



Vermont Program for Quality in Health Care, Inc.

Preventing Healthcare Associated Infections in Vermont: A Project with National Relevance

**Detecting and Reporting Healthcare Associated
Infection Data (HAI Surveillance)**

Establishing a Prevention Collaborative

**Final Report
March 31, 2012**

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Project Focus:

Data Validation and Enhanced Reporting of Healthcare Associated Infection (HAI) data and the Prevention and Elimination of Multi-Drug Resistant Organism Infections (MDRO) in Acute Care and Long Term Care Facilities (LTCF)

Project Start Date:

May 2010

Project End Date:

March 2012

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Background:

John Jernigan, MD MS (CDC/CCID/NCPDCID) Deputy Chief of the Prevention and Response Branch at the Centers for Disease Control and Prevention described Vermont's proposed Healthcare-Associated Infection Prevention Collaborative as "unique" and "innovative"; stating that he believed that "the healthcare facilities of Vermont, working in concert with public health authorities, have a real opportunity to lead the nation in addressing this difficult public health problem."

In the summer of 2009, the Vermont Department of Health applied for, and was awarded, money from the Centers for Disease Control and Prevention for the prevention and elimination of healthcare associated infections in Vermont. Pat Jones, Director of Healthcare Quality Improvement for the Vermont Department of Banking, Insurance, Securities and Health Care Administration working with Vermont Program on Quality in Health Care provided instrumental support in the grant application. ARRA funds were awarded in three activity areas:

- Activity A: coordination and reporting of state HAI prevention efforts
- Activity B: detection and reporting of healthcare associated infection data (HAI surveillance)
- Activity C: establishing prevention collaborative.

Vermont was awarded funds to support all three activities.

Vermont has experience and infrastructure in place for public reporting and it is seen as a tool for consumers of healthcare services in the State. Hospitals began publicly reporting information related to HAIs as a result of legislation (Act 53) passed in 2003 and amended in 2006. VPQHC serves as a resource for hospitals as they navigate the reporting system, NHSN (National Healthcare Safety Network), providing data analysis, and producing reports for publication of various infection rates.

Hospitals report on:
Central line-associated bloodstream infections
Abdominal hysterectomy surgeries
Knee replacement surgeries, and
Hip replacement surgeries.

NHSN provides standardized reporting criteria and definitions, risk adjustment, and comparison infection rates to a national NHSN average.

Vermont hospitals also self-report adherence to IHI-recommended best practices for preventing central line infections and adherence to CDC-recommended best practices for prevention and control of multi-drug resistant organisms with VPQHC again providing the data collection, collation, and report preparation. Reports providing hospital-level infection rates and infection prevention practices are published in the Act 53 Hospital Report Cards.

The Infection Reporting and Prevention Work Group, under the direction of Pat Jones (BISHCA) oversaw the creation of the state HAI plan during the fall of 2009. BISHCA, VPQHC and VDH have a positive history of collaborative work aimed at improving the quality of healthcare in the State. As a result of this work, it was determined that Multidrug Resistant Organisms (MDROs), specifically, MRSA and C-diff would serve as the area of focus for the Vermont HAI Collaborative. However, as the Infection Reporting and Prevention Work Group continued to meet, and through conversations with infection prevention professionals (IPPs) at hospitals across the state, it became evident that in order to really affect the rate of MDRO infections in the state, the Collaborative needed to focus not only on hospitals but also on possible sources of transmission within the community. Long-term care was identified as an area of focus. Dr. Nimali Stone, of the CDC, is an active participant in the oversight of this work. She is an expert in the area and is leading the coordination and sharing of information of cluster activities with that of other states participating in similar activities.

It was decided that the Vermont HAI MDRO Prevention Collaborative would include both teams from the acute care hospitals and from long-term care facilities. At this point in the process the CDC expressed an interest in supporting our work with in-kind resources, using Vermont as a pilot site for reducing and eliminating the transmission of MDROs across the healthcare spectrum.

Planning Committee:

A planning committee, consisting of infection prevention professionals from the acute care and long term care facility settings, administrators from the long-term setting, staff from both the VDH and VPQHC, as well as experts from the CDC served as the faculty for the Collaborative. Weekly meetings which were held to discuss current opportunities and challenges as well as plan for webinars and learning sessions and review the evaluations of those events.

Members included:

John A. Jernigan, CDC
Alexander J Kallen, CDC
Nimalie D. Stone, CDC
Patsy Tassler Kelso, VDH
Carol Wood-Koob, VDH
Matthew Thomas, VDH, CDC Fellow
Gerry Thornton, VDH
Brant Goode, VDH
Shari Levine, VDH
Donna Barron, Crescent Manor Nursing Home
Donna Morris, Northeastern Vermont Regional Hospital
Erica Baker, Central Vermont Medical Center
Cathi Dages, Central Vermont Medical Center
Sally Hess, Fletcher Allen Health Care
Wilma Salkin, Southwestern Medical Center
Jean Holcomb, North Country Hospital
Avril Cochran, VPQHC
Patrice Knapp, VPQHC
Dail Riley, VPQHC
Donna Izor, VPQHC Consultant
Margaret Crowley, QIO
Nina Worsley, QIO
Pam Heckman, QIO

Healthcare Clusters consisting of representatives from both acute and long-term care formed the teams for this statewide Collaborative in August 2010. 18 hospitals including the Veterans Administration, Dartmouth Hitchcock Medical Center, and two in-state psychiatric facilities participated, along with 31 LTC facilities.

Related Projects:

- Vermont Blueprint for Health
- National CDC – Reduction of HAIs
- Act 53 Public Reporting
- Hospital and LTCF existing QI initiatives

Initial Project Overview:

1. Detection and Reporting of Healthcare Associated Infection Data (HAI surveillance) would include:
 - a. Nursing homes would be required to enroll in NHSN and work with the hospitals to assure data on their residents was identified and submitted. Vermont nursing homes participating in the project would submit admission, transfer, and discharge data to the hospital that performs their lab work for inclusion in the reporting.
 - b. Support the ability of Hospitals to submit data to NHSN on MDRO's and Clostridium difficile (C. diff) electronically through WHONET. It was anticipated that the hospitals would also send the data for LTCFs participating in the project which utilized the hospitals' labs. Hospital infection control

prevention, information system and laboratory staff would work with VPQHC and VDH personnel and representatives of WHONET contracted by the CDC to make this possible.

- c. Validation of data submitted to NHSN by the hospitals.
2. Establishing Prevention Collaborative would include:
 - a. Collaborative clusters formed that included participating hospitals and nursing homes in their region. The clusters actively supported and coached each month by members of VDH and VPQHC.
 - b. Webinars and on site Learning Sessions utilized to expand the knowledge of the participants as well as to encourage learning across clusters.
 - c. A planning team defined to determine agenda items for the webinars and Learning Sessions, to evaluate the response of participants and, to identify and plan interventions to reduce barriers to success.

Initial Project Process:

VPQHC role:

- VPQHC served as the Group Administrator for this data activity, supporting hospitals when questions arose and analyzing data from NHSN for presentation in the community report cards.
- VPQHC provided cluster support through the monthly cluster calls and by responding to the requests of participants.
- VPQHC provided the financial stewardship for this project including the distribution of stipends, grants, and funds for educational items.
 - Stipends of \$3500 were available to participating organizations to be used at their discretion. It was expected that many would fund staff time and travel for learning sessions and cluster meetings. An initial payment of \$1500 was made in March 2011 with final payment made after receipt of a participation form in October.
 - Grants of up to \$10,000 for support of hospitals reporting MDRO/Cdiff information to NHSN through WHONET were available. VPQHC requested and reviewed grant applications (with VDH) for payment based upon agreed criteria.
 - Educational items included prevention and control resources for facilities participating in the collaborative (up to \$750 per facility), including but not necessarily limited to: APIC memberships, Infection Prevention Manual for Hospitals, and Infection Prevention Manual for Long-Term Care Facilities.
- VPQHC assisted with the planning process for the HAI collaborative through the following means:
 - Planning and support for Webinars and Learning Sessions
 - Program evaluation compilation and reporting
 - Assistance with additional surveys and requests
 - Maintenance of the documents available to participants on the VPQHC website

Project Activities and Timeline:

Activity Related to NHSN/WHONET:

August, 2010: Brigham Women's Hospital unable to accept Business Associate Agreements

(BAA) from individual hospitals.

September, 2010: Webinar specific to NHSN held; Learning Session 1, September 17, 2010 includes NHSN presentation.

October, 2010: Single BAA designed for Vermont hospitals and approved for use by Brigham Women's Hospital.

Week of December 6, 2010: BAA sent to participating hospitals for completion

Dec – February, 2011: BAA signed by Vermont hospitals, submitted to Brigham and Women's and returned as complete. Dartmouth Hitchcock Medical Center continues working with Brigham and Women's to define BAA that meets the needs of both organizations. Learning Session 2 on January 14, 2011 included information on WHONET.

April 25, 2011: CDC announced plan for separate LTCF module in NHSN available in October, 2011.

May 20, 2011: New LTCF options for submission of data into NHSN explained at Learning Session 3 May 20, 2011. Updated Grant Applications for Enhanced Reporting of HAI were developed in response to the new information and distributed to hospitals.

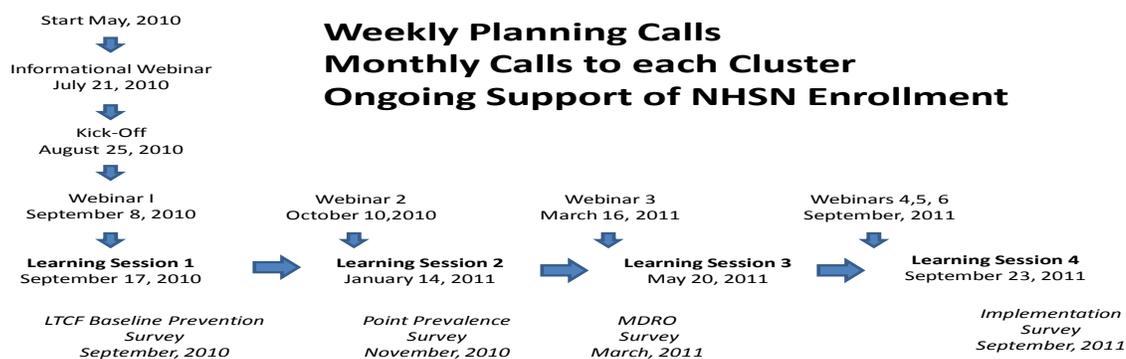
August 15, 2011: CDC announced the delay of the LTCF NHSN module until April, 2012.

September 23, 2011: Learning Session 4 included instruction for LTCFs to complete Lab ID event forms, gather denominator data, and provided time to complete option for reporting forms.

November 14, 2011: Biweekly calls changed to just include CDC, VDH, QIO, VPQHC, and WHONET to wrap up reporting requirements for all clusters to NHSN.

January 15, 2012: Focus going forward on a Steering Committee for Antimicrobial Stewardship spearheaded by VDH. Biweekly calls ended. VPQHC finalizing grant disbursements. QIO and VDH finishing up work with clusters. WHONET finalizing work with hospital lab reporting.

Activity related to Collaborative:



General Areas of Collaboration:

The following topics were supported through education at learning sessions and webinars and tracked by cluster coaching calls. In addition, relevant articles and tools developed by clusters were placed on the VPQHC website for use by participants and others interested in the work of the collaborative.

Inter-facility Communications (transfer form)
 Contact Precautions
 Hand Hygiene
 Surveillance – Enhanced Precautions
 Antimicrobial Stewardship
 Active Screening
 Decolonization/CHG Bathing
 Environmental Cleaning
 Urinary Catheter Utilization

Cluster Membership:

HEALTHCARE CLUSTER TEAM	ACUTE CARE FACILITIES	LONG-TERM CARE FACILITIES
Bennington	Southwestern Vermont Medical Center	Bennington Health and Rehab Centers for Living and Rehabilitation Crescent Manor Care Centers Vermont Veterans Home
Brattleboro	Brattleboro Memorial Hospital Grace Cottage Hospital Brattleboro Retreat	Thompson House Vernon Green Nursing Home
Burlington	Fletcher Allen Health Care Vermont State Hospital	Birchwood Terrace Burlington Health & Rehab Ctr. Green Mountain Nursing and Rehab Starr Farm Nursing Center Wake Robin
Middlebury	Porter Hospital	Helen Porter Healthcare and Rehab Center
Montpelier/Barre	Central Vermont Medical Center	Woodridge Nursing Home Rowan Court Health and Rehab Berlin Health and Rehab Center
Morrisville	Copley Hospital	The Manor
Newport	North Country Hospital	Derby Green Union House Greensboro Nursing Home
Randolph	Gifford Medical Center	Menig Extended Care Facility Mayo Healthcare
Rutland	Rutland Regional Medical Center	Mountain View Center The Pines at Rutland Rutland Healthcare Center
Springfield	Springfield Hospital	Springfield Health & Rehab Ctr.
St. Albans	Northwestern Medical Center	Franklin County Rehab Redstone Villa

		St. Albans Healthcare and Rehab
St. Johnsbury	Northeastern Vermont Regional Hospital	St Johnsbury Health and Rehab
Windsor/ Conn. River Valley	Mt. Ascutney Hospital Vermont Veterans Admin. Dartmouth Hitchcock Medical Center	Brookside Rehab and Nursing Facility Mt. Ascutney Health Center

Two long-term care facilities asked to be removed from the project citing lack of staffing and time to do the work. Pines Heights in Brattleboro and five additional long term care facilities in Newport joined cluster meetings and benefited from the work that had been done.

Vermont Infection Control Professionals Association (VIPCA):

Long term care facility Infection Control Professionals were invited to join their hospital counterparts at the VIPCA meeting in late April, 2011 and then again in September at a joint meeting with New Hampshire. The Vermont HAI Collaborative was presented by VDH and VPQHC at the September meeting and three clusters shared their work. The Vermont Infection Control Professional group will be important in the sustainability of the project across the continuum of care and in supporting new LTCF professionals in their work.

Areas of Collaboration Pursued:

Clusters worked on one of the 9 defined areas, other improvements initiatives, or NHSN issues during their meeting time. Most meetings were one hour in length. Some clusters chose to focus on one or two topics moving to adoption of change, others worked on many issues at each meeting.

These topics were discussed at cluster meetings through May, 2011:

Inter-facility Communications (transfer form)	65 meetings
Contact Precautions	39 meetings
Hand Hygiene	35 meetings
Surveillance	18 meetings
Antimicrobial Stewardship	24 meetings
Active Screening	10 meetings
Decolonization/CHG Bathing	34 meetings
Environmental Cleaning	45 meetings
Urinary Catheter Utilization	14 meetings

Areas worked on by cluster:

Bennington Cluster	9 out of 9
Brattleboro Cluster	8 out of 9
Burlington Cluster	7 out of 9
Middlebury Cluster	8 out of 9
Montpelier/Barre Cluster	8 out of 9
Morrisville Cluster	8 out of 9
Newport Cluster	3 out of 9

Randolph Cluster	5 out of 9
Rutland Cluster	8 out of 9
Springfield Cluster	7 out of 9
St. Albans Cluster	5 out of 9
St. Johnsbury Cluster	3 out of 9
Windsor/CRV Cluster	9 out of 9

In July 2011, a new cluster coaching form was developed that tracked progress towards goals. A decision was made by VDH to discontinue aggregating information from the coaching calls. In October 2011, the QIO joined with VDH and VPQHC to provide support to clusters through coaching and became fully involved in the HAI Collaborative. The work of the collaborative was consistent with the 10th Statement of Work defined by CMS.

Each cluster set goals for their team at Learning Session 3. They were:

Antibiotic Stewardship	5 clusters
Environmental Cleaning	4 clusters
Improved Communication	2 clusters
Management of Urinary Tract Infections	2 clusters
Education	2 clusters
Hand Hygiene	1 cluster
Reporting of MDRO/Cdiff Data to NHSN	1 cluster

Project Measures and Outcomes:

The ability to have hospitals send data to NHSN using WHONET was delayed due to the time to develop a Business Associate Agreement, have it signed, gather needed information, develop the interfaces and successfully complete transmission. WHONET provided support to the hospitals for this task through a contract with the CDC. The ability to complete electronic submission of Cdiff data through WHONET proved to be a blocking issue for some hospitals and they will manually enter Cdiff data into NHSN.

In March 2011, participating LTCFs were called regarding their status with installing their digital certificate and NHSN enrollment. A strong effort was made to assist LTCFs to enroll. In late April, Gifford Medical Center became the first hospital able to submit MDRO, Cdiff and LTCF data using WHONET into NHSN. Mount Ascutney Hospital and Central Vermont Medical Center received grant funding for successful submission of data to NHSN via WHONET in September, 2011.

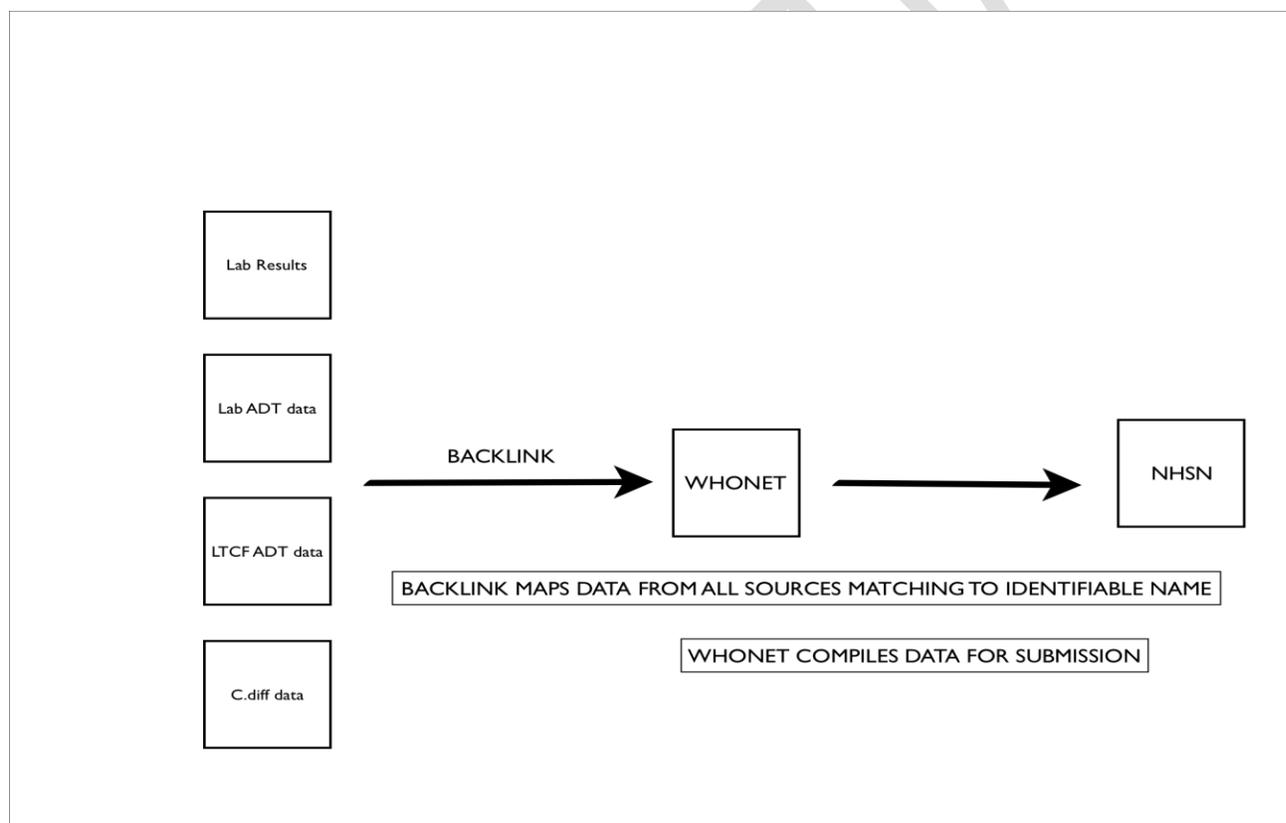
In early May the team learned of a new Long Term Care Facility module to be released by NHSN in October, 2011. Any data previously submitted into the Patient Safety Module by the hospital would not be transferred to the new module. It was strongly recommended by the CDC that LTCFs wait to submit data until the new module was available. Working with CDC, WHONET and VDH, two options were outlined for submission of data by the LTCFs. These were :

1. Hospital submits LTCF data: Hospital identifies MDRO/CDI lab results, requests missing data from LTCF (e.g. dates of admission, transfer and discharge), electronically submits data to NHSN.

2. LTCF submits data manually: Acute IP communicates MDRO/CDI lab results to LTCF via fax, phone, or email. LTCF collects missing patient details then manually enters data into NHSN LTCF module.

Regardless of the choice of submission, the LTCF would need to be enrolled in NHSN. If the LTCF chose to have the data submitted by the hospital, a business associate agreement would be needed. All LTCFs were asked to begin manually tracking LabID events as of August 1, 2011 using the LabID event forms. CDC announced in early September that the availability of the LTCF NHSN module would be delayed until April, 2012. VDH and the CDC will assist LTCFs in entering the data from the LabID event forms into the new module when it is available.

The WHONET process for submission of data from the hospital:



As of March 31st, 2012

- 16 of 16 acute care facilities eligible to transmit data had their initial site visits by WHONET
- 11 hospitals have submitted data using WHONET to NHSN
- 11 hospitals have received a grant award

Measure	Baseline	Outcome/Goal
# acute and long-term care facilities participating in NHSN	13 acute care 0 residential psychiatric facilities 0 long-term care*	14/14 acute care 2/2 residential psychiatric facilities 17/31 long-term care facilities
# of acute care facilities with labs who have ability to submit data electronically for MDRO Lab ID module	0	12/16 VSH, Brattleboro retreat do not have labs, Springfield sends labwork to FAHC
Mini grants to hospitals for enhanced electronic reporting of MDRO data to NHSN. Grants awarded once electronic transfer of data (MDRO and Cdiff) via WHONET to NHSN occurs and LTCF option for reporting is defined within their cluster.	Grant request information sent to hospitals in January 2011. Update sent in March and again in June to further define requirements to receive payment.	14 facilities eligible to receive up to \$10,000 each in grants. Grants made: 11/14
Vermont has a data validation study designed with a plan for implementation.	VT data validation study needs to be developed.	VDH has assumed responsibility for this task/ <i>Data validity determined.</i>
Point Prevalence Survey: MDROs with highest incidence in state will be identified for use in directing education and interventions.	18 acute care and 31 LTCFs asked to respond to survey in November 2010.	94% of acute care and 58% of LTCFs responded with results reported in December 2010/ <i>100% response rate from acute and long term care facilities.</i>
# of facilities using NHSN to track MDROs	Currently 5 acute care facilities use NHSN to track MRSA in specific locations within their facilities (e.g.: ICUs)	11 acute care facilities use WHONET to submit data to NHSN. LTCFs will not submit data into NHSN until new

		module is activated/ <i>All participating facilities (17 acute care + 33 LTC)</i>
Mini grants to cluster participants.	Requirements were defined in March 2011 then redefined in September with request for implementation information (See Survey Below).	\$1500 payment made to each facility in March with remaining \$2000 payment made to 46 of 49 facilities in October upon submission of completed form/ <i>Facilities will receive \$3500.</i>
Training tools supporting clusters shared via VPQHC website.	Website content needs to be developed	VPQHC maintains the posting of relevant documents from learning sessions, cluster work, and the CDC on its website. Google Analytics installed/ <i>Information available for participants and others.</i>
Improved communication between long-term care and acute care facilities as evidenced by frequency of health care cluster meetings during action periods.	No regular communication between Acute and LTCF's IPs	Monthly or more frequent meetings were held by clusters with exceptions due to vacations, illness, and EMR implementation/ <i>Healthcare Clusters meet monthly.</i>

Facilitated Learning:

The collaborative used several methods to provide training to participants including webinars, full day learning sessions, and emails of relevant material. In addition, cluster coaches from VDH and VPQHC sought out questions during their calls and attended cluster meetings when possible.

July 21, 2010 Informational Webinar

Topics: HAI Collaborative Overview
Engaging Long-Term Care Facilities
Data We Need to Collect

Attendees: 11 Long-Term Care Facilities
18 Acute Care Facilities
33 Participants

August 25, 2010 Kick Off Webinar

Topics: Data Collection and Reporting
Long-Term Care Needs Assessment Survey
Collaborative Expectations

Attendees: 8 Long-Term Care Facilities
16 Acute Care Facilities
37 Registered Attendees

Evaluation: None

September 8, 2010 Webinar 1

Topic: NHSN Enrollment

Attendees: 10 Long-Term Care Facilities
5 Acute Care Facilities
22 Registered Attendees

Evaluation: None

September 17, 2010 Learning Session 1

Topics and Evaluation: 99 Responses: Scale 1 to 5 with 5 being excellent

Overall Evaluation	4.28
National Perspective	4.34
Vermont Perspective	4.22
Bridging Prevention Strategies	4.76
Cluster Work	4.43

Attendees: 31 Long-Term Care Facilities
18 Acute Care Facilities
130 Participants

October 10, 2010 Webinar 2

Topic: Environmental Disinfection and MDRO's
Attendees: 13 Long-Term Care Facilities
17 Acute Care Facilities
60 Registered Attendees
Evaluation: None

January 14, 2011 Learning Session 2

Topics and
Evaluation: 72 Responses: Scale 1 to 5 with 5 being excellent
Overall Evaluation 4.29
How Does WHONET Work 4.05
Practical Implementation of IP 4.36
Specifics of Enhanced IP Strategies 4.47
Panel Discussion 4.31
Presentation by 2 Clusters 4.23
Cluster Work 4.35
Attendees: 25 Long-Term Care Facilities
18 Acute Care Facilities
110 Participants

March 16, 2011 Webinar 3

Topic: Roles of Long-Term Care Facility Administrators, Medical Directors and Nursing Directors
Attendees: 20 Long-Term Care Facilities
13 Acute Care Facilities
40 Registered Attendees
Evaluation: 10 Responses: Scale 1 to 5 with 5 being excellent
"The Webinar lived up to my expectations and was helpful" 2.4 out of 5
"The content was relevant to the work of our cluster" 2.6 out of 5

May 20, 2011 Learning Session 3

Topics and
Evaluation: 78 Responses: Scale 1 to 5 with 5 being excellent
Overall Evaluation 4.30
Focusing Interventions at the Transition of Care 4.02
Emerging MDROs and the Value of Prevention 4.86
Urinary Catheter Utilization/Antibiotic Stewardship 4.68
Cluster Goal Setting Activity 3.98
NHSN and WHONET Information (average) 4.22
Case Study by Randolph Cluster 4.17
Steps Towards Sustainability 4.38
Attendees: 26 Long-Term Care Facilities
18 Hospitals

101 Participants

September 23, 2011 Learning Session 4

Topics and

Evaluation:	74 Responses: Scale 1 to 5 with 5 being excellent	
	Overall Evaluation	4.09
	Collaborative Sustainability	4.01
	Collaborative Sustainability/QIO involvement	3.94
	Current Status of Carbapenem-Resist. Enterobacteriaceae	3.91
	NHSN-Completing LabID Event Form for LTCFs	4.35
	NHSN Reporting Options for LTCFs	3.99
	UVM Student Projects	3.98
	UVM Environmental Cleaning Study	3.87
	Introduction to Change Management	4.52
	Goal Setting Activity	4.24

Attendees: 28 Long-Term Care Facilities
17 Hospitals
95 Participants

October 2011 Webinar 4, Webinar 5 and Webinar 6

A decision was made by the planning committee to try a new format for Webinars given the number of new people involved in the Collaborative from LTCFs. Three webinars were professionally filmed then placed on the VPQHC website to be used during cluster meetings or by individuals for general education.

Topics: The Story of the Collaborative
NHSN
Surveillance

Cluster Self Reporting:

Cluster calls were made monthly to a long-term care facility and a hospital within each cluster to gather data and provide support. The facilities self report on their success as well as their challenges during these calls.

One consistent challenge facing clusters was the ability to get facilities together for the meetings. Given the various sizes of the clusters, from eight members in Burlington to 2 in Springfield, the overall percentage attending meetings was of little value to report. The information gathered during clusters calls through May was collated. It is presented below.

On a scale of 1 to 10, with 1 being “not at all successful” and 10 being “very successful” how successful do you think your cluster has been?

Mean: 7.48

High: 9.83 (Randolph)

Low: 5.42

What are the top successes of your cluster to date?

- Improved communication between cluster participants
A Randolph cluster participant reports, “A huge success story! Even if we stopped right here (which we aren’t going to do)!”
- Increased awareness of HAI
One LTCF aide reports, “I never gave it a lot of thought until joining this collaborative.”
- Shared information available for use on website
We took Rutland’s transfer form and made it our own.
- Sharing information on environmental cleaning across organizations in cluster
We are developing a cleaning checklist that can be used in the facilities to be sure we are cleaning the way we should.
- Involvement of medical staff encouraged
Our VP of Quality is meeting with the medical directors of the local LTCFs to make sure they are not only involved, but also engaged.
- Relationship development for continued work together
The work of this Collaborative will serve as a “Springboard for other clinical activities” that needs to be addressed between LTC and Acute Care.

What are the top challenges your cluster is currently facing?

- Difficulty completing NHSN enrollment for LTCFs
- WHONET process for hospitals
- Time for staff to dedicate to project work, meetings
Hospital IP commenting on LTCFs, “I think any support and personal attention that can be paid to the different facilities would be helpful.”
- Staff turnover at LTCFs
- LTCFs may not be in control of cleaning and use outside services.
Little to no control over some infection prevention control methods.

How can VDH/VPQHC assist your cluster?

“They have been very helpful with resources, clarification of procedures when needed. Participation at the cluster meetings by a person from VDH/VPQHC is extremely helpful both in information and in reaffirming the importance of our work and energizing the group.”

- Support with NHSN enrollment, data collection
- Additional information on patient education
- Fielding questions and sharing other cluster success
- Leadership training
- Keep coming to meetings
- Providing resources to come together for meetings

MDRO Survey Results:

The survey was sent in March 2011 to all participating organizations. Sixteen LTCFs (52%) and 13 hospitals (72%) responded. The implementation of a transfer form was the highest reported activity within LTCFs (81%) with implementation of hand hygiene next at 13% of those reporting. For hospitals, implementation of the transfer form was 92% with implementation of contact precautions next at 15% of those reporting.

The greatest % change in the development of new policies or practices in all areas as a result of the collaborative was also gathered from survey participants. The results were:

For LTCFs:

Inter-facility communication: 81% of those reporting

Environmental cleaning: 56% of those reporting

Antimicrobial stewardship: 56% of those reporting

For hospitals:

Inter-facility communication: 85% of those reporting

Antimicrobial stewardship: 31% of those reporting

Cluster Successes:

In order to prepare for Learning Session 3, clusters were sent a list of “successes” derived from the MDRO survey and coaching calls to review and edit. This list was returned and used to develop individual cluster success sheets and posters for Learning Session 3. The goal was to have clusters learn what each other were doing and begin to share information across clusters. Participants viewed the posters then searched out others clusters to gain insight and information.

HAI COLLABORATIVE		
Cluster Name	Area of Focus	Cluster Goal
	Antibiotic Stewardship	
Connecticut River Valley Cluster		Decrease unnecessary antibiotic usage in evaluation of suspected UTI's
Morrisville Cluster		Prevent misuse or unnecessary use of antibiotic treatment for UTI's in LTCF patients
Newport Cluster		Reduce inappropriate use of antibiotics in management of UTI's
Bennington Cluster		Reduce inappropriate use of antibiotics for UTI's
Rutland Cluster		Reduce the use of antibiotics by Learning Session 4
	Environmental Cleaning	
Montpelier/Barre Cluster		Improve environmental cleaning by at least 10% of baseline within 6 months
Brattleboro Cluster		Improve terminal cleaning of all high touch areas
Burlington Cluster		Focus on environmental services through an assessment
	Improved Communications	
Middlebury Cluster		Improve communications between facilities
Burlington Cluster		Implement the workflow transfer process
	Hand Hygiene	
St. Johnsbury Cluster		Increase compliance with hand hygiene policy
	Management of UTIs	
Randolph Cluster		Adopt cluster wide protocol for management of UTI in LTC residents
Springfield Cluster		Reduce the HAI and CAI UTI rates
	Education	
St. Albans Cluster		Develop an information board to educate families and visitors about their role in preventing cross contamination
Burlington Cluster		Infection control education: presentation of educational program to 100% LTCF by Learning Session 4
	Reporting of MDRO/Cdiff Data to NHSN	
Burlington Cluster		100% of Burlington Cluster will be enrolled in NHSN by the next learning session

Implementation Survey Results:

A follow up survey was conducted in September/October of 2011 as a requirement for payment of the remaining participation stipend amount. Organizations were asked to define their level of implementation for the interventions presented and supported during the Collaborative. This form was also signed by the CEO or Administrator of the organization and it is hoped that the form served as an opportunity for discussion and information on the activities that were undertaken within their organization.

A survey was received from 44 of 49 facilities.

The results are listed here:

Percentage

Intervention	Implementation Phase							
	Not Considering At This Time	Considering	Planning	Implementing	Enhancing	Changing	Ongoing Practice	Did Not Respond/ Other
Interfacility Transfer Form								
LTC to acute care	2%	11%	7%	57%	14%	0%	0%	9%
Acute care to LTC	0%	5%	5%	50%	18%	2%	0%	20%
Contact Precautions								
For active infections	0%	0%	0%	34%	39%	2%	5%	20%
For colonized patients/residents	23%	2%	0%	20%	20%	5%	5%	25%
Decolonization								
At admission	50%	18%	7%	11%	2%	0%	0%	11%
At discharge	55%	9%	5%	9%	2%	0%	0%	20%
At transfer	52%	9%	7%	7%	2%	0%	0%	23%
Hand Hygiene								
Education	0%	0%	5%	23%	61%	2%	2%	7%
Observations	0%	0%	11%	18%	45%	14%	5%	7%
Environmental Cleaning								
Education	0%	0%	7%	34%	34%	7%	5%	14%
Observations	0%	0%	11%	27%	39%	9%	5%	9%
Use bleach for <i>C. diff.</i> rooms	5%	2%	5%	34%	27%	9%	5%	14%
Surveillance for Any MDRO(s)								
At admission	18%	7%	0%	36%	14%	0%	2%	23%
At discharge	32%	7%	2%	18%	9%	0%	0%	32%
At transfer	30%	5%	2%	27%	7%	0%	2%	27%
Other	23%	0%	2%	5%	2%	0%	2%	66%
Urinary Catheter Use								
Document insertion date	2%	5%	5%	50%	9%	0%	11%	18%
Document removal date	2%	5%	5%	50%	11%	0%	9%	18%

Document indication	2%	9%	5%	48%	11%	2%	5%	18%
Antibiotic Stewardship								
Review antibiogram	2%	16%	20%	27%	7%	0%	5%	23%
Monitor prescribing practices	2%	18%	27%	23%	7%	0%	5%	18%
Discuss with physician leadership	2%	16%	30%	27%	7%	2%	5%	11%

Information gathered during the collaborative was used to determine learning session and webinar topics and to identify a specific cluster or participating organization that may have needed additional support from VDH or VPQHC staff. The planning committee was aware of all requests for information and worked to keep the number of requests to a minimum.

Challenges and Actions Taken in Response:

NHSN/WHONET:

- Development of a standardized BAA between hospitals and WHONET was difficult and negatively impacted the timeline established for the work delaying WHONET’s ability to work directly with hospitals.
 - WHONET continues to work with Dartmouth Hitchcock Medical Center on the development of a mutually acceptable BAA.
 - WHONET began work as soon as feasible with hospitals. Grant timelines for successful submission of data to NHSN via WHONET were changed.
- Acceptance of BAA between hospitals and WHONET was hampered by mail being undelivered and certified mail not accepted by Brigham and Women’s Hospital.
 - WHONET was notified of the delay and responded.
- Access to IT support at hospitals was limited by other demands for their time of higher priority including the installation of electronic medical records. IT support was further taxed when it was realized that data extraction was needed from more than one system to fulfill all data needs of WHONET.
 - Progress varied by hospital in appreciation of their demands.
 - VDH and VPQHC had frequent calls with WHONET to keep apprised of the progress and support hospitals in completing successful transmission of data via WHONET.
 - NHSN/WHONET issues were updated during weekly planning calls.
- Requirements for grant payment to hospitals were adjusted twice during the collaborative to include updated information on LTCF reporting.
 - Education and information was provided to all hospitals on new forms. Requirements were streamlined with a sample budget attached.
- Enrollment in NHSN proved very difficult for many LTCFs who lacked the IT resources

- to support this endeavor and whose staff may not have had computer access.
 - Individual support was provided by VDH and VPQHC.
- NHSN required a single digital certificate user. Turnover at LTC facilities required organizations to reapply and the new staff member to learn the system.
 - Individual support was provided by VDH and VPQHC. A group learning session for the St. Albans cluster was provided by Carol Wood-Koob, RN.
- The NHSN system does not often recognize a LTCF CMS number resulting in the need to contact NHSN for assignment of an enrollment number. This extra step caused frustration on the part of LTCFs trying to complete the process.
 - Additional education on NHSN was provided at learning sessions, through webinars and during coaching calls to LTCFs. Individual support, including contacting NHSN, was provided by VDH and VPQHC.

Clusters:

- Consistent attendance at cluster meetings was difficult for some LTCFs due to turnover and staffing issues.
 - Clusters were encouraged to distribute minutes of meetings and to visit the VPQHC website for additional information on the Collaborative.
 - Webinars and power point presentations from learning sessions were made available on the VPQHC website. Participants were encouraged to visit the website during cluster coaching calls.
- LTCFs may not have had infection prevention duties defined or assigned. The ICP must often fill in for other positions and is not able to focus their work on this project.
 - Carol Wood-Koob, RN provided on site education at facilities requesting support.
- This Collaborative was an innovative and evolutionary effort. The evolution of the Collaborative focused on meeting the needs of participants through education and support. Participants had periods of frustration with the lack of clarity and evidence-based guidelines with regard to the selected prevention strategies.
 - Nimalie Stone, MD provided guidance on prevention strategies and evidence based guidelines when available.
 - MDRO survey was developed to determine level of implementation for key project areas of intervention and to define areas for education at future learning sessions.
 - Cluster coaching calls were reported during the weekly planning call meetings and used to define needs.
- LTCF participants were limited in what change could be enacted because of the inconsistent support of cluster work by LTCF administrators and medical directors.
 - A webinar was designed specifically to encourage the involvement of LTCF administrators and medical directors.
- This was the first quality project for many participants. Lack of training in quality tools and techniques has hampered their success.
- Learning Session 4 included the introduction to change management. An additional learning session on change management was discussed.
- Change in key personnel and further change in roles and responsibilities between VPQHC, VDH, and ultimately the QIO during the grant period.
 - The planning committee was kept up to date with changes at VPQHC. New personnel worked closely with VDH/QIO staff to provide consistent support to the clusters.
- The list serve was poorly used even with urging. Messages were often sent to the list

serve then also sent to a mass email list.

- Use of the list serve remains a challenge.

Lessons Learned:

- Participants should be provided the opportunity for training in quality improvement methods and tools earlier in the process to maximize the value of the educational information provided.
- Administrators of long term care facilities should be engaged early on to provide support to the cluster, understand why changes are being requested and build capacity within their system for the work involved.
- Medical directors of long term care facilities need tools that can be used to affect change including information to share with the LTCF medical staff. The adoption of medical protocols can only be done with medical director leadership.
- The number of contacts and requests made of the participants should be minimal. It was difficult for participants to complete the requested forms in a timely fashion. Any redundant requests should be eliminated.
- Promote ownership of the work by participants by providing forums for sharing at learning sessions and celebrate success.
- Use content experts wisely. There is considerable variation in education and experience among learning session attendees and the needs of all participants should be considered.
- Plan for sustainability at the beginning and throughout the grant period. Use learning sessions to encourage and facilitate the actions of the clusters.
- Continue to articulate consistently to cluster members the value of the collaborative in terms of education, support, facilitation and possible financial benefit.

Next Steps:

- Two additional learning sessions were being planned for 2012.
- The QIO will continue to work with clusters in the southern section of the State. Together with VDH, clusters will continue to be coached and supported.
- VDH will expand the work of the HAI Collaborative to residential care facilities during 2012. The funding for the VDH Infection Control nurse has been extended and she will lead this effort.
- VDH and VPQHC are working with collaborative participants on a number of different projects. They will coordinate their work when possible to reduce redundancy, improve communication, and expand support to the participants.