead Poisoning, TB and HIV
- Improving data reports and analysis
- Improving data quality

# Lessons Learned/Best Practices

- Quality high speed connections a must
- Implementing ELR is time consuming and difficult
- Data quality issues arise if training or business rules are insufficient
- Single, denormalized, and stable database is a good foundation for reporting and analysis
- High quality and robust server hardware essential

# How NEDSS can contribute to the eHealth Council's charge

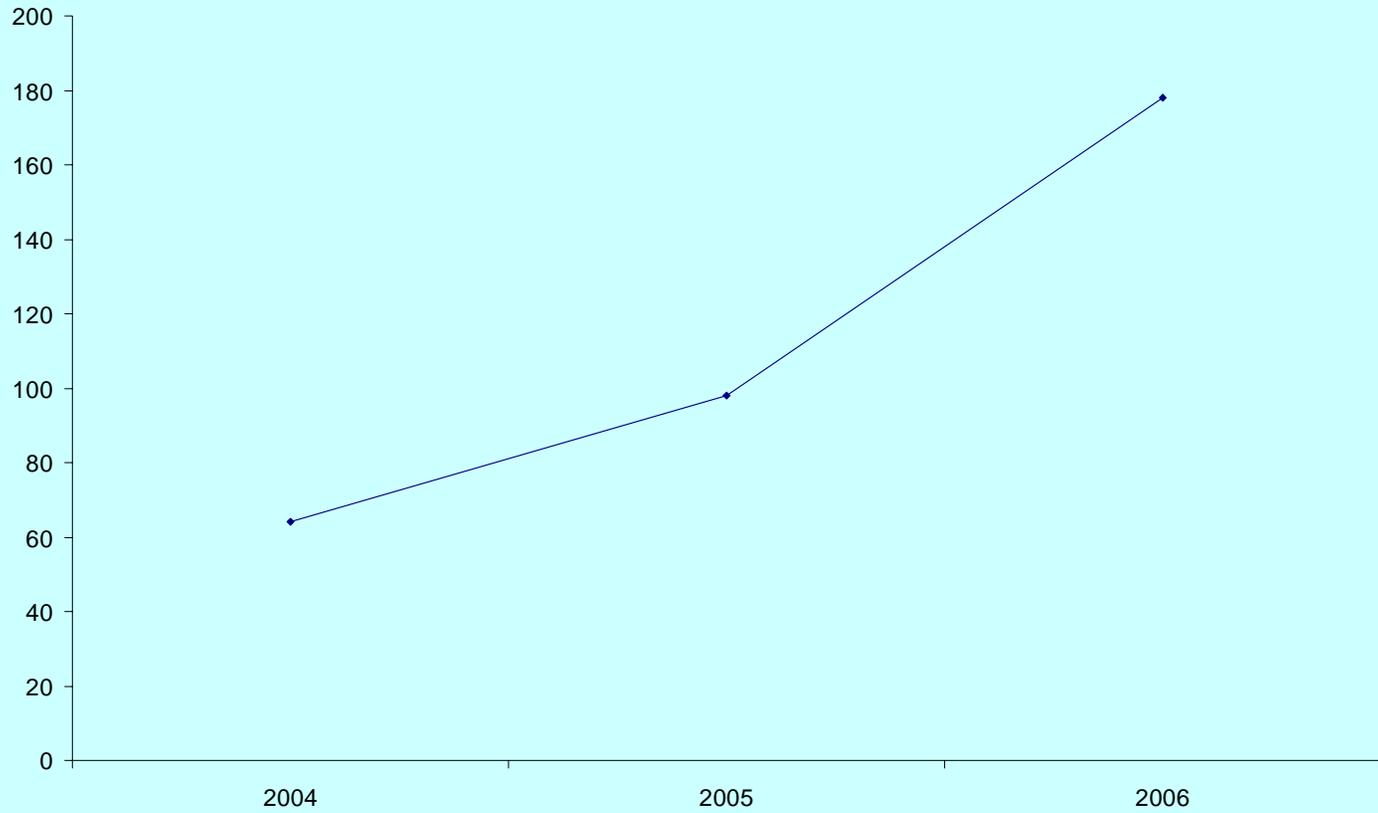
- Provide public health professionals exposure to concepts and practice of information exchange and standardization
- Establish electronic data interface with hospitals and laboratories
- Provide sample nascent health record and information exchange medium
- Provide communicable disease reporting expertise

# How the eHealth Council can facilitate NEDSS

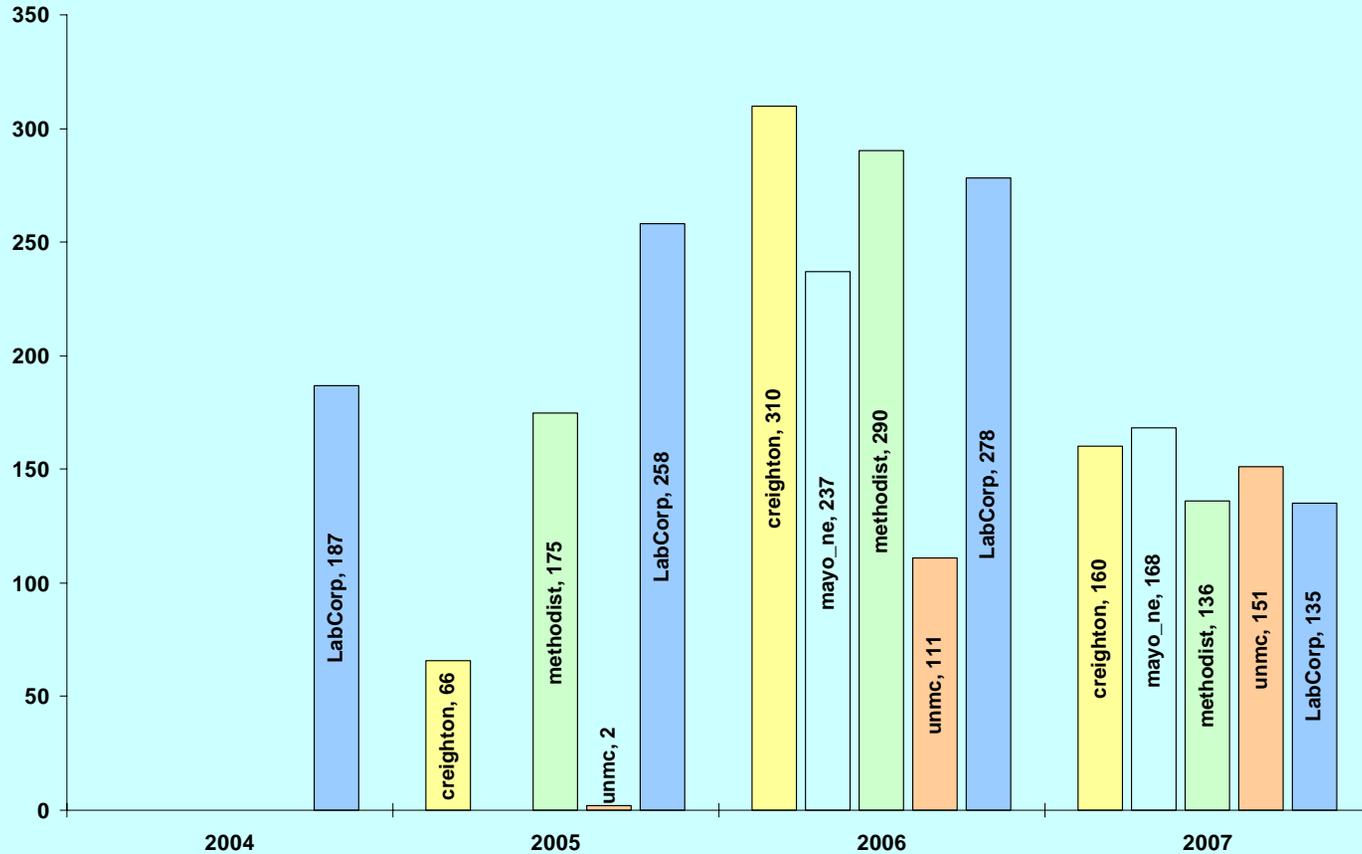
- Encourage physician, hospital and laboratory participation in ELR of reportable disease data
- Support policies which aid the transition to paperless electronic reporting
- Emphasize the use of standards
- Ensure public health needs are considered in development of electronic health records

# NEDSS Users

Distinct Users Logins by Year



# Days per Year ELRs Received



# Specific Disease Types Reported with NEDSS

Distinct Conditions Reported in NEDSS by Qtr

