

Utah Health Status Update:

Healthcare-Associated Infections

August 2012

Healthcare-associated infections (HAI), also known as nosocomial infections, are infections that patients acquire while receiving care or treatment in a healthcare setting for a medical or surgical condition. HAIs are among the leading causes of preventable deaths in the United States and are associated with a substantial increase in healthcare costs each year¹.

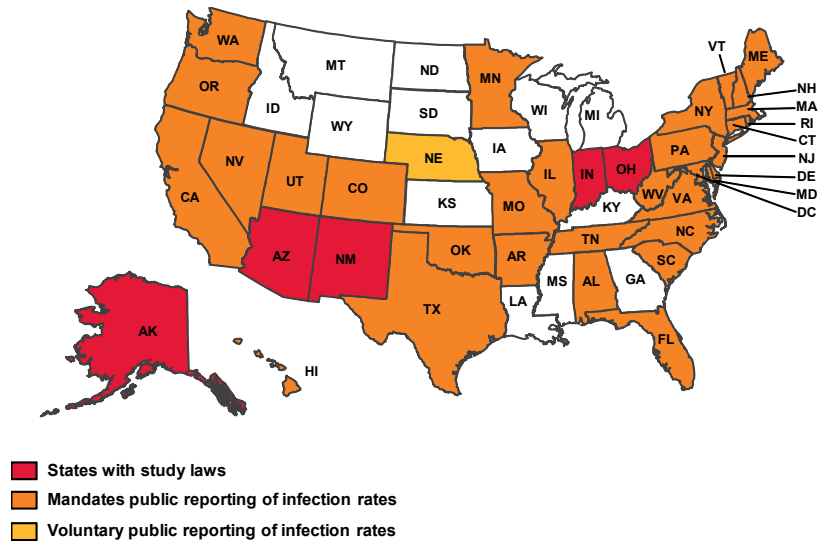
In 2005, a multi-disciplinary statewide HAI workgroup was formed to proactively address Utah HAI concerns based on the recognition that billing code data alone was unlikely to accurately detect cases. The workgroup studied the problems unique to Utah hospitals and developed a statewide plan to address the reporting and prevention of HAIs.

Since 2005, collaborative efforts by stakeholders across Utah continue to make tremendous progress in efforts to prevent and control HAIs. As part of the statewide HAI plan, Utah established a multi-disciplinary Statewide HAI Governance Committee in 2010 to support Utah's mission to prevent HAIs and oversee efforts of the HAI Workgroup and HAI Analytic Group. The Committee meets quarterly and is comprised of representatives from the Utah Legislature, Utah Department of Health (UDOH), professional healthcare associations, healthcare systems and healthcare professionals in acute care, acute long term care, dialysis facilities, long term care

- HAIs are among the leading causes of preventable deaths in the United States and are associated with a substantial increase in healthcare costs each year¹.
- A Statewide HAI Governance Committee was developed to support Utah's mission to prevent HAIs.
- An increase in healthcare worker influenza vaccinations in Utah during the 2011-2012 influenza season may be a direct result of an endorsement for compulsory influenza vaccinations by the statewide HAI Governance Committee.

HAI Reporting Laws and Regulations

Figure 1. States that have enacted laws relating to reporting of Healthcare-associated infections



Source: Association for Professionals in Infection Control and Epidemiology, Inc.

facilities (LTCHs), home health, and ambulatory surgical centers (ASCs) throughout the state.

As of June 2011, 28 states and the District of Columbia have enacted laws requiring public reporting of infection rates in healthcare facilities (Figure 1). During the 2012 Utah General Legislative Session, House Bill (HB) 55 "Healthcare-Associated Infections" was passed with the belief that broader transparency would improve quality of care. The bill charges the UDOH with the responsibility to evaluate and validate required HAI data submitted by healthcare facilities to the National Healthcare Safety Network (NHSN). In compliance with these requirements, UDOH will publish annual reports based on the NHSN data, including facility-specific infection rates, starting in 2013.

Increasing influenza vaccination among healthcare workers (HCWs) is an essential part of a comprehensive patient safety and HAI prevention program. HCW influenza vaccination rates are reported to UDOH in accordance with Utah Administrative Code R386-705. In April 2011, the Statewide HAI Governance Committee endorsed compulsory influenza vaccinations for all HCWs within the state, along with public identification of data by facility name. This endorsement was instrumental in increasing HCW influenza vaccination rates from 71.7% in the 2008-2009 influenza season to 93.8% in the 2011-2012 influenza season (Figure 2). Reports for the 2011-2012 influenza season were distributed to healthcare facilities in April 2012 and published on the UDOH HAI website.

Central-line Associated Bloodstream Infection (CLABSI) rates in Utah healthcare facilities with Intensive Care Units (ICUs) have been reported

to UDOH since 2008 in accordance with Utah Administrative Code R386-705. Utah's CLABSI rate has decreased from 2.2 infections per 1,000 central line days in 2008 to 1.3 infections per 1,000 central line days in 2011 (Figure 3).

Additional infection control and prevention efforts include establishing prevention collaboratives. Improving the culture of safety within healthcare is an essential component of preventing or reducing errors and improving overall healthcare quality. One collaborative in Utah involves nine Utah acute and long term acute care facilities participating in a Comprehensive Unit-based Safety Program (CUSP)/ CLABSI prevention collaborative. This collaborative is recognizing that workplace attitudes surrounding safety can have a profound impact on outcomes of care. The Utah CUSP/CLABSI collaborative completed the mid-course mark on April 11, 2012. Preliminary data suggests a downward trend in CLABSI rates within the participating facilities. Further analysis of data will be available upon completion of the collaborative project in October 2012.

Eighteen Utah LTCFs are currently participating in another HAI prevention collaborative. The impetus behind this collaborative was concerns that were voiced from the HAI Governance Committee and the HAI Work Group about the lack of HAI prevention training provided to LTCFs. This collaborative is focusing on the prevention of urinary tract infections, typically the most common HAI found in LTCFs. This collaborative's goals are to reduce urinary tract infections, reduce urinary catheter utilization, and educate and apply principles for appropriate urinary catheter usage.

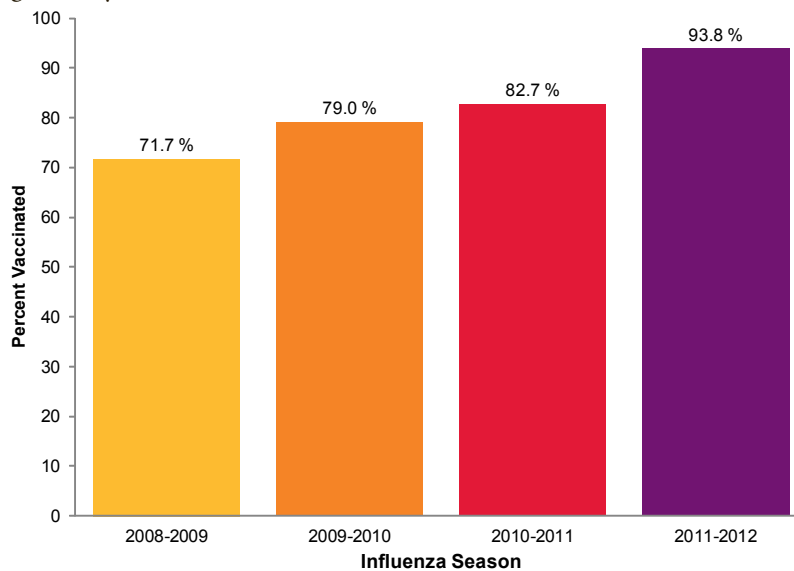
In conclusion, many Utah healthcare facilities have demonstrated leadership and initiative in developing and implementing healthcare quality improvement practices, including HAI prevention activities. Utah is committed to helping all citizens enhance their quality of life and receive the best and safest care when they receive healthcare services.

References

1. Klevens RM, Edwards JR, Richards CL Jr, et al. Estimating health care-associated infections and deaths in US hospitals, 2002. *Public Health Rep.* 2007 Mar-Apr;122(2):160-6.

Hospital Healthcare Worker Influenza Vaccination Coverage Rate

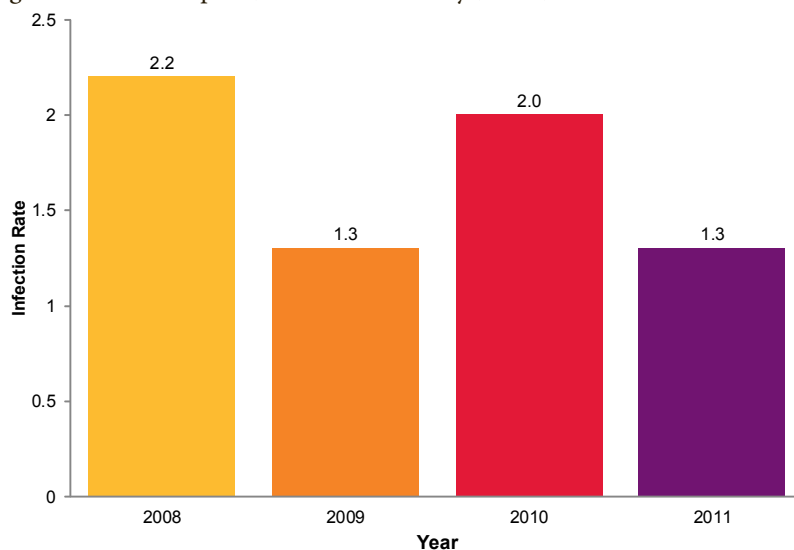
Figure 2. By influenza season, Utah, 2008-2009 to 2011-2012



Source: Utah Department of Health, Bureau of Epidemiology, June 2012.

Rate of Central Line-Associated Bloodstream Infections

Figure 3. Infections per 1,000 central line days, Utah, 2008 to 2011



Source: Utah Department of Health, Bureau of Epidemiology, June 2012

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For additional information about this topic, contact Sherry Varley, RN, CIC, HAI Program Coordinator, Bureau of Epidemiology, Utah Department of Health, Salt Lake City, UT, (801) 538-6191, email: svarley@utah.gov, or visit the Office of Public Health Assessment, Utah Department of Health, Box 142101, Salt Lake City, UT 84114-2101, (801) 538-9191, email: chdata@utah.gov

Breaking News, August 2012

Chromium in Utah Drinking Water

Chromium (Cr) is a naturally occurring element found in rocks, animals, plants, and soil. The most common forms are chromium-0 (metal chromium), chromium-3 (trivalent chromium), and chromium-6 (hexavalent chromium). In nature or in the human body chromium-6 easily reduces to chromium-3. Chromium-3 is an essential nutrient that helps the body use sugar, protein, and fat. Chromium-6 is more toxic. Children and adults using water with high chromium-6 levels over many years could experience negative health effects. Chromium-6 has been associated with lung cancer and stomach tumors. Developmental effects have been observed in animals exposed to chromium-6 but it is unknown if the same effects occur in humans.

The U. S. Environmental Protection Agency (EPA) determined that the maximum contaminant level (MCL) for total chromium allowable in drinking water is 100 micrograms per liter ($\mu\text{g/L}$) or 100 parts per billion (ppb). Low levels of chromium are in the drinking water in all Utah counties (see table). In 2011, the statewide average chromium concentration in drinking water was 3.63 ppb (range 2.37 – 8.00 ppb), which is below the MCL. Values above the MCL were reported three times in Utah since 1987. These were in Salt Lake County in 1987 (118 ppb), Sevier County in 1998 (120 ppb), and Summit County in 2000 (141 ppb). Since 2000, Utah's drinking water chromium levels have remained below the MCL.

County Average (geometric mean) of Total Chromium Levels (ppb) in Drinking Water in Utah, 1980 through 2011

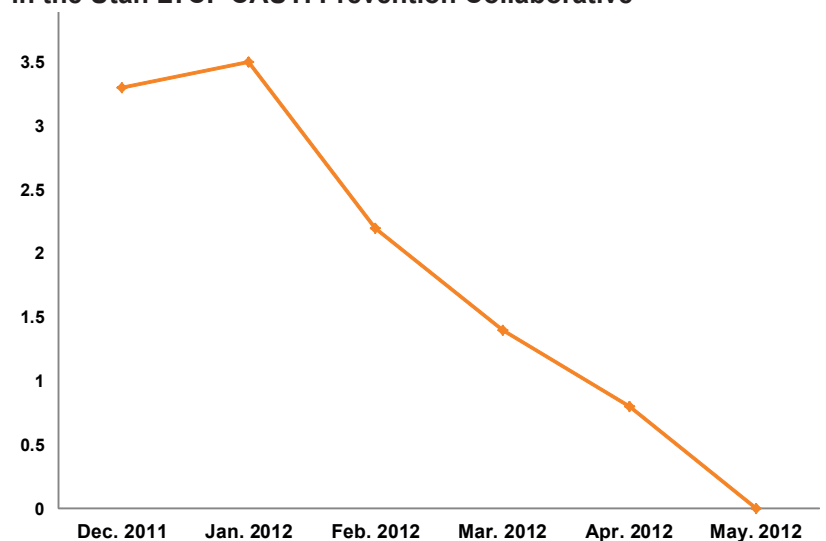
#	County	Total Cr	#	County	Total Cr	#	County	Total Cr
1	Beaver	3.53	11	Iron	3.53	21	Sevier	3.72
2	Box Elder	3.64	12	Juab	3.64	22	Summit	3.87
3	Cache	3.61	13	Kane	3.61	23	Tooele	3.63
4	Carbon	3.60	14	Millard	3.60	24	Uintah	3.31
5	Daggett	3.53	15	Morgan	3.53	25	Utah	3.64
6	Davis	3.73	16	Piute	3.73	26	Wasatch	3.58
7	Duchesne	3.52	17	Rich	3.52	27	Washington	3.55
8	Emery	3.38	18	Salt Lake	3.38	28	Wayne	3.49
9	Garfield	3.61	19	San Juan	3.61	29	Weber	3.66
10	Grand	3.75	20	Sanpete	3.75			

Community Health Indicators Spotlight, August 2012

Utah Long-Term Care Facility Prevention Collaborative

Due to recognized needs within the long-term care facility (LTCF) setting, Utah applied for and received federal grant money to reduce healthcare-associated infections (HAIs) in the long-term care arena. Through recruiting efforts, 18 LTCFs from around the state volunteered to participate in a collaborative project with the goal of reducing catheter-associated urinary tract infections (CAUTIs). Challenges faced in this project included facility staff downsizing and turnover, maintaining interest and participation, small number of participants, and limited time to meet objectives. Because none of the participating facilities were reporting data prior to implementation of the collaborative, baseline data is not available. Education was provided to these facilities through monthly collaborative phone calls and through site visits from Utah Department of Health personnel. Site visits consisted of group trainings for direct care nursing staff and individualized instruction for facility educators.

Rate of CAUTIs per 1,000 Catheter Days for LTCFs Participating in the Utah LTCF CAUTI Prevention Collaborative



Approximately 360 direct care staff and 28 educators from participating facilities were trained. Education focused on outcome surveillance, appropriate urinary catheter usage, and infection prevention strategies for those requiring urinary catheters. Preliminary data suggest a reduction of CAUTIs during the project period within participating facilities.

Monthly Health Indicators Report

(Data Through June 2012)

Monthly Report of Notifiable Diseases, June 2012	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis (Campylobacter)	51	51	189	184	1.0
Shiga toxin-producing Escherichia coli (E. coli)	5	11	21	31	0.7
Hepatitis A (infectious hepatitis)	0	1	3	4	0.7
Hepatitis B, acute infections (serum hepatitis)	0	2	2	6	0.3
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/flu				
Meningococcal Disease	1	1	1	5	0.2
Pertussis (Whooping Cough)	24	22	442	168	2.6
Salmonellosis (Salmonella)	17	34	105	155	0.7
Shigellosis (Shigella)	2	4	9	18	0.5
Varicella (Chickenpox)	7	11	180	370	0.5
Quarterly Report of Notifiable Diseases, 2nd Qtr 2012	Current Quarter # Cases	Current Quarter # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
HIV/AIDS†	5	29	23	57	0.4
Chlamydia	1,779	1,549	3,747	3,135	1.2
Gonorrhea	92	115	189	229	0.8
Syphilis (1st Qtr 2012)	4	6	4	6	0.6
Tuberculosis	11	9	20	18	1.1
Medicaid Expenditures (in Millions) for the Month of June 2012	Current Month	Expected/Budgeted‡ for Month	Fiscal YTD	Budgeted‡ Fiscal YTD	Variance - over (under) budget
Capitated Mental Health	\$ 10.3	\$ 5.5	\$ 144.3	\$ 138.0	\$ 6.3
Inpatient Hospital	\$ 20.3	\$ 11.6	\$ 333.1	\$ 290.5	\$ 42.6
Outpatient Hospital	\$ 8.4	\$ 4.0	\$ 86.8	\$ 99.8	\$ (13.0)
Long Term Care	\$ 18.1	\$ 6.1	\$ 146.7	\$ 153.7	\$ 11.0
Pharmacy§	\$ 17.4	\$ 6.2	\$ 181.3	\$ 155.0	\$ 26.3
Physician/Osteo Services	\$ 9.3	\$ 3.8	\$ 92.0	\$ 93.5	\$ (1.5)
TOTAL HCF MEDICAID	\$ 164.5	\$ 181.5	\$1,864.2	\$1,906.4	\$ (42.2)

Program Enrollment for the Month of June 2012	Current Month	Previous Month	% Change¶ From Previous Month	1 Year Ago	% Change¶ From 1 Year Ago
Medicaid	252,573	254,331	-0.7%	244,470	+3.3%
PCN (Primary Care Network)	16,734	16,927	-1.1%	16,780	-0.3%
CHIP (Children's Health Ins. Plan)	36,873	37,059	-0.5%	37,700	-2.2%
Health Care System Measures	Annual Visits			Annual Charges	
	Number of Events	Rate per 100 Population	% Change¶ From Previous Year	Total Charges in Millions	% Change¶ From Previous Year
Overall Hospitalizations (2010)	274,576	9.0%	-2.6%	\$ 5,416.2	+5.9%
Non-maternity Hospitalizations (2010)	167,340	5.3%	-0.9%	\$ 4,552.5	+5.9%
ED Encounters - Not Admitted (2010)	645,962	21.5%	-7.7%	\$ 1,160.9	+7.4%
Outpatient Surgery (2009)	311,442	10.6%	+1.9%	\$ 1,465.7	+14.7%
Annual Community Health Measures	Current Data Year	Number Affected	Percent/Rate	% Change¶ From Previous Year	State Rank# (1 is best)
Obesity (Adults 18+)	2010	454,700	23.1%	-4.0%	11 (2010)
Cigarette Smoking (Adults 18+)	2010	180,100	9.1%	-6.9%	1 (2010)
Influenza Immunization (Adults 65+)	2010	175,900	68.2%	-0.8%	23 (2010)
Health Insurance Coverage (Uninsured)	2010	301,900	10.6%	-5.6%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2010	231	8.1 / 100,000	+0.1%	19 (2009)
Poisoning Deaths	2010	342	12.0 / 100,000	-38.1%	47 (2009)
Suicide Deaths	2010	479	16.8 / 100,000	+5.8%	n/a
Diabetes Prevalence (Adults 18+)	2010	128,000	6.5%	+6.2%	15 (2010)
Poor Mental Health (Adults 18+)	2010	296,100	15.0%	-0.2%	17 (2010)
Coronary Heart Disease Deaths	2010	1,488	52.2 / 100,000	-0.4%	2 (2008)
All Cancer Deaths	2010	2,791	98.0 / 100,000	+7.9%	1 (2008)
Stroke Deaths	2010	736	25.8 / 100,000	-1.4%	13 (2008)
Births to Adolescents (Ages 15-17)	2010	876	14.3 / 1,000	-13.2%	17 (2009)
Early Prenatal Care	2010	38,124	73.1%	+2.1%	n/a
Infant Mortality	2010	251	4.8 / 1,000	-9.0%	3 (2008)
Childhood Immunization (4:3:1:3:3:1)	2010	38,900	70.6%	-7.8%	12 (2010)

* Influenza activity remains minimal in Utah. Influenza-like illness activity is below baseline statewide. As of November 16, 2011, 1 influenza-associated hospitalization has been reported to the UDOH. More information can be found at <http://health.utah.gov/epi/diseases/flu>.

† Diagnosed HIV infections, regardless of AIDS diagnosis.

‡ Budget has been revised to include supplemental funding from 2011 General Session.

§ Only includes the gross pharmacy costs. Pharmacy Rebate and Pharmacy Part-D amounts are excluded from this line item.

¶ % Change could be due to random variation.

State rank based on age-adjusted rates.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for West Nile virus has ended until the 2012 season.