

#GoNoroViral Outbreak

2017 FDA Southeast Retail
Food Safety Seminar

Two viruses, one conference

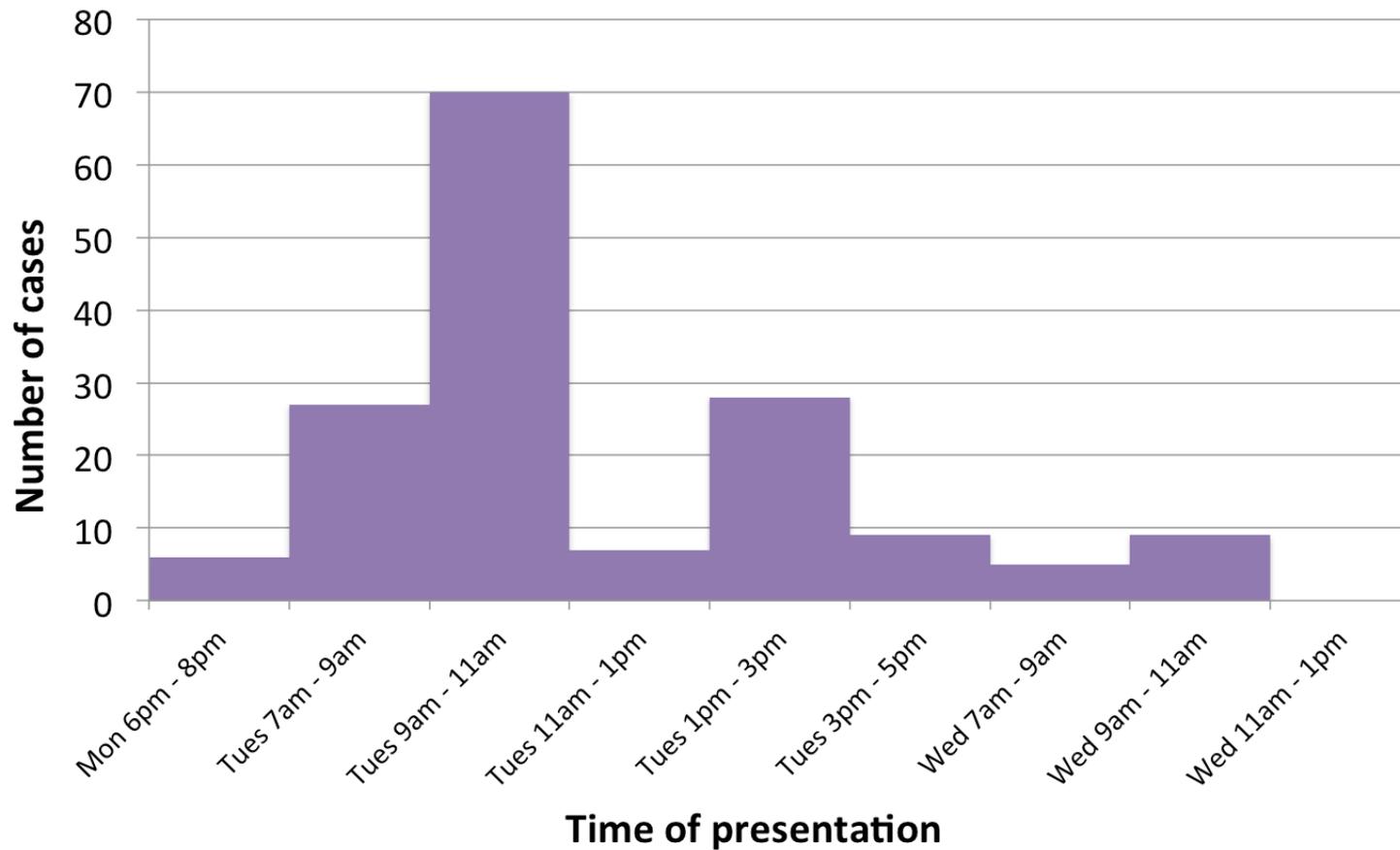
- Green strain
- Purple strain
- Two Patient Zeros each infected five people at the Monday night reception.
- Around 12 to 48 hours later...

Two viruses, one conference

- 400 possible infections (200 for each strain)
 - 154 Green infections reported (77% participation)
 - 157 Purple infections reported (79% participation)
- 131 people were coinfecting with both strains
 - Coinfections with norovirus are thought to occur, and may result in the creation of new viruses from genetic recombination events inside the host.

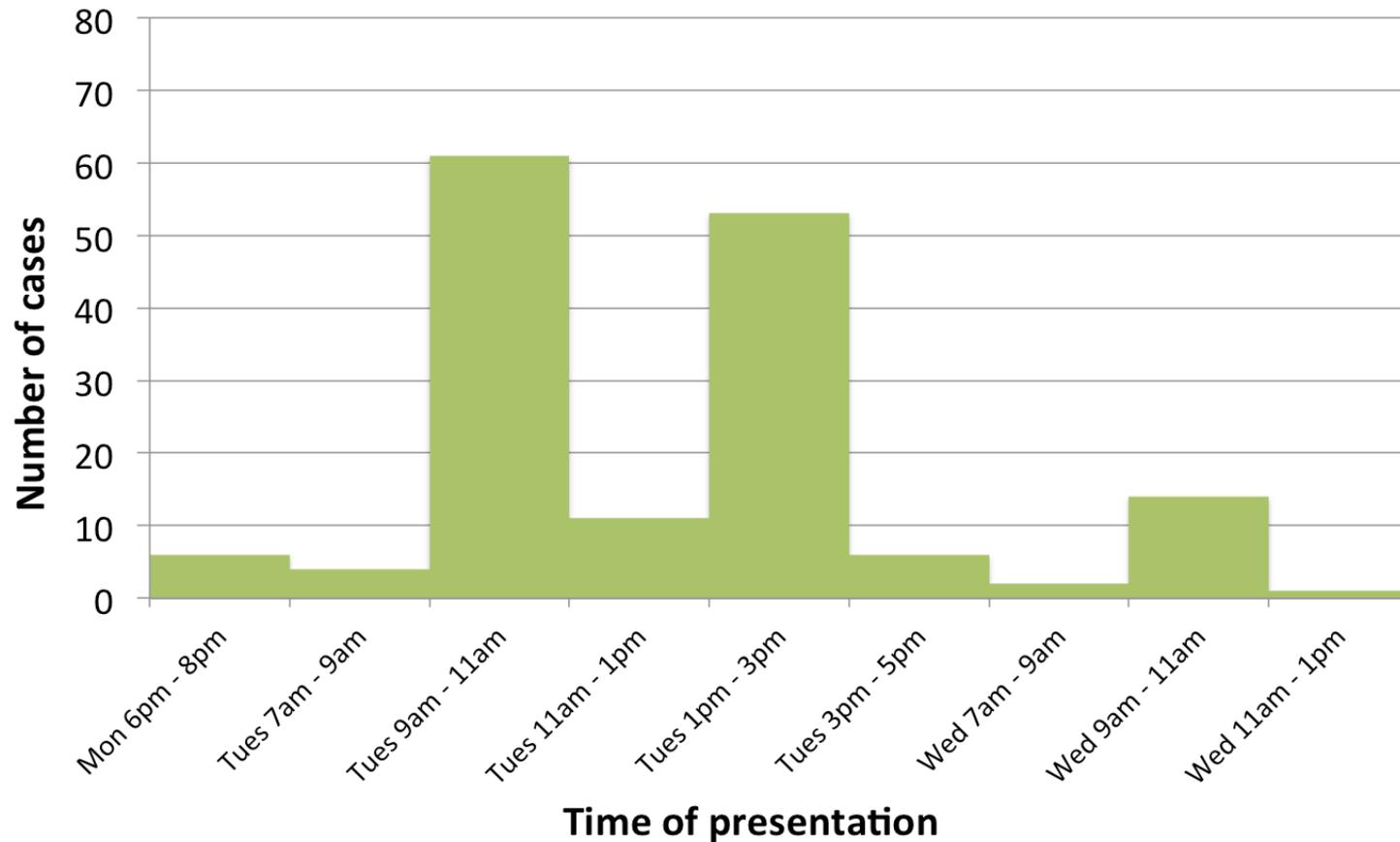
Epidemic curves

Epidemic Curve, Purple Norovirus

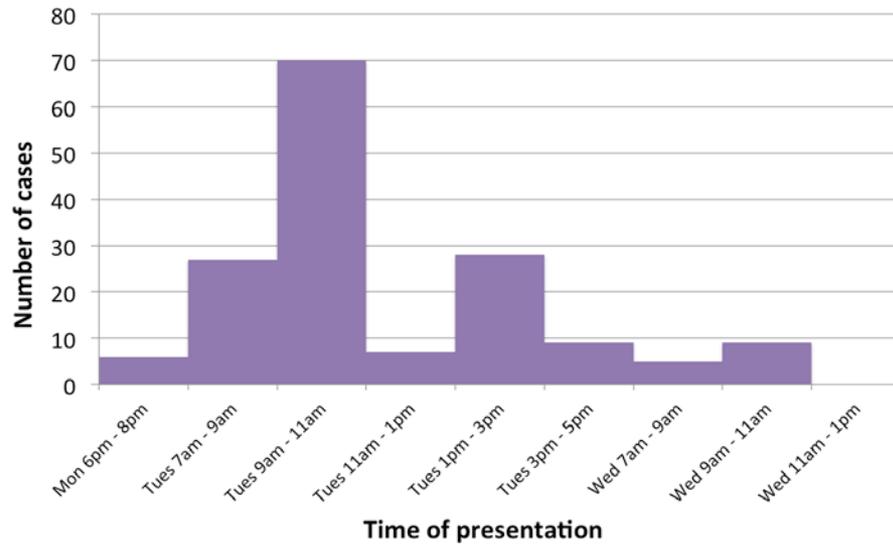


Epidemic curves

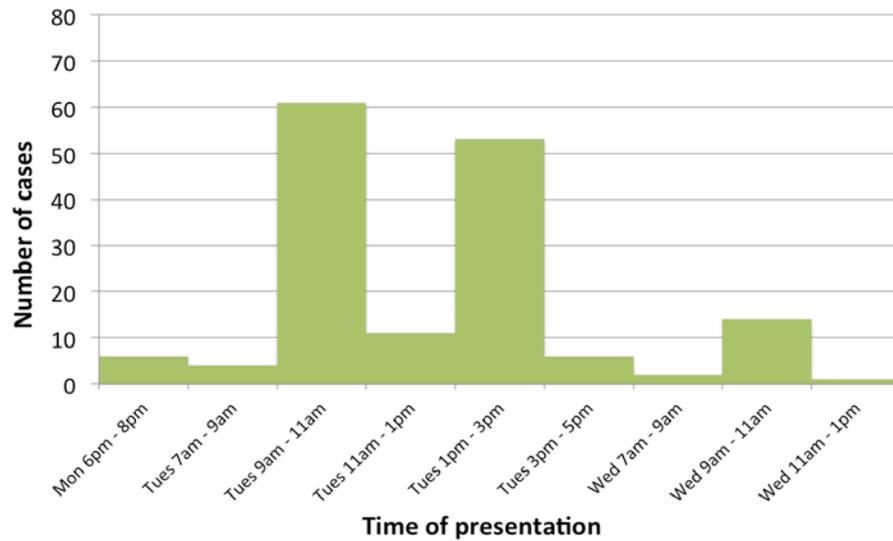
Epidemic Curve, Green Norovirus



Epidemic Curve, Purple Norovirus



Epidemic Curve, Green Norovirus

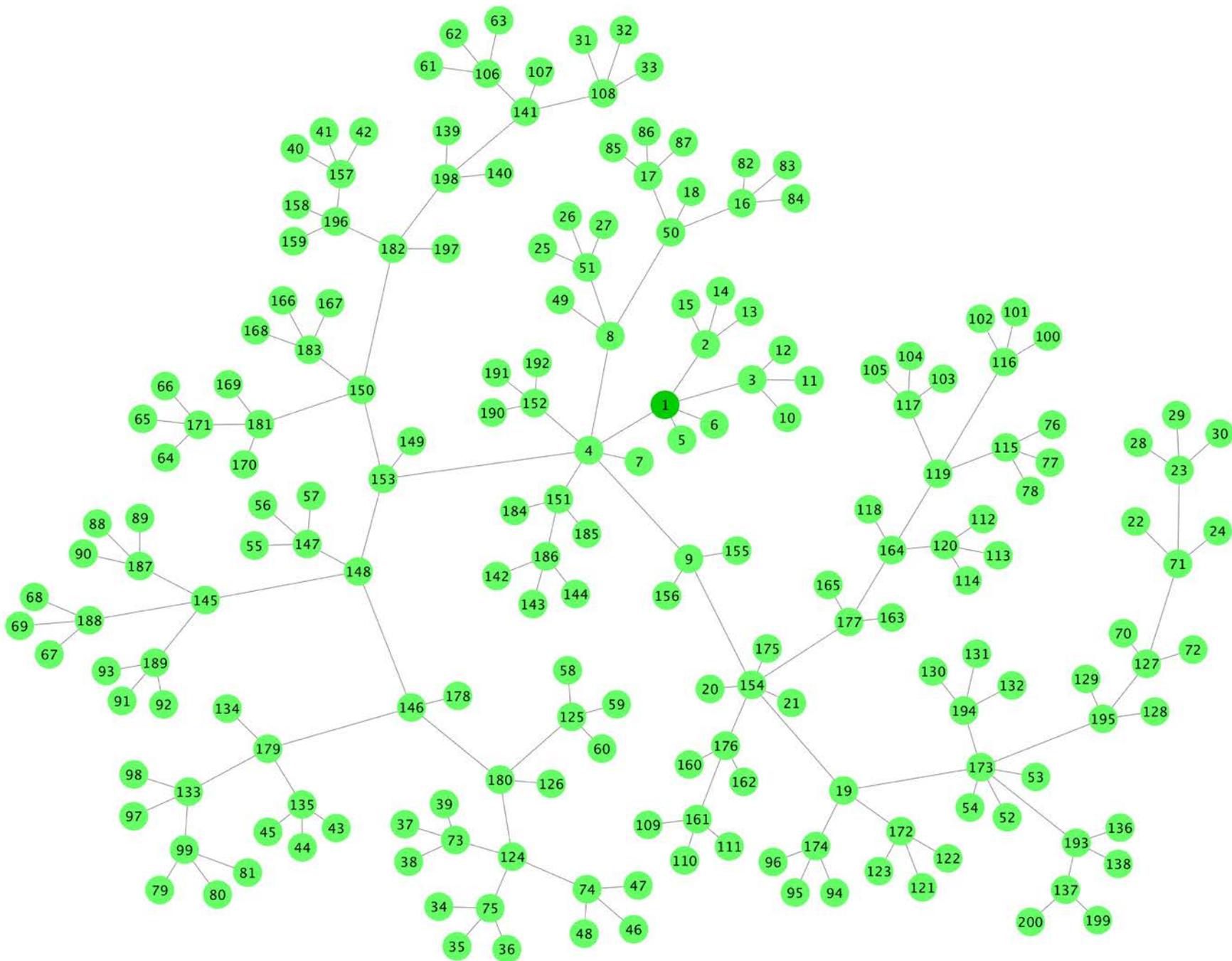


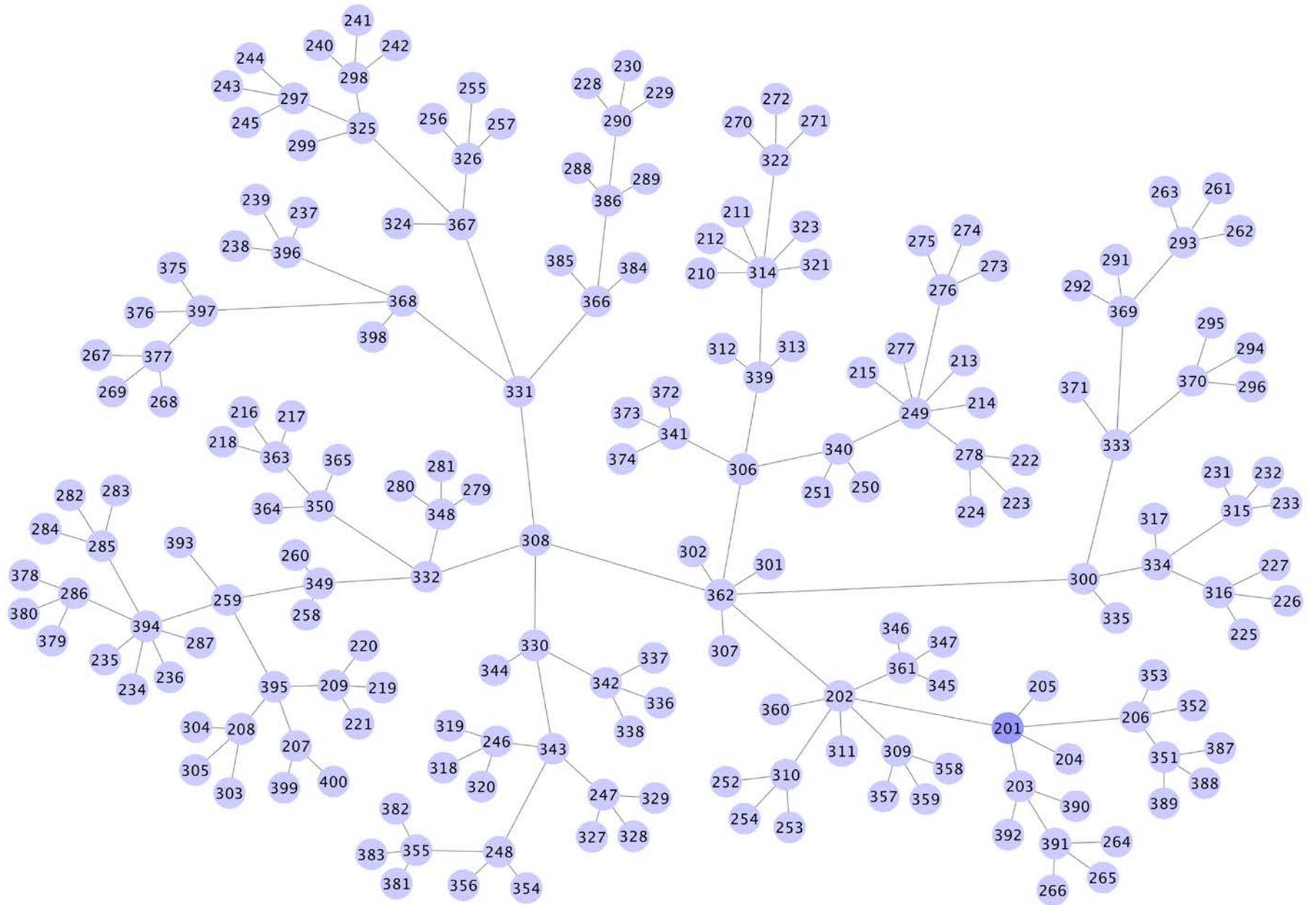
Epidemic curves

- Purple took off faster, but Green caught up
- Minus the Tuesday lunch break, both curves look like a point source outbreak:
 - One major peak
 - Suggestive of an agent that was introduced once and quickly moved through a population
 - Most norovirus outbreaks look like this

Node link trees

- A way to visualize networks
- Made with Cytoscape 3, a freely available program
- The story gets more interesting...





Takeaway points

Green outbreak

- Longest chain of cases from Patient Zero: 10
- Patient 4 was responsible for 95% of the outbreak

Purple outbreak

- Longest chain of cases from Patient Zero: 9
- Patient 202 was responsible for 92% of the outbreak

Time for prizes!

- \$50 gift cards for each strain
 - Green strain:
Ron Honeycutt
 - Purple strain:
Cindy Callahan
- \$100 gift card for someone who was coinfecting
Felissa Vazquez

Thank you for playing!

If you want to recreate the game:

Bradshaw, E.S., Goulter, R.M., Chapman, B., Jaykus, L.-A. (2017). The Go Noroviral Experiment: An Interactive Citizen Science Teaching Tool for Modeling Norovirus Transmission. *Food Protection Trends*, 37(4): 240-246.

Article available at:

<http://www.foodprotection.org/files/food-protection-trends/jul-aug-17-bradshaw.pdf>

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