# NH Department of Health and Human Services
# Division of Public Health Services
# Lyme Disease Surveillance System

NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs *for all*


## Summary

Using Lean principles, NH Division of Public Health Services (DPHS), Bureau of Infectious Disease Control (BIDC), Infectious Disease Surveillance Section (IDSS), improved the internal management of Lyme disease case investigations by documenting the process, identifying inefficiencies and developing a plan of action.


## Accomplishments

- Documented a clear work process
- Established clear procedures for managing reports
- Eliminated redundant data entry by creating functionality to generate healthcare provider letters within the existing system, resulting in a 66% FTE time savings

## Team

- Chris Adamski
- Beth Daly
- Abby Mathewson
- Heather Barto
- Whitney Howe
- Carolyn Labrie
- Denise Krol
- Ken Dufault
- Ginny Martin
- Darlene Morse
- Terri Dawson
- Doreen Luscombe
- Sharyn Goddard, CIP

## Contact


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## The Service

The mission of IDSS is to protect and improve the health of NH citizens by tracking and responding to the occurrence of infectious disease health threats in the population. IDSS maintains the reportable disease system and is responsible for collecting, analyzing, interpreting, and reporting information for over 60 infectious diseases that are reportable under NH law, including Lyme disease, an infection that is transmitted by the bite of an infected tick.

## The Problem

Since 2005, Lyme disease has increased more than 500% in NH and currently IDSS receives report of ~3,200 suspect Lyme disease cases each year. Reports are primarily processed by 2 staff members who mail letters or call healthcare providers to obtain case information needed to classify Lyme disease. Once information is collected, cases need to be reviewed, and data entered in a surveillance system.

In 2012, the cycle time for investigating and closeout of each Lyme disease report took 6 -12 weeks. There were 55 steps involved in the investigation process for each Lyme disease report.

## The Goal

Apply Lean priciples to document a clear and standardized process. Maximize staff resources and improve customer services to healthcare providers. Reduce burden of extra setps and cycle time and make surveillance data more timely for use in disease prevention work.

## The Lean Process

- Project charter was developed and approved by the Sponsor.
- Key staff members were selected based on various expertise areas.
- The team was provided a trained Continious Improvement Practioner (CIP).
- Nine Lean meetings were held in addition to multiple email correspondences, phone calls, and one-on-one meetings with the CIP.
- Current state was mapped, which included five sub-maps to reflect various types of reports that are received.
- Five maps included processes for receiving manual lab reports, electronic lab reports, case report forms, out-of-state reports, and reports IDSS is made aware of through other surveillance systems.
- After developing and assessing the value stream maps, ten clearly-defined pain points were identified.
- Future state value stream map identifying projects and actions for improvement was developed.
- The team planned for implementation of recommendations based on available resources.

## The Results

- Modification of case report form resulted in more complete and accurate data and a better response rate to requests for information: 50% response to first request in 3 months prior to modification compared to 60% in the 3 months after. This could result in 500 fewer second request letters and phone calls annually.
- Generating letters within the surveillance system instead of in separate system decreased time to generate each letter from 3 minutes to 1 minute (66% reduction in time).
- Generating letters within the surveillance system is estimated to save $4169.66 per year.
- Simplyfying criteria for follow-up of suspect cases identified in emergency department data saved 5.2 hours of FTE time per month during peak months
- More complete protocols have improved data quality and back-up capability during staff absences.

Left to right back row: Carolyn Labrie, Heather Barto, Ginny Martin, and Denise Krol
Left to right front row: Abby Mathewson, Whitney Howe, Beth Daly, Sharyn Goddard, and Ken Dufault

*"Using the Lean process improvement approach not only improved our process, but also helped build a sense of teamwork, collaboration, and pride around a process that has been a particular pain point for our unit."*

-Beth Daly, Infectious Disease Surveillance Chief