

## Outbreaks

### Foodborne

During 2010, 20 foodborne outbreaks were reported in Virginia, a 100% increase from the 10 outbreaks reported in 2009. The average number of ill persons per outbreak was 14 and ranged from one Virginia resident who consumed a product implicated in a multistate outbreak to 67 individuals consuming food at a catered event. The etiologic agent was confirmed or suspected as bacterial for half of the outbreaks. Six outbreaks were attributed to *Salmonella* and six were attributed to norovirus. Of the remaining outbreaks that had a confirmed etiologic agent, one each was attributed to *Campylobacter*, *Clostridium perfringens*, *Giardia*, and *Staphylococcus aureus*. Three outbreaks were multi-state and all were attributed to *Salmonella*. The most common place where the outbreak occurred was a restaurant (35%), followed by a catered event or meal (30%). Factors that contributed to the outbreak were identified in 40% of the outbreaks. These factors included contaminated raw product, infected food handlers, failure to control temperature or the length of time food was out of temperature control, and insufficient time and/or temperature control during initial cooking/heat processing. Forty percent of foodborne outbreaks had an onset in the two month period from March or April.

**Table 8. Foodborne Outbreaks Reported in Virginia, 2010**

Onset Date	Health District	Number of Cases	Etiologic Agent	Vehicle	Place Where Outbreak Occurred
11/24/2009	Multi-state	1 VA 272 US	<i>Salmonella</i> ser. Montevideo	Red and black pepper	Private homes
1/19/2010	Alexandria	5	GI illness	Unknown	Restaurant
2/13/2010	Central Virginia	15	Enterotoxin suspected	Unknown	Catered event
3/10/2010	Hampton	20	<i>Clostridium perfringens</i>	Taco meat	Cafeteria
3/14/2010	Fairfax	7	<i>Salmonella</i> ser. Enteritidis	Unknown	Restaurant
3/24/2010	Henrico	7	Norovirus	Food handlers implicated	Restaurant
3/30/2010	Central Shenandoah	17	Norovirus	Lettuce suspected	Cafeteria
4/5/2010	Alexandria	6	<i>Giardia lamblia</i>	Food handlers implicated	Restaurant
4/13/2010	Mount Rogers	67	<i>Staphylococcus aureus</i>	Chicken wrap	Catered event
4/24/2010	Lord Fairfax	29	Norovirus	Unknown	Catered event
4/26/2010	Multi-state	4 VA 44 US	<i>Salmonella</i> ser. Chester	Cheesy chicken and rice frozen entrée	Private homes
5/9/2010	Fairfax	3	<i>Campylobacter jejuni</i>	Unknown	Private party
5/9/2010	Alexandria	4	Norovirus	Unknown	Restaurant
8/5/2010	Crater	5	<i>Salmonella</i> ser. Newport	Unknown	Private party

**Table 8. Foodborne Outbreaks Reported in Virginia, 2010 (continued)**

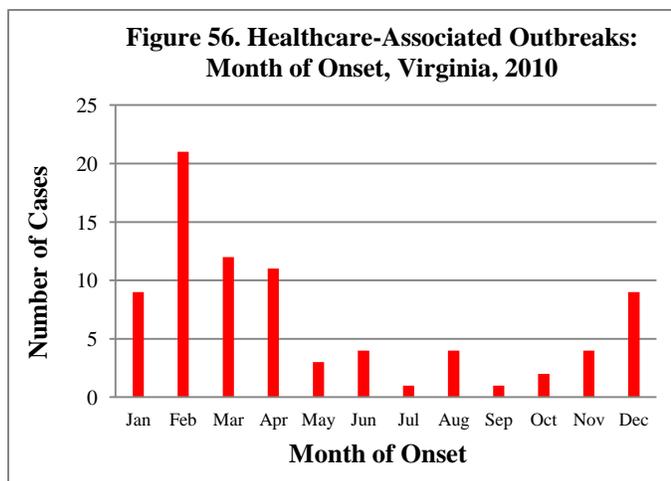
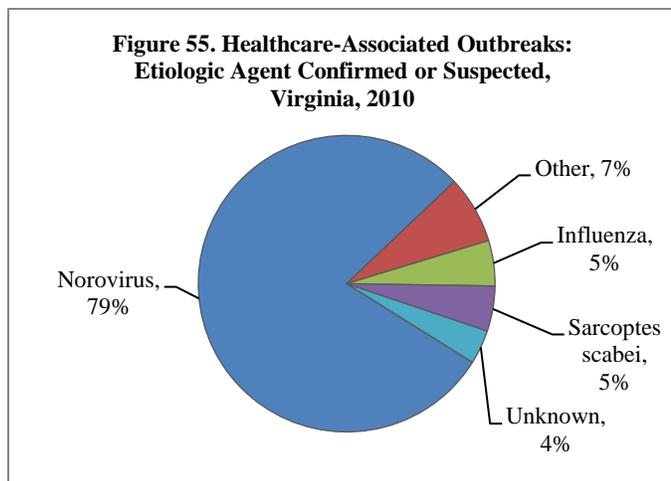
9/16/2010	Fairfax	25	Norovirus	Unknown	Catered meals
9/16/2010	Central Shenandoah	8	GI illness	Chicken salad suspected	Catered event
10/5/2010	Multi-state	2 VA 140 US	<i>Salmonella ser. I 4,[5],12:i:-</i>	Alfalfa sprouts	Restaurant chain
11/14/2010	Peninsula	8	<i>Salmonella ser. Newport</i>	Unknown	Restaurant
12/1/2010	Henrico	16	GI illness	Unknown	Catered meal
12/9/2010	Arlington	30	Norovirus	Food handler implicated	Catered event

**Healthcare-Associated**

A healthcare-associated outbreak is a group of illnesses with a common etiology among patients or residents in a healthcare setting (hospital, medical center, nursing home, dialysis center, or other healthcare facility), where the patients or residents acquired the illness while confined to that facility. Note that prior to 2008, only outbreaks occurring in hospitals and nursing homes (facilities meeting the definition of a medical care facility in 12VAC5-90-10) were included in statistics.

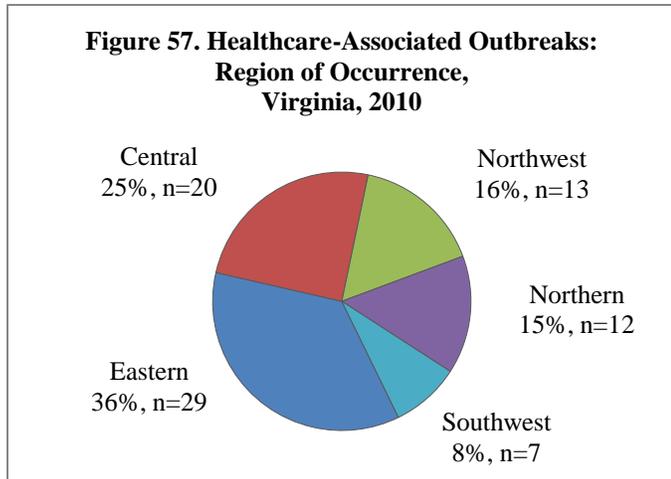
During 2010 there were 81 healthcare-associated outbreaks reported in Virginia. This is a 16% increase from the 70 outbreaks reported in 2009. The average number of ill persons per outbreak was 35 and ranged from three to 158. The majority of healthcare-associated outbreaks occurred in nursing homes (85%) and the remaining events occurred in acute care medical facilities. All but one of the healthcare-associated outbreaks was attributed to person-to-person transmission. The remaining one was identified as a common source outbreak.

Etiologic agents were confirmed in 56 (69%) of the outbreaks, suspected in 22 (27%) and unknown in 3 (4%). Norovirus was suspected or confirmed as the agent in 64 (79%) of the outbreaks where the etiologic agent was reported (Figure 55).



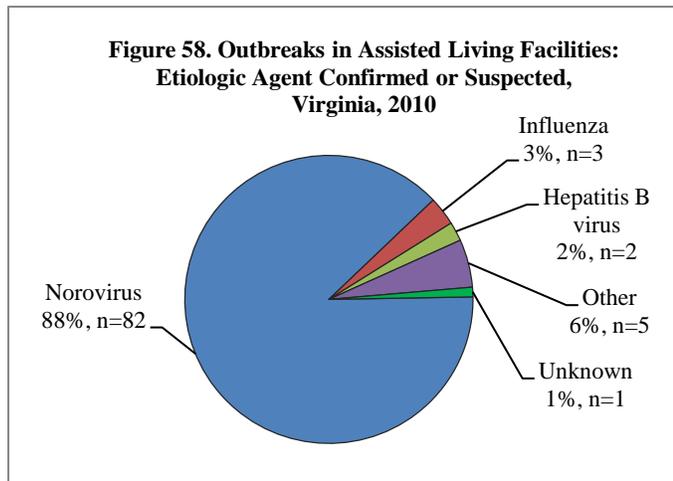
Influenza and *Sarcoptes scabiei* (scabies) were each suspected or confirmed in four outbreaks (5%). *Acinetobacter*, *Staphylococcus*, respiratory syncytial virus, *Chlamydomphila pneumoniae*, *Mycoplasma pneumoniae*, and *Streptococcus*, were each responsible for one outbreak.

Although healthcare-associated outbreaks were reported throughout the year, 65% of the outbreaks occurred during the winter and early spring months of January through April, with a peak in February (Figure 56). All but one of the outbreaks reported in February were attributed to norovirus. Healthcare-associated outbreaks occurred in areas throughout the state. However, during 2010, the largest proportion (36%) occurred in the eastern region (Figure 57).

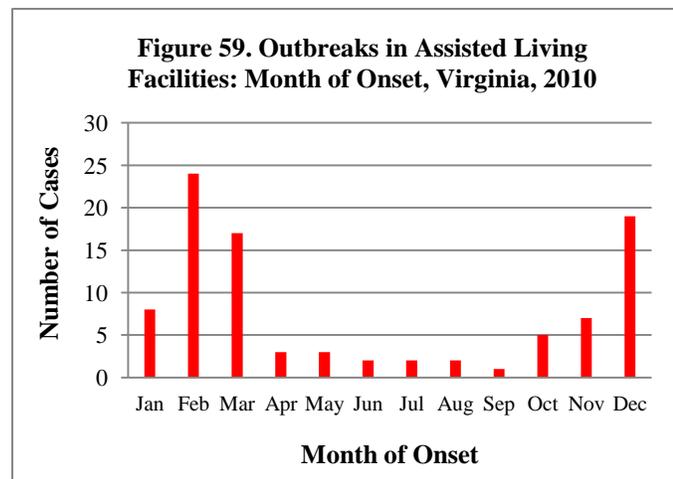


### Assisted Living Facilities

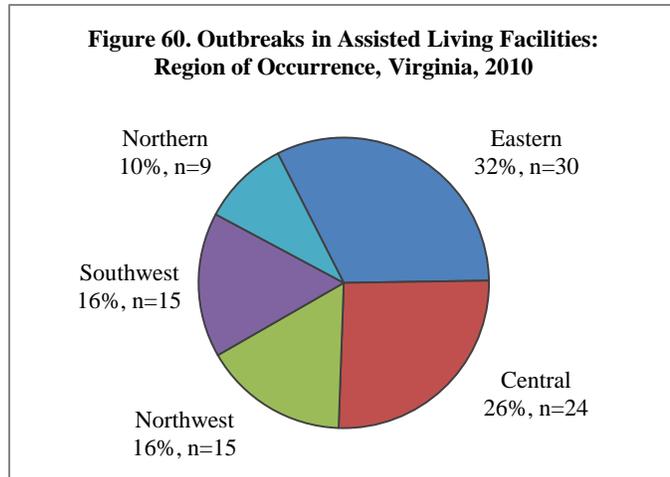
During 2010 there were 93 outbreaks in assisted living facilities reported in Virginia. Since 2008, assisted living facilities have been required by law to report outbreaks. 2010 is the first year the outbreaks in this setting are reported separately from the “Other” outbreaks section. The average number of ill persons per outbreak was 31 and ranged from 2 to 175. All but one of the outbreaks in assisted living facilities was attributed to person-to-person transmission. The remaining one was a common source outbreak.



Etiologic agents were confirmed in 69% of the outbreaks, suspected in 30% and unknown in 1%. Norovirus was suspected or confirmed as the agent in 88% of the outbreaks, followed by influenza (3%), and hepatitis B virus (2%). *Clostridium difficile*, human metapneumovirus, rhinovirus, scabies, and *Streptococcus pyogenes* were each responsible for one outbreak (Figure 58).



Although outbreaks occurred throughout the year in assisted living facilities, the largest proportion of outbreaks (86%) occurred in the 6 month period from October through March (Figure 59). Outbreaks in assisted living facilities were spread throughout the state, but during 2010 the largest proportions occurred in the eastern (32%) and central (26%) health planning regions (Figure 60).



### Waterborne

No waterborne outbreaks were reported during 2010.

### Zoonotic

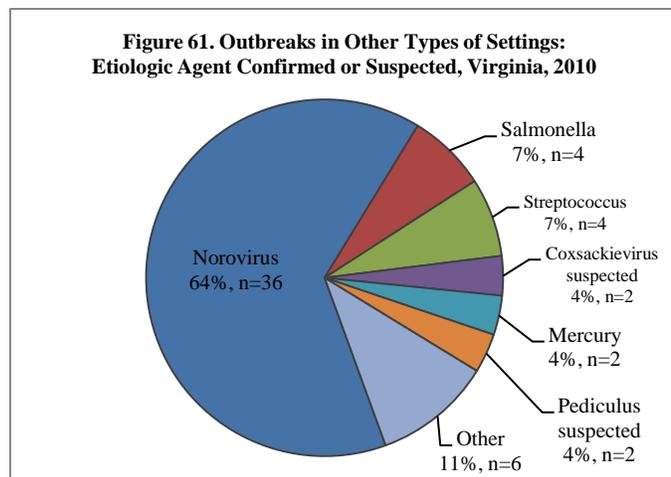
In 2010, two zoonotic multi-state outbreaks that involved residents of Virginia were reported, and both were attributed to *Salmonella*. One was associated with frozen rodents used as pet food and included a single individual from Virginia. There were three Virginia cases in the other outbreak, which was associated with African dwarf frogs.

**Table 9. Zoonotic Outbreaks Reported in Virginia, 2010**

Onset Date	Health District	Number of Cases	Etiologic Agent	Vehicle	Place Where Outbreak Occurred
10/16/2009	Multi-state	3 VA 85 US	<i>Salmonella</i> ser. Typhimurium	African dwarf frogs	Frog breeder in CA
1/24/2010	Multi-state	1 VA 34 US	<i>Salmonella</i> ser. I 4,[5],12:i:-	Frozen rodents	Imported from United Kingdom

### Other

Among the outbreaks reported in Virginia during 2010, 56 were not foodborne, healthcare-associated, waterborne, or zoonotic, and did not occur in an assisted living facility. The three most common settings for these outbreaks were schools (K-12) (38%); daycare/pre-K (20%); and independent living/retirement communities (13%). The average number of ill persons per outbreak was 42 and ranged



from 2 to 400. Nearly all of the outbreaks in other settings (95%) were attributed to person-to-person transmission.

Etiologic agents were confirmed in 59% of the outbreaks, and suspected in 41%. Norovirus was suspected or confirmed as the agent in 64% of the outbreaks. *Salmonella* (7%), *Streptococcus* (7%), coxsackievirus (4%), mercury (4%), and pediculus (4%) were suspected or confirmed in multiple outbreaks. *Borrelia burgdorferi*, *Mycobacterium tuberculosis*, *Neisseria meningitidis*, scabies, *Shigella*, and *Staphylococcus aureus* were each responsible for one outbreak (Figure 61).

Although outbreaks in other types of settings occurred throughout the year, 32% of outbreaks occurred from January to February (Figure 62). Outbreaks were reported throughout the state, but the smallest proportion (9%) was reported from the southwest region (Figure 63).

