



How Good is Your LTCF Data?

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Protocol and Validation Team

**National Healthcare Safety Network Annual Training
Long-term Care Facility Component
July 11, 2019**

Session Objectives

- **Attributes of LTCF HAI surveillance**
- **HAI Data Validation in LTCF settings**
- **Types of HAI Data Validation**
 - **External Data Validation**
 - **Internal Data Validation (Data Quality Checks)**



Long-term Care Facility Component

Healthcare-associated Infections (HAI) Module

Urinary Tract Infections (UTI)

Laboratory-Identified (LabID) Event Module

Multi-drug Resistant Organisms (MDRO)

Clostridium difficile Infection (CDI)

Prevention Process Measures Module

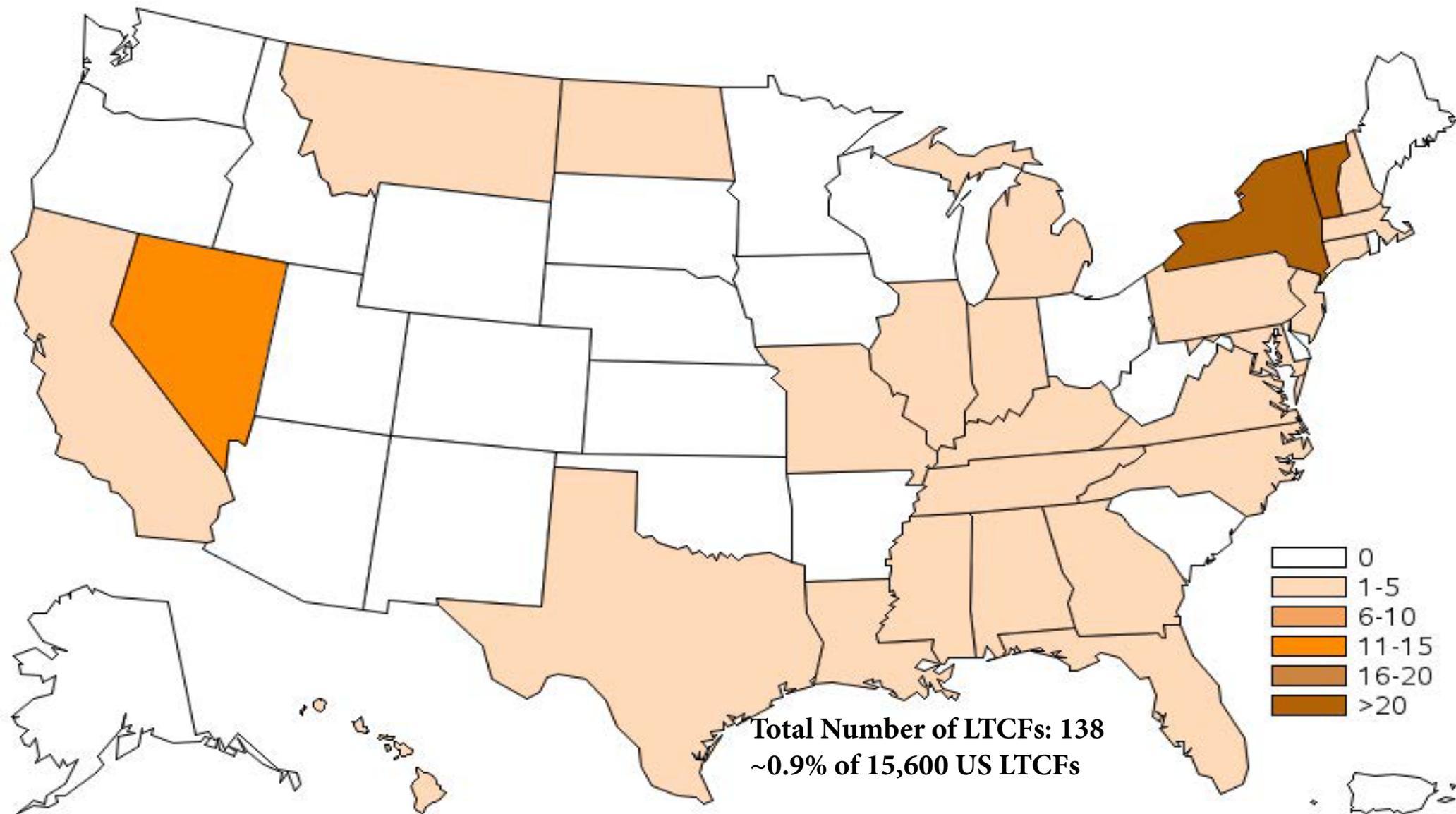
Hand Hygiene

Gowns/Gloves

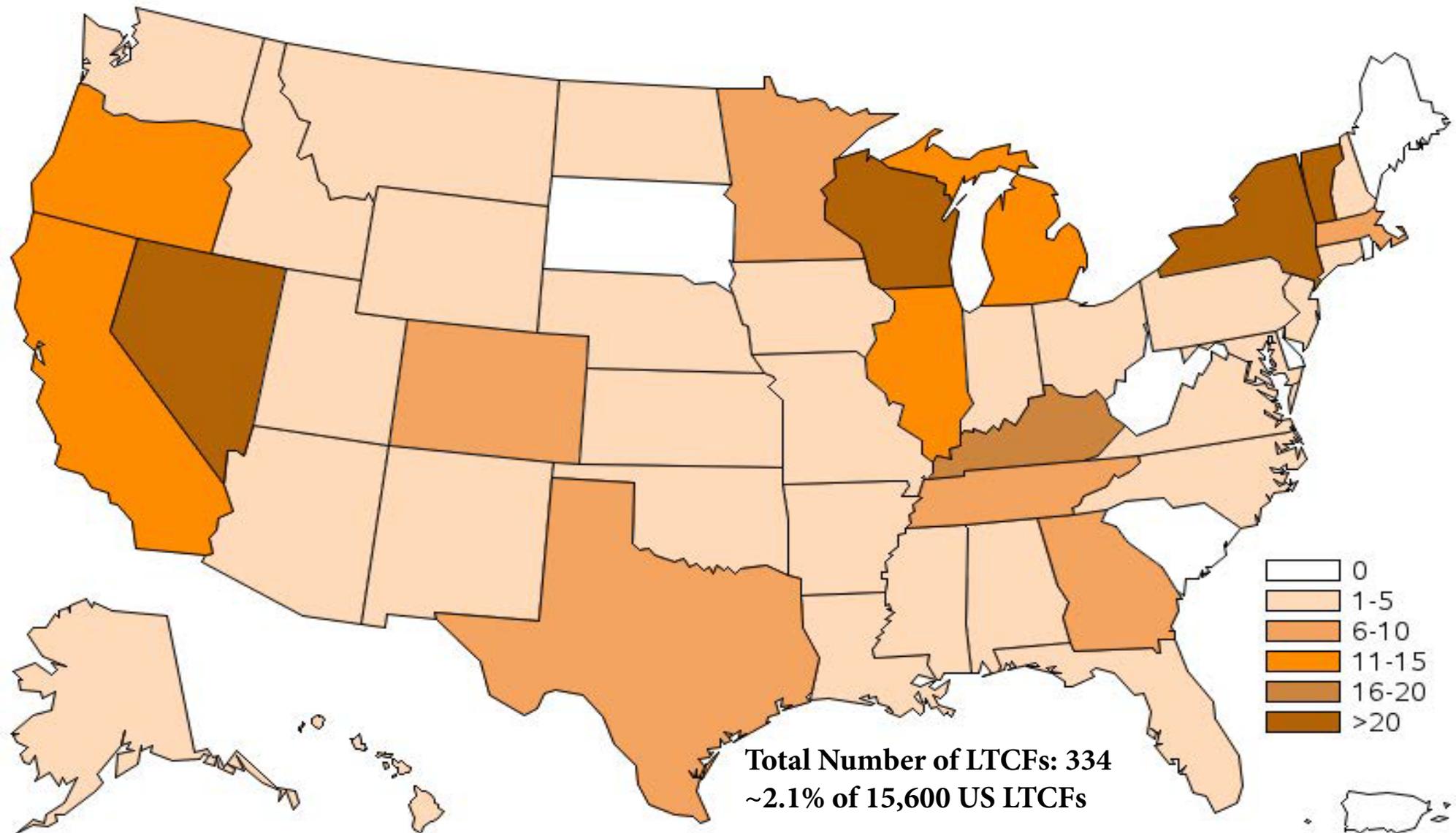
Facilities Eligible for Enrolling in NHCN LTCF Component

- Certified skilled nursing facilities (SNF) and nursing homes (NH)
- Intermediate/chronic care facilities for the developmentally disabled
- Assisted living facilities and residential care facilities
 - *Currently limited to Prevention Process Measures*

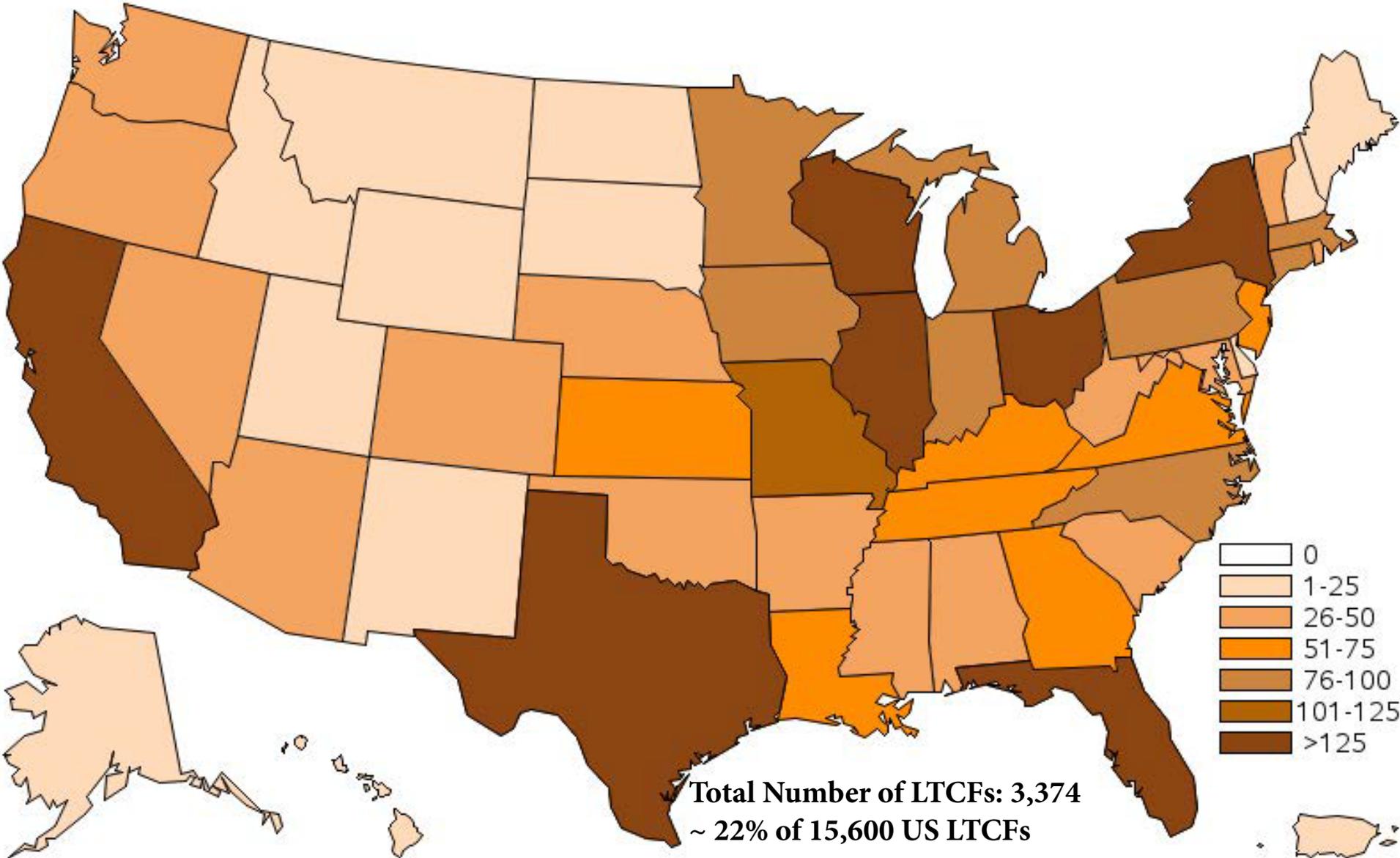
NHSN Enrolled LTCFs By State Aug 2013



NHSN Enrolled LTCFs By State June 2016



NHSN Enrolled LTCFs By State May 2019



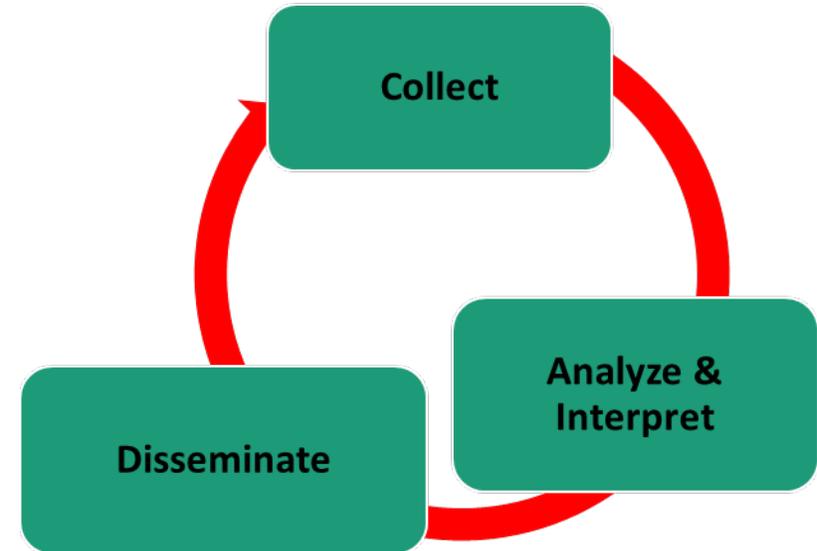
CMS CDI Reporting and Reduction Project

January - December, 2018

- Among the 2,389 NHs evaluated
 - 2,361 (98.8%) at least one month of complete data
 - Noted month to month variation in the number of complete reporters
- 87.6% (2,092/2,389) reported 12 consecutive months
- 53.8% (1,286/2,389) reported zero events
- 46.2% (1,103/2,389) reported ≥ 1 events
 - Median 1/Mean 1.4 (min 1, max 7)
- Among NHs reporting at least one month of complete data (N=2,360)
 - Total CDI rate=0.56/10,000 resident days

Healthcare Associated Infections (HAI) Surveillance

- Ongoing
- Systematic collection
- Analysis
- Interpretation
- Dissemination



Of HAI data that is essential to planning and implementing prevention measures

Quality HAI Surveillance System Requires

- **Simplicity**
- **Objectivity**
- **Flexibility**
- **Data quality**
- **Acceptability**
- **Sensitivity**
- **Positive predictive value**
- **Representativeness**
- **Timeliness**
- **Stability**



Data Quality of HAI Surveillance Reflects

- **Consistency of data**
 - completeness, timeliness, confidence on your data
- **Validity**
 - accuracy of data

These surveillance attributes can be achieved by HAI Data Validation

Types of HAI Data Validation

Internal Validation

- Active efforts by a reporting facility to assure completeness and consistency of NHSN data
- Built in as a routine facility process

External Validation

- Survey and audit process by external agency to assure accuracy of NHSN surveillance and reporting
- Requires additional resources

HAI Data Validation

Internal Validation

- ❖ Consistency
- ❖ Data Completeness
- ❖ Timeliness

Improves

External Validation

- ❖ Data Accuracy

Why Should You Validate Data Reported to NHSN

- Accuracy of data reported to NHSN by LTC settings
- Barriers in data collection and reporting
- Remediable errors in reporting
- Staff understanding of the methods and definitions in protocol
- Feedback to CDC:
 - Clarification of protocol and definitions
 - Improvement of the data validation tools, development of optimal and standardized data evaluation methods

Internal Data Quality Checks for LTCF

WHEN ARE DATA CONSIDERED COMPLETE IN NHSN?

Data are considered complete in NHSN when:

- **Monthly reporting plan is submitted**
- **Event data to NHSN (if events are found) is submitted**
 - **If no event check “no event” in summary data form**
- **Summary data to NHSN is submitted**

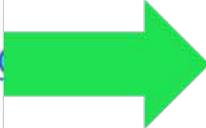
ANALYSIS REPORTS

NHSN Home

- Reporting Plan ▶
- Event ▶
- Summary Data ▶
- Surveys ▶
- Analysis ▶**
- Users ▶
- Group ▶
- Logout

NHSN L

- Generate Data Sets
- Reports**



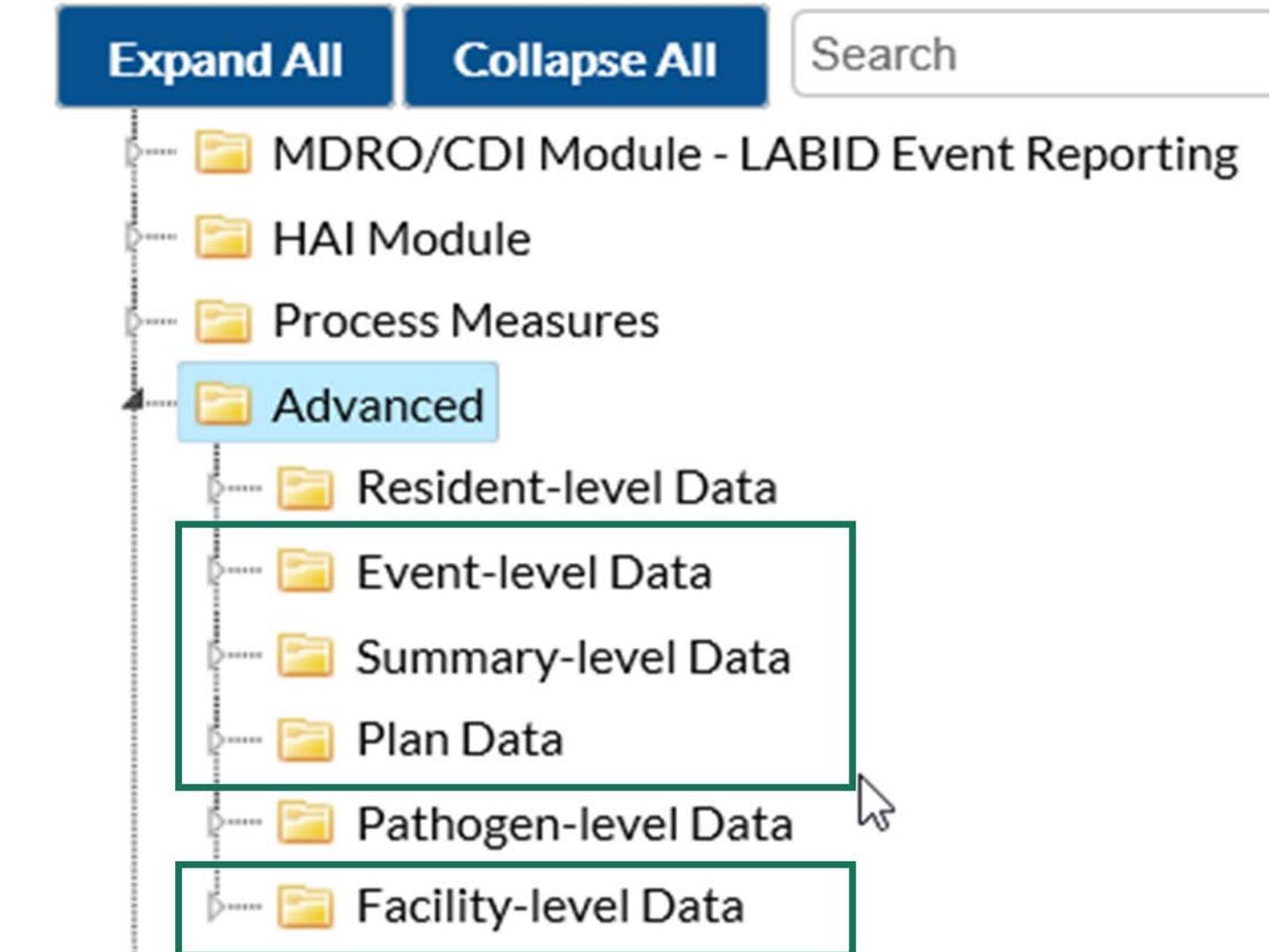
Analysis Reports

Expand All **Collapse All**

- MDRO/CDI Module - LABID Event Reporting
- HAI Module
- Process Measures
- Advanced**
- My Custom Reports

NHSN ANALYSIS REPORTS FOR DATA VALIDATION

- Facility survey data line list
- Plan data report
- Event level data report
- Summary level data report



ANALYSIS REPORTS

The screenshot displays the 'Analysis Reports' interface. At the top, there is a header with a globe icon and the text 'Analysis Reports'. Below the header, there are two buttons: 'Expand All' and 'Collapse All', followed by a search input field. The main area shows a tree view of report categories:

- MDRO/CDI Module - LABID Event Reporting
- HAI Module
- Process Measures
- Advanced
 - Resident-level Data
 - Event-level Data
 - Summary-level Data
 - Plan Data
 - Pathogen-level Data
 - Facility-level Data
- My
 - Line Listing - Facility
 - Line Listing - Conferred Rights
 - Line Listing - Facility Survey Data

A green arrow points to the 'Facility-level Data' folder. A context menu is open over the 'Line Listing - Facility Survey Data' item, showing three options:

- Run Report
- Modify Report
- Export Data Set

Partial text to the right of the menu includes 'y Survey of NH Core Elements' and 'Variable Names'.

ANALYSIS REPORTS

Line Listing Of Facility Survey Data

Data source: Annual survey

National Healthcare Safety Network

Line Listing of Facility Survey Data

As of: June 8, 2018 at 12:34 PM

Date Range: LTC SURVEY createDate 01/01/2015 to 12/31/2015

Facility Org ID	Survey Year	National Provider ID	State Provider ID	CMS Certification Number	Facility Ownership	Certification	Affiliation	Average Daily Census	Number of Short-Stay Residents	Number of Long-Stay Residents	Number of New Admissions	Number of Beds	Number of Pediatric Beds	Total Resident Census
41141	2014	12345			NP	DUAL	IFS	88	35	53	20	100	0	88

Sorted by orgID

Data contained in this report were last generated on April 10, 2018 at 3:00 PM.

ANALYSIS REPORTS



Analysis Reports

Expand All

Collapse All

Search

MDRO/CDI Module - LABID Event Reporting

HAI Module

Process Measures

Advanced

Resident-level Data

Event-level Data

Summary-level Data

Plan Data

Line Listing - Monthly Reporting Plans

Run Report

Modify Report

Export Data Set

Custom Reports

My Custom Reports



ANALYSIS REPORTS

- Line Listing of Monthly Reporting Plans
- Data source : Monthly Reporting Plan form

National Healthcare Safety Network Line Listing of Monthly Reporting Plans

As of: June 8, 2018 at 12:45 PM
Date Range: TCPLAN planYM 2015M01 to 2015M12

Report Plan ID	Facility Org ID	Plan YM	Location	No LTCF Modules Followed this Month	CAU Plan?	Lab ID MRSA?	Lab ID VRE?	Lab ID ACINE?	Lab ID CEPHRKLEB?	Lab ID CREECOLI?	creEntero_labID	Lab ID CREKLEB?	Lab ID CDIF?	Hand Hygiene In-Plan	Gown and Gloves	Create Date	User ID for Data Entry	Last Modified	Modify User ID
3,202	41141	2015M01	FACWIDEIN		Y					Y	Y	Y	Y	Y	Y	28MAY 15:09:48	138394	01APR16:13:15	138215
3,203	41141	2015M02	FACWIDEIN		Y									Y	Y	28MAY 15:09:48	138394	28MAY15:09:48	138394
3,204	41141	2015M03	FACWIDEIN		Y									Y	Y	28MAY 15:09:48	138394	22JUN15:17:06	138215
3,205	41141	2015M04	FACWIDEIN		Y									Y	Y	28MAY 15:09:48	138394	28MAY15:09:48	138394
3,206	41141	2015M05	FACWIDEIN		Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	28MAY 15:09:48	138394	28MAY15:09:48	138394
3,207	41141	2015M06	FACWIDEIN		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	28MAY 15:09:48	138394	02JUN15:10:08	138394
3,208	41141	2015M07	FACWIDEIN		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	02JUN15:10:08	138394	02JUN15:10:08	138394

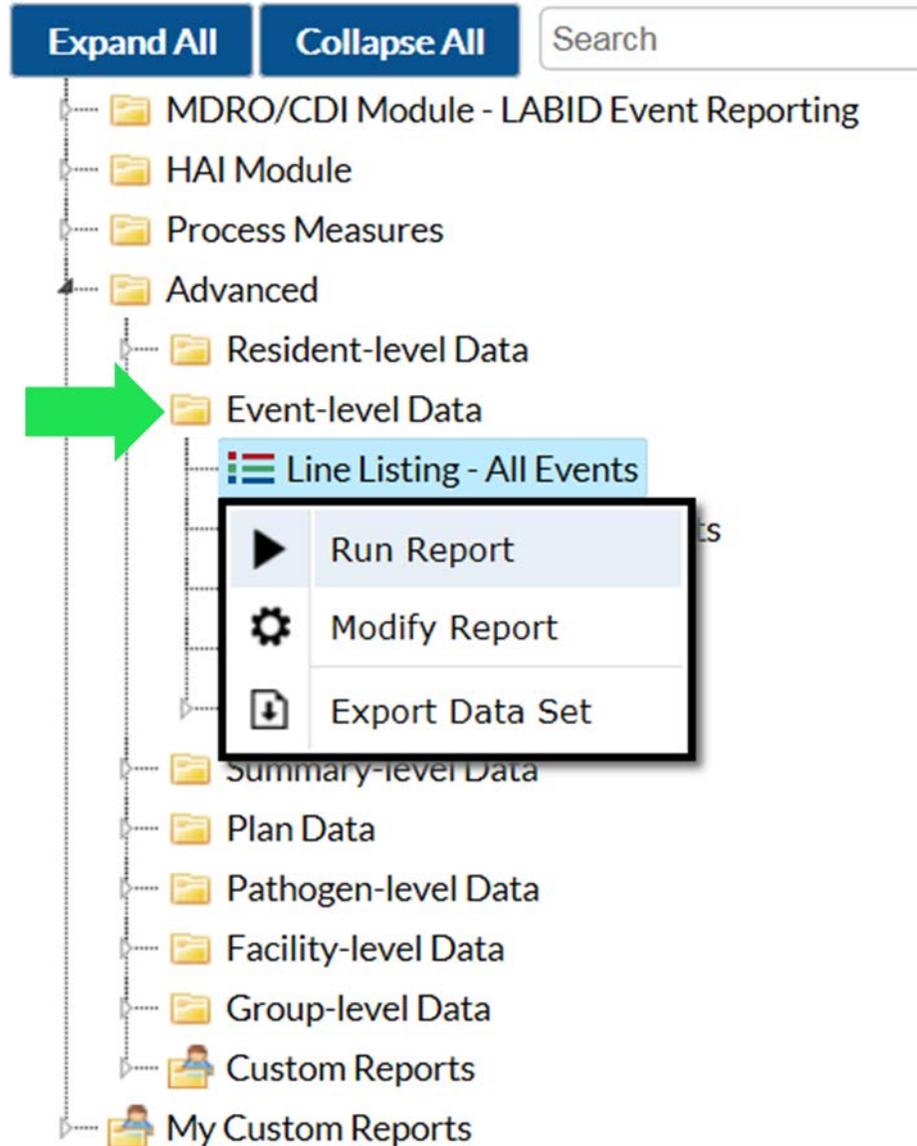
Sorted by orgID planYM

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ANALYSIS REPORTS

Expand All Collapse All Search

- MDRO/CDI Module - LABID Event Reporting
- HAI Module
- Process Measures
- Advanced
 - Resident-level Data
 - Event-level Data
 - Line Listing - All Events
 - Run Report
 - Modify Report
 - Export Data Set
 - Summary-level Data
 - Plan Data
 - Pathogen-level Data
 - Facility-level Data
 - Group-level Data
 - Custom Reports
 - My Custom Reports



ANALYSIS REPORTS

- ❑ Analyze the number of events submitted by month
 - Review line list for any missing months
 - Reasons for missing month in line list
 - No events for the month
 - Missing or incomplete events

National Healthcare Safety Network

Line Listing for All Events

As of: June 8, 2018 at 1:37 PM

Date Range: LTCEVENTS datepart(createDate) 01/01/2015 to 06/30/2015

Facility Org ID	Resident ID	Date of Birth	Gender	Event ID	Event Date	Event Type	Specific Organism	Specific Event	Location	CDC Location
41141	78965	05/02/1935	M	3537	04/14/2015	LABID	MRSA		3 WEST	IN:NONACUTE:LTCF:REHAB
41141	12368	06/03/1938	M	3536	04/29/2015	LABID	CDIF		2 EAST	IN:NONACUTE:LTCF:GEN
41141	22222	01/01/1948	F	3535	02/27/2015	UTI		ABUTI	2 WEST	IN:NONACUTE:LTCF:DEM
41141	123456	01/01/1930	F	3528	04/10/2015	UTI		CA-SUTI	2 EAST	IN:NONACUTE:LTCF:GEN
41141	85236	06/03/1936	M	3539	04/20/2015	UTI		CA-SUTI	2 EAST	IN:NONACUTE:LTCF:GEN
41141	95268	04/25/1934	M	3538	04/22/2015	UTI		CA-SUTI	1 SOUTH	IN:NONACUTE:LTCF:BAR

Sorted by eventType eventDate

Data contained in this report were last generated on April 10, 2018 at 3:00 PM.

ANALYSIS REPORTS

Expand All Collapse All Search

- MDRO/CDI Module - LABID Event Reporting
- HAI Module
- Process Measures
- Advanced
 - Resident-level Data
 - Event-level Data
 - Summary-level Data
 - Line Listing - All Summary Data
 - Run Report
 - Modify Report
 - Export Data Set
 - Group-level Data
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ANALYSIS REPORTS

Line listing – All Summary Data

National Healthcare Safety Network

Line Listing for All Summary Data

As of: June 8, 2018 at 2:25 PM

Date Range: LTCSUMMARY summaryYM 2017M01 to 2017M03

Facility Org ID	Summary Year/Month	Type of summary record	Location	Event Type	Number of Resident Days	Urinary Catheter Days	Number of Resident Admissions	No Events	Number of Urine Cultures Ordered	Admissions on C. diff Treatment
41141	2017M01	MDRO	FACWDEIN	CDIF	2,800	.	12	N	.	10
41141	2017M01	MDRO	FACWDEIN	CREECOLI	2,800	.	12	Y	.	10
41141	2017M01	MDRO	FACWDEIN	CREKLEB	2,800	.	12	Y	.	10
41141	2017M01	MDRO	FACWDEIN	MRSA	2,800	.	12	N	.	10
41141	2017M02	MDRO	FACWDEIN	CDIF	2,800	.	8	Y	.	8
41141	2017M03	MDRO	FACWDEIN	CDIF	2,860	.	15	N	.	5
41141	2017M03	MDRO	FACWDEIN	MRSA	2,860	.	15	N	.	5

Sorted by orgID summaryYM

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Check Alert Page

- NHSN Home
- Alerts
- Reporting Plan ▶
- Resident ▶
- Event ▶
- Summary Data ▶
- Surveys ▶
- Analysis ▶
- Users ▶
- Facility ▶
- Group ▶
- Logout



NHSN Long Term Care Facility Component Home Page

Action Items

COMPLETE THESE ITEMS

Survey Required
2017

ALERTS

3
Missing Events

3
Incomplete Summary
Data

Summary

- **Credible data is vital to HAI prevention**
- **In the era of “publicly looking good” ongoing validation is the key to improvement in prevention practices**

Reach Out to NHSN for Validation Questions!

Questions: email user support
nhsn@cdc.gov

NHSN Website:
<http://www.cdc.gov/nhsn/>

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov



The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

