

# Utah Health Status Update:

## Effectively Managing Tuberculosis in Utah

March 2015

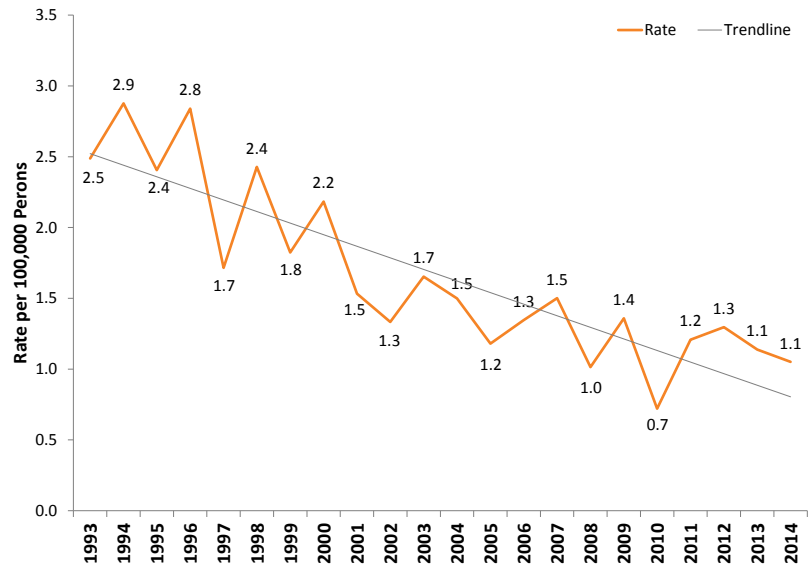
Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis* and is typically spread through the air when a person with active TB disease of the lungs or throat expels tiny airborne particles. People nearby may breathe in these particles and become infected, usually after prolonged sharing of airspace. People who are infected with TB bacteria but who do not have active TB disease—a condition known as latent TB infection—do not feel sick, do not have symptoms, and cannot spread TB. However, they may develop TB disease at some time in the future. TB disease most commonly affects the lungs but can occur in any part of the body.

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- **The most important strategy for controlling TB is to rapidly diagnose and treat cases of TB disease.**
- **Since 2000, more than half of the TB cases in Utah have been among foreign-born persons; this increase of disease burden among foreign-born individuals mirrors the national trend.<sup>1</sup>**
- **From 2009 to 2013, 92% of TB cases who started therapy and did not die during treatment had all doses of their medications administered by directly observed therapy, and 100% of these patients completed their treatment regimen.**
- **Since 2007, Utah has averaged one case of multidrug-resistant TB (MDR-TB) per year.**
- **Since 1995, UDOH Medicaid and the University of Utah Hospitals and Clinics have had a contractual agreement to treat Utah TB patients who are either court-ordered for admission due to non-compliance with treatment or are uninsured and considered a public health risk (e.g., patients who are infectious and homeless, living with an immunosuppressed person, or living with young children).**

### Tuberculosis Case Rates over Time

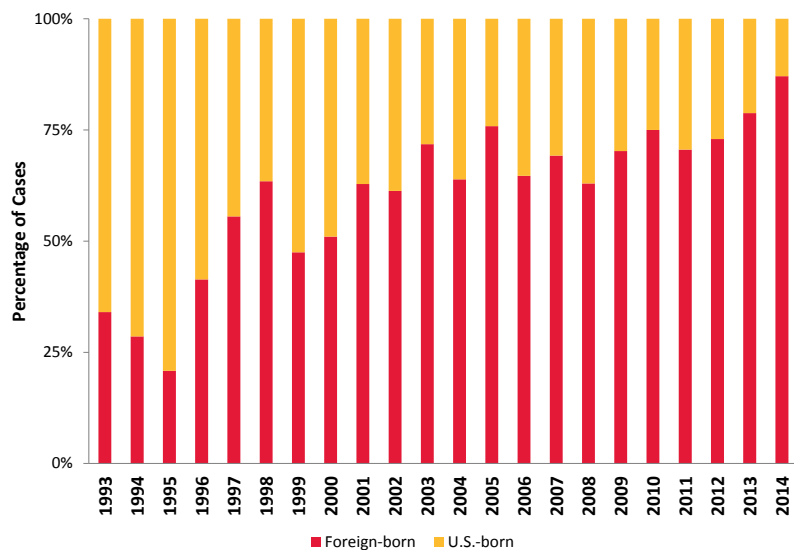
Figure 1. Rate of tuberculosis cases reported by year, Utah, 1993–2014



Sources: Cases - Utah Department of Health, Bureau of Epidemiology; Population Estimates - National Center for Health Statistics through a collaborative agreement with the U.S. Bureau of the Census.

### Foreign-born vs. U.S.-born cases of TB

Figure 2. Percentage of tuberculosis cases in U.S.-born\* vs. foreign-born persons, Utah, 1993–2014



\*U.S.-born persons were born in the United States (U.S.) or a U.S.-affiliated Island (UAI); since 2009, U.S.-born also includes persons born outside the U.S. to at least one parent who was a U.S. citizen. The UAIs include American Samoa, the Federated States of Micronesia, Guam, the Republic of the Marshall Islands, Midway Island, the Commonwealth of the Northern Mariana Islands, Puerto Rico, the Republic of Palau, the U.S. Virgin Islands, and U.S. minor and outlying Pacific islands.

Source: Utah Department of Health, Bureau of Epidemiology.

TB disease. The Utah Department of Health (UDOH) TB Control Program, in collaboration with Utah's 12 local health departments (LHDs) and other community partners, has made progress toward reducing the rate of TB disease in the state (Figure 1). Since 2000, more than half of the TB cases in Utah have been among foreign-born persons (Figure 2); this increase of disease burden among foreign-born individuals mirrors the national trend.<sup>1</sup>

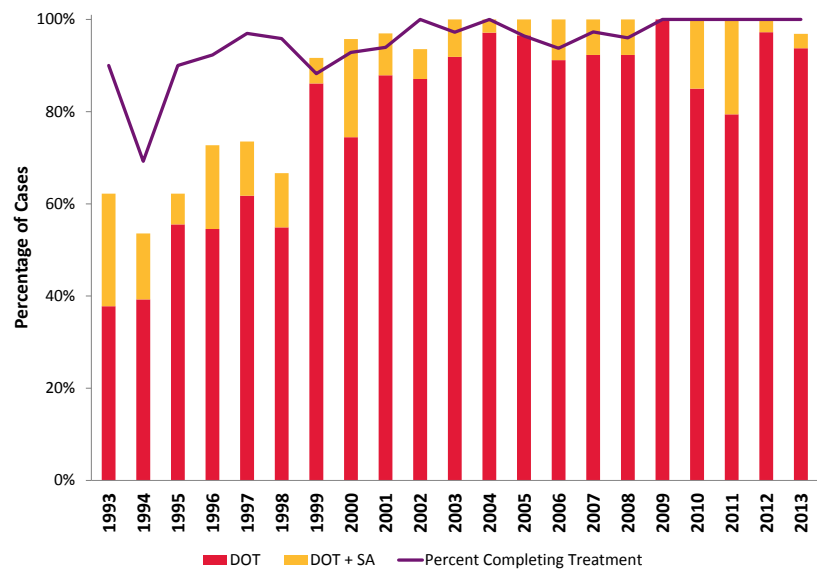
**Prolonged Treatment:** Treating TB disease typically requires at least six months of drug therapy. It is imperative that patients adhere to their treatment regimen—not only to ensure effective therapy but also to prevent acquired drug resistance. Since 1999, the Utah TB Rule<sup>2</sup> has stipulated that every person with TB disease receives treatment administered by directly observed therapy (DOT), which involves the visual observation of a patient's ingestion of medication by a health care provider or other reliable person. In Utah, DOT is usually administered by LHD staff. From 2009 to 2013, 92% of TB cases who started therapy and did not die during treatment had all doses of their medications administered by DOT, and 100% of these patients completed their treatment regimen (Figure 3).

The TB Control Program encourages patients to have anti-TB medications covered by their health insurance whenever it is cost-effective; however, the TB Control Program assists with patient copays and provides medications to uninsured patients when necessary. The Program also offers incentives and enablers (assistance that makes it possible for patients to follow through with their prolonged treatment regimens and/or isolation orders).

**Drug Susceptibility Testing (DST) and Results:** Another important aspect of TB treatment is to ensure that patients are given the correct treatment. A specimen from each culture-confirmed TB case should be tested for drug resistance, and the treatment regimen adjusted accordingly. Since 2001, 100% of culture-confirmed cases received DST. Since 2007, Utah has averaged one case of multidrug-resistant TB (MDR-TB) per year. MDR-TB is caused by an organism that is resistant to isoniazid and rifampin, two medications that are the backbone of most TB treatment regi-

## TB Treatment

Figure 3. Tuberculosis cases by mode of treatment administration\* and completion of treatment\*\*, Utah, 1993–2013



Note: DOT=Directly Observed Therapy; SA=Self-administered Therapy.

\* Treatment administration includes patients alive at diagnosis and who started treatment.

\*\* Completion of treatment excludes patients who died during treatment.

Source: Utah Department of Health, Bureau of Epidemiology.

mens. Treatment for MDR-TB is an intensive process that lasts 18-24 months and involves the use of expensive anti-TB drugs that can have severe adverse effects.

**Secure TB Unit (STBU):** Since 1995, UDOH Medicaid and the University of Utah Hospitals and Clinics have had a contractual agreement to treat Utah TB patients who are either court-ordered for admission due to non-compliance with treatment or are uninsured and considered a public health risk (e.g., patients who are infectious and homeless, living with an immunosuppressed person, or living with young children). The STBU is a unit that can be locked down if necessary to contain court-ordered patients. This is a relatively unique resource in the U.S. and has proven invaluable on numerous occasions.

## References

- Centers for Disease Control and Prevention (CDC). *Reported Tuberculosis in the United States, 2013*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, October 2014.
- Utah Administrative Code R388-804, Special Measures for the Control of Tuberculosis, <http://www.rules.utah.gov/publicat/code/r388/r388-804.htm>.

## March 2015 Utah Health Status Update

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## Breaking News, March 2015

### HIV Pre-Exposure Prophylaxis (PrEP)

PrEP is the use of prescription drugs by people who do not have HIV/AIDS as a strategy for the prevention of HIV/AIDS. It is an optional treatment which may be taken by people who are HIV negative but who have substantial, higher-than-average risk of contracting an HIV infection.

Currently, the only drug recommended by any health organization for PrEP is Truvada. The Centers for Disease Control and Prevention states: “PrEP is a powerful HIV prevention tool and can be combined with condoms and other prevention methods to provide even greater protection than when used alone. But people who use PrEP must commit to taking the drug every day and seeing their health care provider for follow-up every 3 months.” When taken consistently, PrEP has been shown to reduce the risk of HIV infection in people who are at high risk by up to 92%. PrEP is much less effective if it is not taken consistently.

On May 14, 2014, the U.S. Public Health Service released the first comprehensive [clinical practice guidelines for PrEP](#). The new guidelines:

- Provide clear criteria for determining a person’s HIV risk and indications for PrEP use.
- Require that patients receive HIV testing to confirm negative status before starting PrEP.
- Underscore the importance of counseling about adherence and HIV risk reduction, including encouraging condom use for additional protection.
- Recommend regular monitoring of HIV infection status, side effects, adherence, and sexual or injection drug use risk behaviors.
- Include a [providers’ supplement](#) with additional materials and tools for use when prescribing PrEP.

## Community Health Indicators Spotlight, March 2015

### Gonorrhea Outbreak in Utah

Utah’s statewide gonorrhea (GC) statewide rate jumped from 9.8 cases per 100,000 population in 2011 to 48.3 cases per 100,000 population in 2014. Analysis of the reported case data suggests a shift in the affected population from primarily men who have sex with men to heterosexual population. Infections among males increased 296% from 2011 to 2014, while infections among females increased 714%.

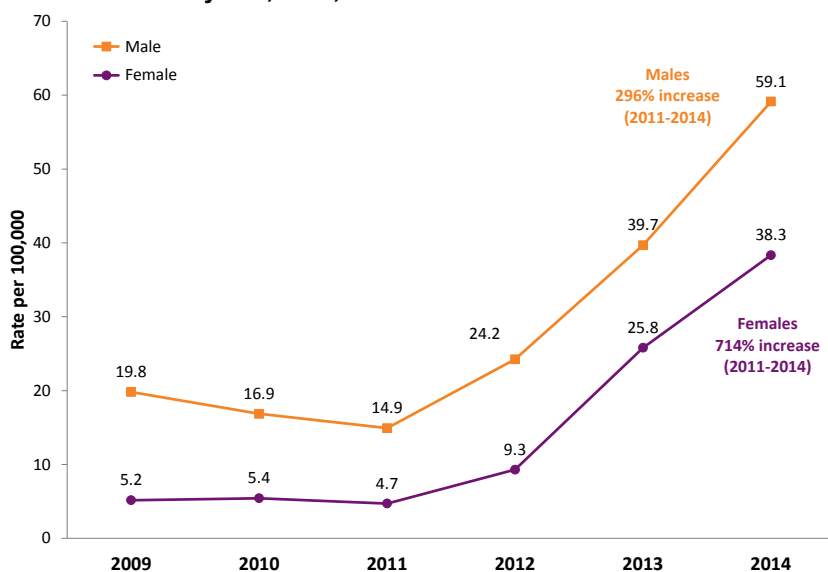
Utah’s GC cases among race and ethnicity are very disproportionately distributed. The three most affected race and ethnic groups are Black (322.4 cases per 100,000 population), Hispanic (80.5 cases per 100,000 population), and Native Hawaiian/Pacific Islander (67.8 cases per 100,000 population). Black and Hispanic race and ethnic groups have consistently had the highest rates per 100,000 population for the past five years.

To address this increase, representatives from the Utah Department of Health (UDOH) and Utah’s local health departments formed a work-group to look at populations being affected. A behavioral survey was developed to better characterize the gonorrhea cases and identify feasible/practical interventions. UDOH epidemiologists continue to monitor and report GC

infection rates quarterly. The Sexually Transmitted Disease Prevention Program reviews all cases for appropriate treatment and continues to educate providers on treatment guidelines from the Centers for Disease Control and Prevention. The UDOH also places elevated priority of disease intervention work on GC cases.

A gonorrhea fact sheet can be found at <http://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea.htm>

Gonorrhea Rates by Sex, Utah, 2009–2014



Source: Trisano (Utah’s Communicable Disease Surveillance System), Bureau of Epidemiology

# Monthly Health Indicators Report

(Data Through January 2015)

Monthly Report of Notifiable Diseases, January 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)	15	26	15	26	0.6
Shiga toxin-producing Escherichia coli (E. coli)	3	2	3	2	1.5
Hepatitis A (infectious hepatitis)	0	1	0	1	0.0
Hepatitis B, acute infections (serum hepatitis)	0	1	0	1	0.0
Influenza*	Weekly updates at <a href="http://health.utah.gov/epi/diseases/influenza">http://health.utah.gov/epi/diseases/influenza</a>				
Meningococcal Disease	0	0	0	0	--
Pertussis (Whooping Cough)	23	70	23	70	0.3
Salmonellosis (Salmonella)	29	15	29	15	1.9
Shigellosis (Shigella)	1	3	1	3	0.3
Varicella (Chickenpox)	10	35	10	35	0.3
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 January 2015	Current Month	Expected/Budgeted for Month	Fiscal YTD	Budgeted Fiscal YTD	Variance - over (under) budget
Capitated Mental Health	\$ 12.8	\$ 11.9	\$ 98.7	\$ 95.1	\$ 3.6
Inpatient Hospital	\$ 12.9	\$ 5.3	\$ 77.5	\$ 81.3	\$ (3.9)
Outpatient Hospital	\$ 5.0	\$ 6.2	\$ 34.4	\$ 36.0	\$ (1.6)
Long Term Care	\$ 17.7	\$ 16.9	\$ 102.1	\$ 99.8	\$ 2.3
Pharmacy	\$ 13.7	\$ 12.2	\$ 76.0	\$ 68.9	\$ 7.0
Physician/Osteo Services	\$ 7.4	\$ 6.4	\$ 35.0	\$ 37.0	\$ (2.0)
TOTAL MEDICAID	\$ 229.3	\$ 228.8	\$ 1,376.9	\$ 1,377.8	\$ (0.9)

Program Enrollment for the Month of January 2015	Current Month	Previous Month	% Change* From Previous Month	1 Year Ago	% Change* From 1 Year Ago
Medicaid	279,572	277,368	+0.8%	257,123	+8.7%
PCN (Primary Care Network)	19,342	19,875	-2.7%	13,453	+43.8%
CHIP (Children's Health Ins. Plan)§	15,150	14,969	+1.2%	31,443	-51.8%
Health Care System Measures	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 <sup>  </sup> (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 February 7, 2015, 1,156 influenza-associated hospitalizations have been reported to the UDOH. 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 51.8% reduction in CHIP enrollment from 31,443 one year ago to 15,150 in the current month 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.