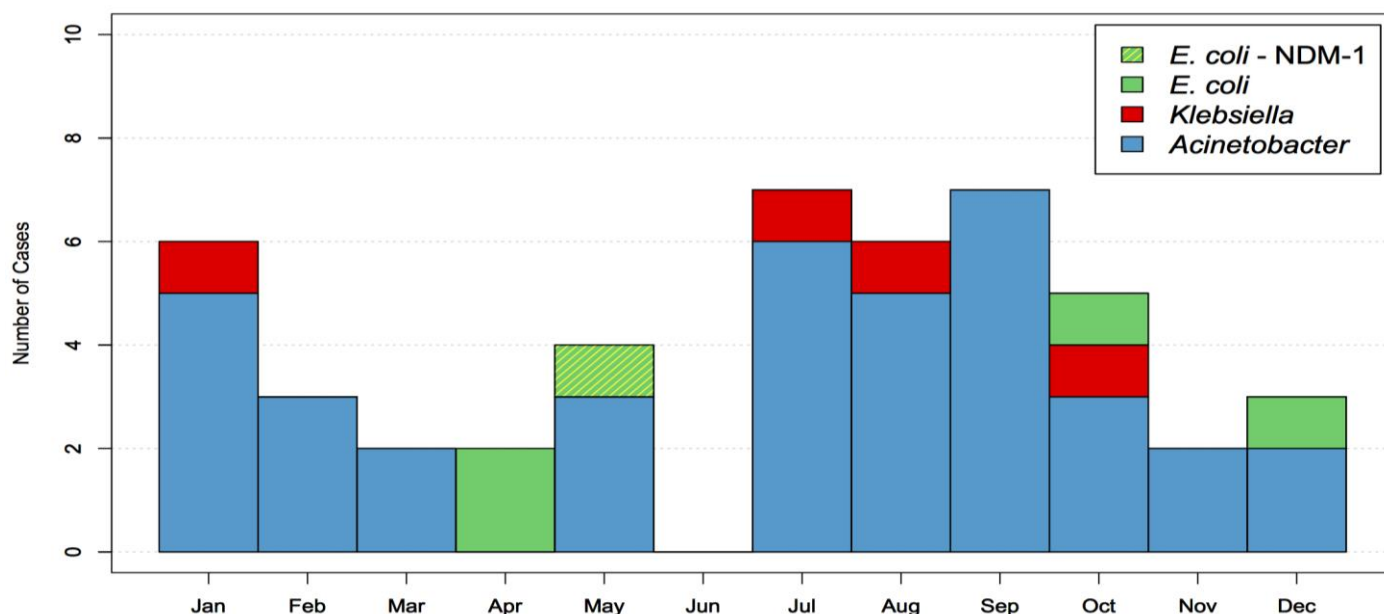


## Carbapenem Non-Susceptible Cases in Utah, 2014

In May 2013, the Utah Department of Health (UDOH) changed the Communicable Disease Rule (Rule R386-702) to include reporting of certain healthcare-associated infections (HAIs). The rule now requires healthcare facilities, laboratories and providers to report laboratory identified cases of *Acinetobacter*, *Klebsiella*, and *E. coli* infections that are carbapenem non-susceptible. All cases in this report were reported to and investigated by public health. Data for these cases were obtained from UDOH's electronic reporting system, and analyzed using R statistical software. Data are preliminary, are current as of March 2015, and may not reflect all cases in Utah in 2014 due to underreporting and reporting delays.

**Figure 1. Carbapenem non-susceptible cases by month, Utah, 2014**



In May 2014, the first New Delhi metallo- $\beta$ -lactamase (NDM-1) producing carbapenem-resistant Enterobacteriaceae (CRE) (an *Escherichia coli* organism) case was identified in an out-of-state resident who had been receiving medical care in a Utah hospital. The organism was identified from a culture. The patient was asymptomatic and had no known risk factors. Since first reported in 2009 through May 2014, a total of 108 patients with NDM-1 producing CRE have been identified in the United States. Treatment of infections caused by NDM-1 producing organisms pose a serious challenge because they are resistant to all commonly used antibiotics.

**Table 1. Carbapenem non-susceptible cases by pathogen, Utah, 2014**

	<i>Acinetobacter</i>	<i>Klebsiella</i>	<i>E. coli</i>	Total
<b>Count</b>	38	4	5	47
<b>Percent</b>	80.9%	8.5%	10.6%	100%

Public health investigation of cases includes hospitalization information. The majority of cases with these organisms were hospitalized. Table 2 depicts the number of hospitalized cases.

**Table 2. Reported hospitalized carbapenem non-susceptible cases, Utah, 2014**

	Yes	No	Unknown
<b>Count</b>	29	17	1
<b>Percent</b>	61.7%	36.2%	2.1%

Table 3 describes the number of cases who died. Death data for cases with these organisms were not always available at the time of reporting or investigation. Information on the case’s death was available for 38 (81%) of 47 cases. Of those 38 cases, five were known to have died at the time of investigation.

**Table 3. Number of reported deaths among carbapenem non-susceptible cases, Utah, 2014**

	Yes	No	Unknown
<b>Count</b>	5	33	9
<b>Percent</b>	10.6%	70.2%	19.2%

Figure 2 depicts case counts by county. Counties with larger populations will naturally have a greater number of cases. Consequently, larger case counts do not necessarily mean a higher number of cases or rate in that district.

**Figure 2. Carbapenem non-susceptible cases by county, Utah, 2014**

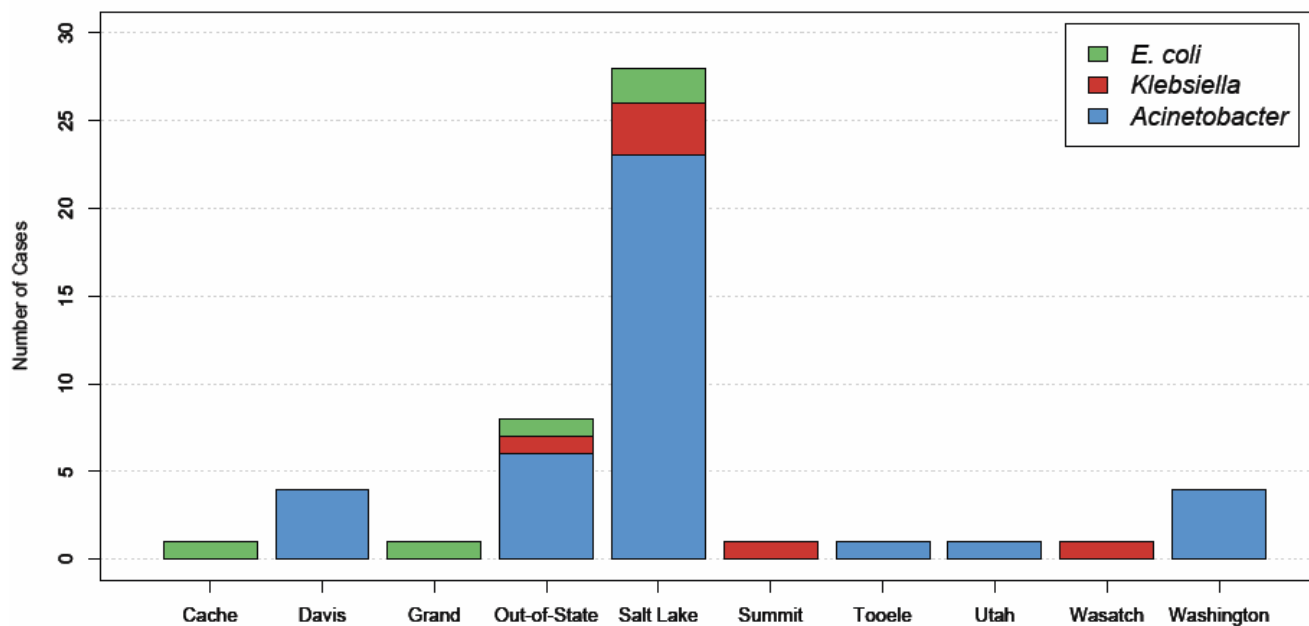


Table 4 depicts the annual cases of each organism by year.

**Table 4. Carbapenem non-susceptible cases by pathogen, Utah, 2013-2014**

	<i>Acinetobacter</i>	<i>Klebsiella</i>	<i>E. coli</i>
<b>2013</b>	42	3	2
<b>2014</b>	38	4	5