UTAH DEPARTMENT OF HEALTH

Utah Health Status Update:

2015 Measles Outbreak in Utah

April 2015

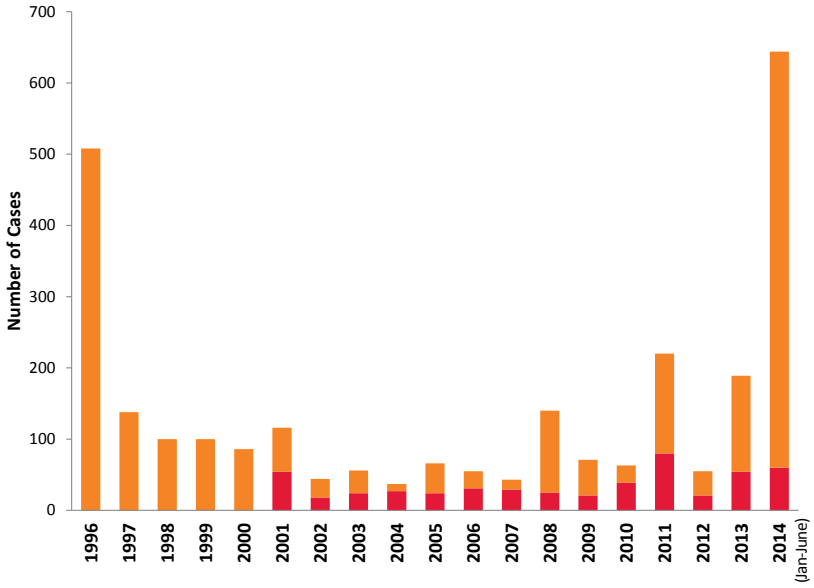
Before licensure of a measles vaccine in 1963, approximately 500,000 measles cases were reported in the United States, with 450–500 deaths occurring each year. Since introduction of the measles vaccine, the incidence of measles has declined significantly, and many U.S. healthcare providers have never seen a patient with measles. In 2000, endemic measles was declared eliminated in the United States. However, measles outbreaks continue to occur. The majority of U.S. measles cases are imported from other countries, due primarily to unvaccinated U.S. residents bringing the virus back after traveling to other countries where measles continues to be endemic (Figure 1).

During December 2014–February 2015, Utah experienced a measles outbreak associated

- **The Utah outbreak resulted in three confirmed measles cases of the same household.**
- **Public health identified more than 375 contacts in 160 households who were exposed to measles.**
- **Public health's direct costs for the measles outbreak response totaled approximately $115,000.**
- **Vaccination is an important line of defense for two reasons. First, vaccination directly protects the person being vaccinated. Second, having a high percentage of the population vaccinated protects those who cannot be vaccinated.**
- **While the overall measles vaccination coverage at school entry is high in Utah, other factors contribute to disease risk and transmission in a community, including immunization exemptions and waning immunity.**
- **This outbreak serves as a reminder of the importance of maintaining high vaccination rates, even for diseases that are rarely seen in the U.S., as long as those diseases continue to circulate in other parts of the world.**

Measles (importations indicated by red bar)

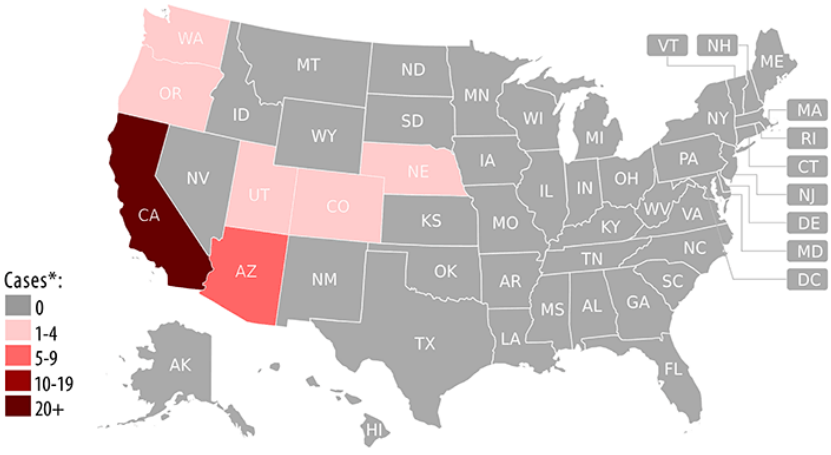
Figure 1. Number of measles cases in the U.S., 1996–2014 (importations data available since 2001)



Note: 2014 case count preliminary as of June 20, 2014
Source: Centers for Disease Control and Prevention

U.S. Multi-state Measles Outbreak, 2015

Figure 2. Number of measles cases reported in each state linked to the outbreak, December 28, 2014–April 3, 2015



From December 28 to April 3, 2015, 147 people from 7 states [AZ (7), CA (131), CO (1), NE (2), OR (1), UT (3), WA (2)] were reported to have measles and are considered to be part of a large outbreak linked to an amusement park in California*.

*Provisional data reported to CDC's National Center for Immunization and Registry Diseases
Source: Centers for Disease Control and Prevention

CDC

with two unvaccinated Utah residents who had traveled to Disneyland in California, where a large measles outbreak is ongoing (Figure 2).

The Utah outbreak resulted in three confirmed measles cases, all in individuals who were less than 18 years of age, unvaccinated, and part of the same household. However, the two index cases* attended 16 events during their infectious period, potentially exposing others. Public health identified more than 375 contacts in 160 households who were exposed to measles. Although many of these contacts had documentation of measles immunity** and were not at risk, 117 persons required quarantine and daily monitoring for symptoms of the disease for 21 days. Many contacts without evidence of immunity were given measles-mumps-rubella (MMR) vaccine or immunoglobulin, a protein the body uses to fight infection.

Public health's direct costs for the measles outbreak response in Utah totaled approximately $115,000. Costs include such items as public health staff hours, vaccine, immunoglobulin, laboratory testing, and quarantine. The cost estimate does not include other indirect costs such as public education and provider consultation conducted by local health departments, or any private healthcare-associated costs (Table 1). These costs are difficult to determine, but would certainly increase the overall burden of the outbreak response.

Measles is a highly contagious, acute viral illness that spreads quickly in unvaccinated populations. Vaccination is an important line of defense for two reasons. First, vaccination directly protects the person being vaccinated. Second, having a high percentage of the population vaccinated protects others, including those who cannot be vaccinated because they have certain medical conditions, severe allergies to vaccine ingredients, or are too young to begin vaccination.

Utah school law requires that students entering a public, private, charter, or parochial school

Public Health Costs of Measles Outbreak

Table 1. Estimated public health costs associated with measles outbreak, Utah, 2015

Outbreak Response	Number	Costs
Public health staff hours (UDOH/LHDs)*	3,000	$109,240
MMR vaccine doses	300	$5,400
Laboratory tests	29	$308
Total Estimated Public Health Costs		**$114,948**

* Includes public health staff hours and costs from the Utah Department of Health and local health departments associated with the measles outbreak.
Source: Utah Department of Health, Bureau of Epidemiology.

be fully vaccinated or claim a medical, religious, or personal exemption. Approximately 92–94% of persons in a population need to be fully vaccinated (two doses of MMR vaccine) against measles to provide "herd immunity" (protection provided by an immunized population for those who aren't vaccinated). During the Utah 2013–2014 school year, 95.8% of Utah students in kindergarten through grade 12 were fully vaccinated against measles.

While the overall measles vaccination coverage at school entry is high, other factors contribute to disease risk and transmission in a community, including immunization exemptions and waning immunity. Utah is one of 20 states that allow exemptions to immunization for non-medical reasons, e.g., religious or personal beliefs. The percentage of Utah exemptions for school entry has increased from 1.2% in 1997 to 4.5% in 2013. While this percentage may seem small, over several years, the number of unimmunized children accumulates and, at some point, the overall vaccine coverage required for herd immunity will no longer be present. Additionally, Utah has the youngest median age, larger family sizes, and the highest birth rate in the nation. These factors, combined with an increasing exemption rate, create a critical risk in the community for outbreaks of vaccine-preventable diseases.

This outbreak serves as a reminder of the importance of maintaining high vaccination rates, even for diseases that are rarely seen in the United States, as long as those diseases continue to circulate in other parts of the world.

**The first case or instance of a patient coming to the attention of health authorities.*

***Evidence of measles immunity is defined as documented receipt of two doses of live measles virus–containing vaccine, laboratory evidence of measles immunity, documentation of physician-diagnosed measles, or birth before 1957.*

For additional information about this topic, contact Jeffrey Eason, MPH, Vaccine Preventable Diseases and PCV13 Epidemiologist, Utah Department of Health, (801) 538-9141, email: jeason@utah.gov; or the Office of Public Health Assessment, Utah Department of Health, (801) 538-9191, email: chdata@utah.gov.

Breaking News, April 2015

Oral Health and Aging

Advances in treatment, research, technology, and education have improved the oral health of many Americans. However, according to a 2010 Surgeon General's report, in the underserved population of adults aged 65 and older, one quarter have lost all of their teeth due to untreated oral disease.[1] Surgeon General Dr. Regina M. Benjamin states that, "… tooth loss is often the result of disease or injury, rather than an inevitable consequence of aging."[1] "Poor oral health puts seniors at a significant risk of experiencing severe health events," said Barbara J. Smith, MPH, PhD, manager, Geriatric & Special Needs Populations with the American Dental Association.[2]

The Utah Department of Health Oral Health Program has been working to raise awareness of the issue and has provided oral health education to both seniors and their caregivers at long term care facilities, assisted living centers, and senior centers across Utah. During 2014–2015, the Program made more than 50 presentations to more than 5,000 people on oral health and aging. Topics ranged from dental decay, periodontal disease, diabetes and dry mouth, and other chronic illnesses associated with oral health.

Recently, the Utah Legislature passed SB0177, a bill allowing dental hygienists to work in a public health setting in collaboration with a dentist, which moves the Oral Health Program's goal of connecting the aging population with dental access closer to a reality. This opens a door to helping this underserved population have access to more prevention and treatment services.

1. Benjamin, R.M. (2010). Surgeon General's Perspectives Oral Health: The Silent Epidemic. *Public Health Perspectives, 125(2).* Retrieved from http://www.publichealthreports.org/issueopen.cfm?articleID=2369
2. Coleman, P. (2005). Opportunities for nursing-dental collaboration: Addressing oral health needs among the elderly. Nursing Outlook, 33–39.

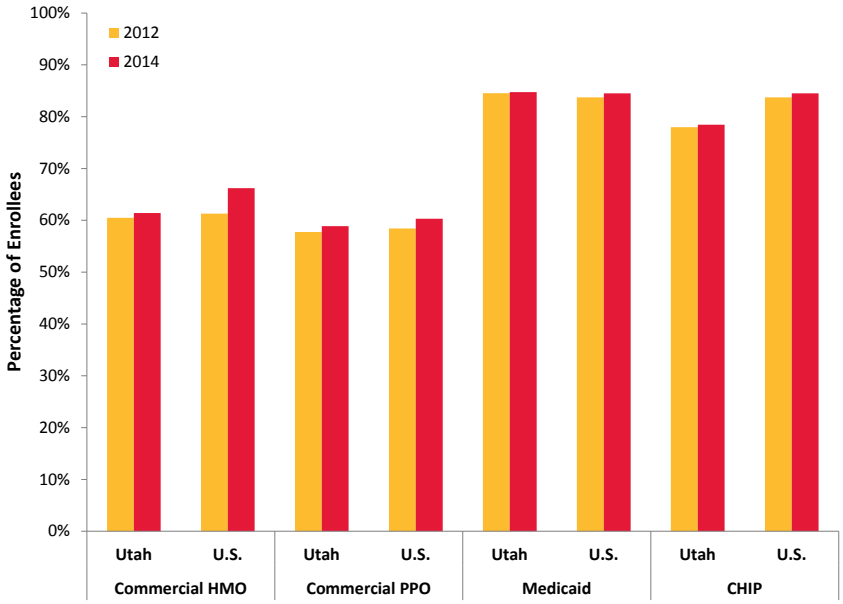
Community Health Indicators Spotlight, April 2015

2014 Consumer Satisfaction Survey Shows Large Differences Among Plan Types

The 2014 *Consumer Satisfaction Report of Utah Health Plans* report, recently released by the Office of Health Care Statistics, describes how satisfied health plan members are with the care provided to their children. These data come from an annual survey entitled the *Consumer Assessment of Healthcare Providers and Systems* (CAHPS) survey. The purpose of the report is to give consumers and purchasers information they can use to make informed decisions when selecting a health plan.

The CAHPS survey measures members' thoughts about the health care and services they received from their health plan in the past year. Issues covered by the survey include whether the member had a problem getting care when needed, and if their customer service needs were met. The survey also includes overall ratings about the members' health plan, health care, doctor, and specialist.

Percentage of Enrollees Who Were Satisfied* With Their Health Plan, Utah and U.S., 2012 and 2014



*Satisfaction was defined as respondents giving a rating of 8, 9, or 10 on a scale of 1 to 10, where 10 is the best.
Source: Consumer Assessment of Health Plans Survey, Office of Health Care Statistics, Utah Department of Health.

In 2012 and 2014, the CAHPS survey was sent to parents of children enrolled in Commercial Health Maintenance Organizations (HMOs), Commercial Preferred Provider Organizations (PPOs), Medicaid, and CHIP (Children's Health Insurance Program) plans. The adjacent graph shows the percentage of parents who rated their child's health plan an 8, 9 or 10 on a 10-point scale, where 1 is the worst health plan and 10 is the best health plan. Separate state averages were computed for the four types of plans.

Medicaid plans had the highest ratings while Commercial PPOs had the lowest. These differences are consistent with national trends. From 2012 to 2014, there was a slight increase in the ratings of Utah plans. There was a similar increase in the national averages, but those increases were larger.

To see the full reports, go to https://health.utah.gov/myhealthcare/.

Monthly Health Indicators Report

(Data Through February 2015)

Monthly Report of Notifiable Diseases, February 2015	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)	14	22	28	48	0.6
Shiga toxin-producing Escherichia coli (E. coli)	0	2	3	4	0.8
Hepatitis A (infectious hepatitis)	0	0	0	1	0.0
Hepatitis B, acute infections (serum hepatitis)	0	2	0	3	0.0
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/influenza				
Meningococcal Disease	0	1	0	1	0.0
Pertussis (Whooping Cough)	2	72	30	143	0.2
Salmonellosis (Salmonella)	17	16	47	31	1.5
Shigellosis (Shigella)	2	2	3	5	0.6
Varicella (Chickenpox)	16	39	34	74	0.5
Quarterly Report of Notifiable Diseases, 4th Qtr 2014	**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†	30	27	105	108	1.0
Chlamydia	2,135	1,752	8,255	7,018	1.2
Gonorrhea	402	143	1,439	472	3.1
Syphilis	10	10	40	46	0.9
Tuberculosis	9	7	31	32	1.0
Medicaid Expenditures (in Millions) for the Month of February 2015	**Current Month**	**Expected/ Budgeted for Month**	**Fiscal YTD**	**Budgeted Fiscal YTD**	**Variance - over (under) budget**
Capitated Mental Health	$ 18.6	$ 17.5	$ 117.4	$ 112.6	$ 4.8
Inpatient Hospital	$ 15.8	$ 15.5	$ 93.2	$ 96.9	$ (3.6)
Outpatient Hospital	$ 4.8	$ 5.0	$ 39.2	$ 41.0	$ (1.8)
Long Term Care	$ 13.4	$ 12.0	$ 115.5	$ 111.8	$ 3.7
Pharmacy	$ 11.3	$ 11.1	$ 87.3	$ 80.0	$ 7.3
Physician/Osteo Services	$ 6.3	$ 5.1	$ 41.2	$ 42.1	$ (0.8)
TOTAL MEDICAID	$ 200.3	$ 200.5	$ 1,577.2	$ 1,578.2	$ (1.0)

Program Enrollment for the Month of February 2015	Current Month	Previous Month	% Change‡ From Previous Month	1 Year Ago	% Change‡ From 1 Year Ago
Medicaid	281,802	279,572	+0.8%	263,479	+7.0%
PCN (Primary Care Network)	18,208	19,342	-5.9%	13,082	+39.2%
CHIP (Children's Health Ins. Plan)§	15,629	15,150	+3.2%	27,152	-42.4%
	Annual Visits			Annual Charges	
Health Care System Measures	**Number of Events**	**Rate per 100 Population**	**% Change‡ From Previous Year**	**Total Charges in Millions**	**% Change‡ From Previous Year**
Overall Hospitalizations (2013)	279,393	9.0%	-2.8%	$ 6,513.8	+5.9%
Non-maternity Hospitalizations (2013)	177,191	5.6%	-2.5%	$ 5,554.8	+6.6%
Emergency Department Encounters (2013)	683,415	22.3%	-1.5%	$ 1,555.4	+7.1%
Outpatient Surgery (2011)	376,054	12.7%	+2.4%	$ 1,878.5	+6.5%
Annual Community Health Measures	**Current Data Year**	**Number Affected**	**Percent/ Rate**	**% Change‡ From Previous Year**	**State Rank‖ (1 is best)**
Obesity (Adults 18+)	2013	483,800	24.1%	-0.5%	9 (2013)
Cigarette Smoking (Adults 18+)	2013	207,000	10.3%	-2.2%	1 (2013)
Influenza Immunization (Adults 65+)	2013	162,900	57.4%	+2.5%	39 (2013)
Health Insurance Coverage (Uninsured)	2013	336,500	11.6%	-12.1%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2013	192	6.6 / 100,000	-7.8%	14 (2012)
Poisoning Deaths	2013	630	21.7 / 100,000	-6.2%	48 (2012)
Suicide Deaths	2013	570	19.6 / 100,000	+2.9%	47 (2012)
Diabetes Prevalence (Adults 18+)	2013	142,500	7.1%	-1.1%	10 (2013)
Poor Mental Health (Adults 18+)	2013	328,700	16.4%	+4.6%	21 (2013)
Coronary Heart Disease Deaths	2013	1,515	52.2 / 100,000	+1.0%	2 (2012)
All Cancer Deaths	2013	2,961	102.1 / 100,000	+1.9%	1 (2012)
Stroke Deaths	2013	831	28.6 / 100,000	+3.1%	32 (2012)
Births to Adolescents (Ages 15-17)	2013	573	8.6 / 1,000	-16.3%	10 (2012)
Early Prenatal Care	2013	38,905	76.4%	+1.2%	n/a
Infant Mortality	2013	262	5.1 / 1,000	+6.7%	9 (2012)
Childhood Immunization (4:3:1:3:3:1)	2013	40,600	80.5%	+7.5%	16 (2013)

* Influenza activity is low to moderate in Utah. Influenza-like illness activity is above baseline statewide. As of March 7, 2015, 1,223 influenza-associated hospitalizations have been reported to the UDOH since the start of the influenza season on September 28, 2014. More information can be found at http://health.utah.gov/epi/diseases/influenza/index.html.

† Diagnosed HIV infections, regardless of AIDS diagnosis.

‡ % Change could be due to random variation.

§ The 42.4% reduction in CHIP enrollment from 27,152 one year ago to 15,629 in the current month to is due to the "ACA federal mandate ruling" allowing a large percentage of CHIP kids to qualify and transfer to the Medicaid program for expanded medical services.

‖ State rank based on age-adjusted rates where applicable.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance has ended for West Nile Virus until the 2015 season.