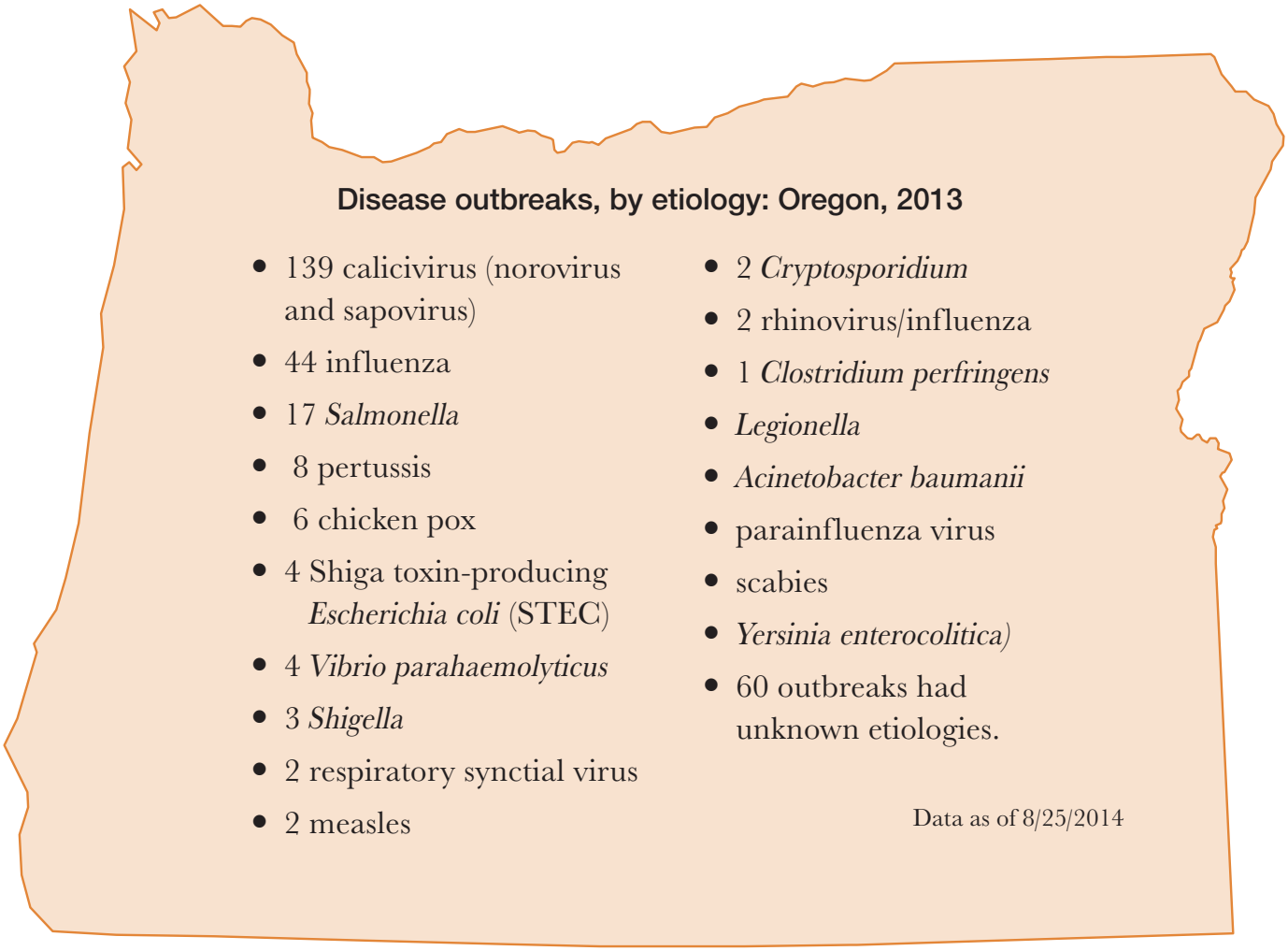
Disease outbreaks

Oregon state and local health departments investigated 304 acute and communicable disease outbreaks in 2013, up from 220 in 2012 (a 28% increase). Forty-six percent (139) of these were outbreaks of calicivirus gastroenteritis. Thirty-two outbreaks were foodborne, 66 were respiratory, three were due to animal contact, two were waterborne. In 31 outbreaks the mode of transmission was undetermined. Sharing of respiratory secretions caused outbreaks of influenza (44) and pertussis (8), two outbreaks of measles and six outbreaks of chickenpox (varicella) can be considered airborne. Foods contaminated with a variety of salmonellae made folks ill at a variety of venues. Almost every outbreak reinforces the tried-and-true public health mantras of "wash your hands" and "cover your cough."

Gastroenteritis is by far the most commonly reported type of outbreak in Oregon, accounting for 220 (72%) of the 304 outbreaks investigated in 2013.

Thanks to rigorous stool specimen collection by local health investigators, 71% of gastroenteritis outbreaks had disease-causing agents identified, mostly caliciviruses (norovirus and sapovirus). The Oregon State Public Health Laboratory (OSPHL) now routinely tests for sapovirus, astrovirus and rotavirus when stool specimens are norovirus-negative.



Disease outbreaks, by etiology: Oregon, 2013

- 139 calicivirus (norovirus and sapovirus)
- 44 influenza
- 17 *Salmonella*
- 8 pertussis
- 6 chicken pox
- 4 Shiga toxin-producing *Escherichia coli* (STEC)
- 4 *Vibrio parahaemolyticus*
- 3 *Shigella*
- 2 respiratory synctial virus
- 2 measles
- 2 *Cryptosporidium*
- 2 rhinovirus/influenza
- 1 *Clostridium perfringens*
- *Legionella*
- *Acinetobacter baumanii*
- parainfluenza virus
- scabies
- *Yersinia enterocolitica)*
- 60 outbreaks had unknown etiologies.

Data as of 8/25/2014

Gastrointestinal outbreaks

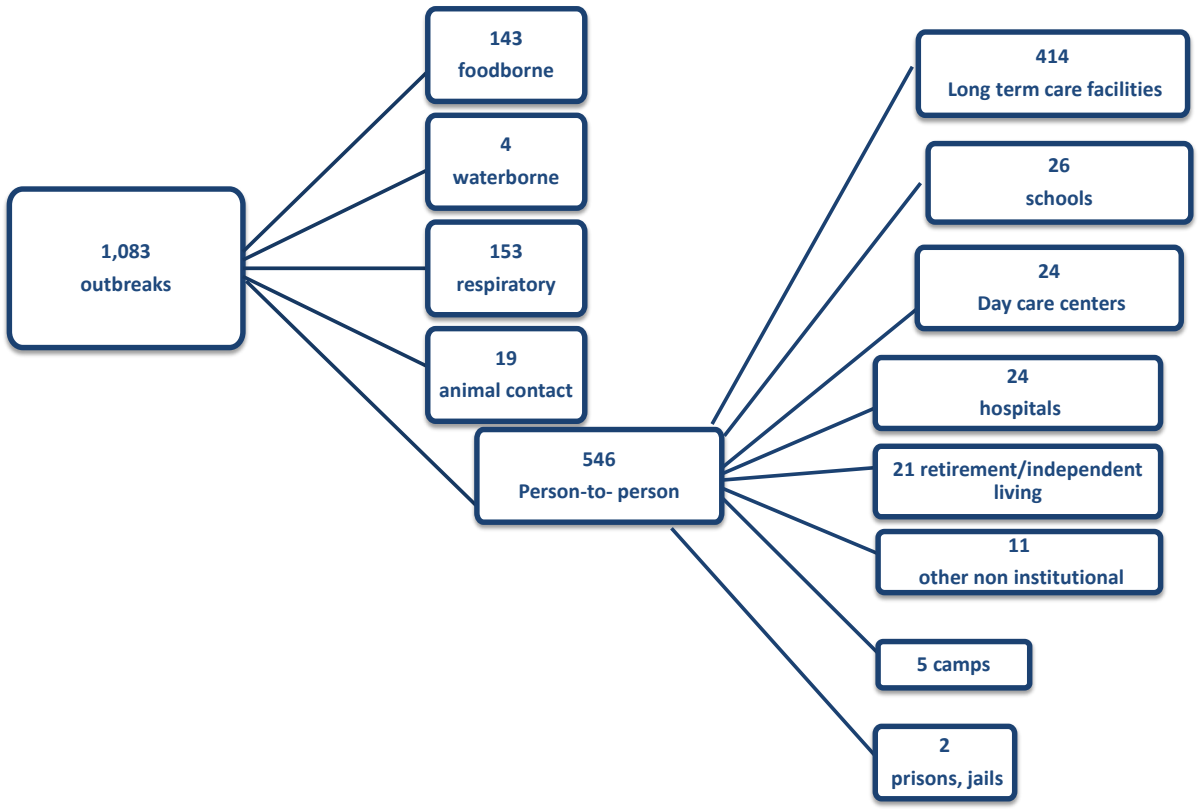
Person-to-person transmission was responsible for 142 of gastroenteritis outbreaks and foodborne transmission for 32. Transmission was undetermined (we couldn't figure it out) or unknown (we didn't have enough data to figure it out) in 39 of the outbreaks. More than 94% of person-to-person outbreaks happened in institutional cohorts, especially among those in long-term-care facilities (LTCFs).

In 2013, the case definition of a norovirus outbreak was modified to be more in line with national standards. Some outbreaks previously classified as indeterminate were reclassified as suspect norovirus. The new classification includes outbreaks where symptoms were classical of norovirus but no positive specimen was documented.

Confirmed and suspected norovirus outbreaks, Oregon, 2009-2013

	2009	2010	2011	2012	2013
Confirmed norovirus	78	124	71	114	109
Suspect norovirus	7	15	5	16	27

Gastroenteritis outbreaks by transmission modes and settings: Oregon, 2009–2013



Norovirus outbreaks in long-term care facilities

Norovirus infection causes nausea, vomiting, diarrhea, muscle aches, fever and abdominal cramps, which can result in dehydration. Symptoms typically resolve within a day but can remain for up to three days. Norovirus is highly transmissible and persons typically get norovirus by eating contaminated food containing infected stool or vomit particles. In 2012–2013, norovirus infected 5524 staff and residents in Oregon LTCFs. More females (73%) than males (27%) were afflicted. Norovirus or norovirus-like illness was more common among residents (68%) than among staff (32%) at LTCFs.

The OSPHL began genotyping specimens associated with gastrointestinal outbreaks in late 2012. Norovirus genogroup GII genotype 4 New Orleans was predominant in 2011 and 2012 accounting for 33 (24%) of 136 total confirmed norovirus outbreaks among Oregon LTCFs. In late 2012, a new norovirus strain of genogroup II, genotype 4 originating in Sydney, Australia (GII.4 Sydney) became the predominant norovirus strain and caused a severe norovirus season globally and in the United States. In 2013, GII.4 Sydney was responsible for 41 (47%) of 88 confirmed norovirus outbreaks among Oregon LTCFs.

Norovirus sequences in Oregon LTCFs, 2011-2013 (n=132 laboratory confirmed outbreaks)