Sporadic Norovirus Testing - Wisconsin

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PulseNet/OutbreakNet Regional Meeting
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Outline

- Wisconsin Clinical Laboratory Network
- National Respiratory and Enteric Virus Surveillance System
- Sporadic Norovirus Test Results
Wisconsin Clinical Laboratory Network
Wisconsin Clinical Laboratory Network (WCLN)

- Network of Wisconsin clinical labs
- Coordinated and funded by the Wisconsin State Laboratory of Hygiene (WSLH)
- Started over 20 years ago
- Currently involves 130 clinical and public health laboratories
WCLN Purpose

- Training for clinical laboratories
- Communicating with clinical laboratories
- Conducting public health surveillance
- Ensuring emergency preparedness
Activities

- Annual regional meetings and technical workshops
- Routine communications (webinars and emails)
- Laboratory information messages
- In-person visits by WCLN coordinator
- Laboratory-based surveillance data and summaries
- Bioterrorism proficiency exercises and communication drills
Lessons Learned

- In-person meetings are key
- A WCLN coordinator is needed
- Clinical laboratory advisors are needed to guide WCLN activities
- Activities and resources provided by WSLH secure participation
Successes

- Increased participation in public health surveillance and outbreaks
  - 100% of culture-confirmed TB isolates submitted
  - >95% of clinical specimens submitted for Salmonella, STEC, and Listeria cases
- Rapid method for communicating with clinical laboratories
National Respiratory and Enteric Virus Surveillance System (NREVSS)
Participating Labs
NREVSS-Wisconsin

- WCLN laboratories submit information to WSLH for submission to NREVSS
- WCLN laboratories that test for norovirus also submit norovirus data
  - Number of norovirus tests completed
  - Number of positive norovirus tests
Sporadic Norovirus Results
Problem and Solution

- **Problem**: Decreased outbreak specimens being submitted to WSLH for norovirus testing

- **Solution**: Begin sequencing a subset of sporadic norovirus testing in addition to outbreak specimens
Recruitment

- Clinical laboratories were already submitting number of norovirus tests conducted
- Five WCLN laboratories were selected based on volume and geography
- Recruited laboratories are to submit positive norovirus specimens to WSLH
  - Specimen
  - Limited demographic information
Results

As of March 1, 2019:

- WSLH sequenced 250 sporadic norovirus specimens.
- Clinical specimens from residents of 36 Wisconsin counties were sequenced.
- A total of 26 different genotypes were identified.
# Outbreak Versus Sporadic

<table>
<thead>
<tr>
<th>Genotype</th>
<th>Outbreak (n=45)</th>
<th>Sporadic (n=250)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GII.P16-GII.4 Sydney</td>
<td>56%</td>
<td>48%</td>
</tr>
<tr>
<td>GI.P3-GI.3</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Other GII</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>Other GI</td>
<td>11%</td>
<td>6%</td>
</tr>
</tbody>
</table>
Utility

- Case finding during outbreak
- Outbreak detection
- Identify novel norovirus genotypes
Resources

- **WCLN:** [http://www.slh.wisc.edu/wcln-surveillance/wcln/](http://www.slh.wisc.edu/wcln-surveillance/wcln/)
- **NREVSS:** [https://www.cdc.gov/surveillance/nrevss/index.html](https://www.cdc.gov/surveillance/nrevss/index.html)
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