

Norovirus Outbreak 2010 in Dominica

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Hyatt Regency
May 12th 2011**

Outline

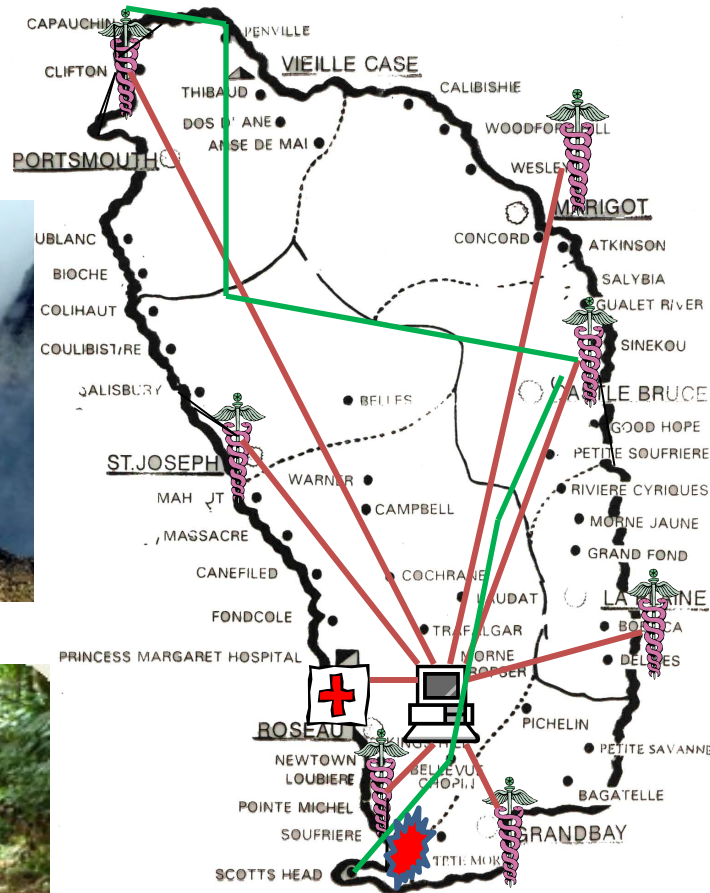
- Background
- Sequence of Events
- Outbreak data
- Summary
- Outbreak Investigation
- Preventive Measures
- Lesson Learned
- Challenges
- Acknowledgement

Background

Population: 71, 961
Capital: Roseau,
36,017



HEALTH CENTRES IN DOMINICA



Princess Margaret
Hospital



District Health Centre



Health Information
Unit

<http://www.waitukubulitrail.com/>

Background (cont'd)

- **National Public Health Surveillance and Response Team**
 - National Epidemiologist (Chairman)
 - Chief Medical Officer
 - Director of Primary Health Care
 - Hospital Medical Director
 - Laboratory Director
 - Communicable Disease Surveillance Officer
 - Chief Environmental Health Officer
 - Chief Pharmacist
 - FRL Manager

Background (cont'd)

Background (cont'd)

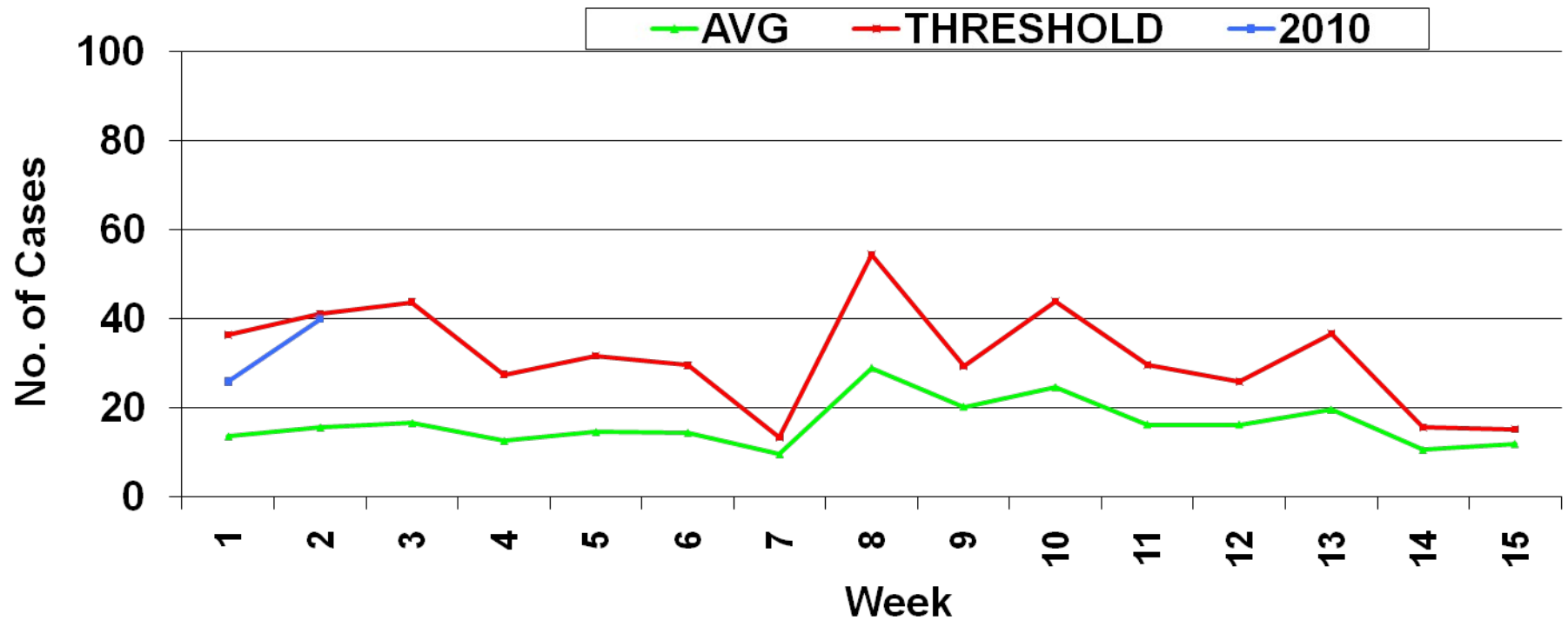
- Found in the stool or vomit of infected people.
- Transmission:
 - eating food or drinking liquids that are contaminated with norovirus;
 - touching surfaces or objects contaminated with norovirus, and then placing their hand in their mouth;
 - having direct contact with another person who is infected and showing symptoms (for example, when caring for someone with illness, or sharing foods or utensils with someone who is ill).
- **Very contagious and can spread rapidly**

Sequence of Events

- Started during epiweek 3 (week of January 17th)
- Initially cluster of cases was noted mainly in Roseau and Portsmouth Health Districts.
- There was no significant increase of gastroenteritis nationally .
- Alerted district health teams
- Requested specimen submission
- Due to unavailability of District Environmental Health

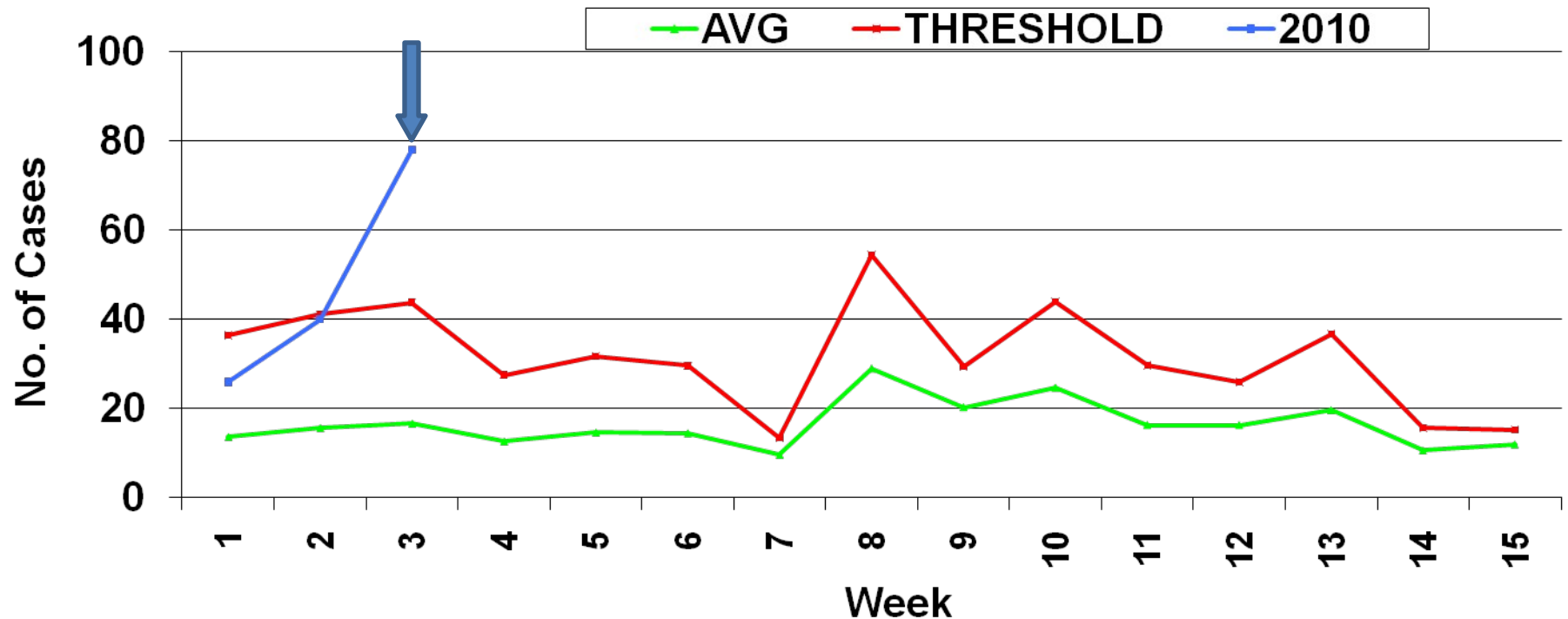
Sequence of Events (cont'd)

No. of GE (<5 & >5 years age-group),
Week 1-2_2010, Dominica



Sequence of Events (cont'd)

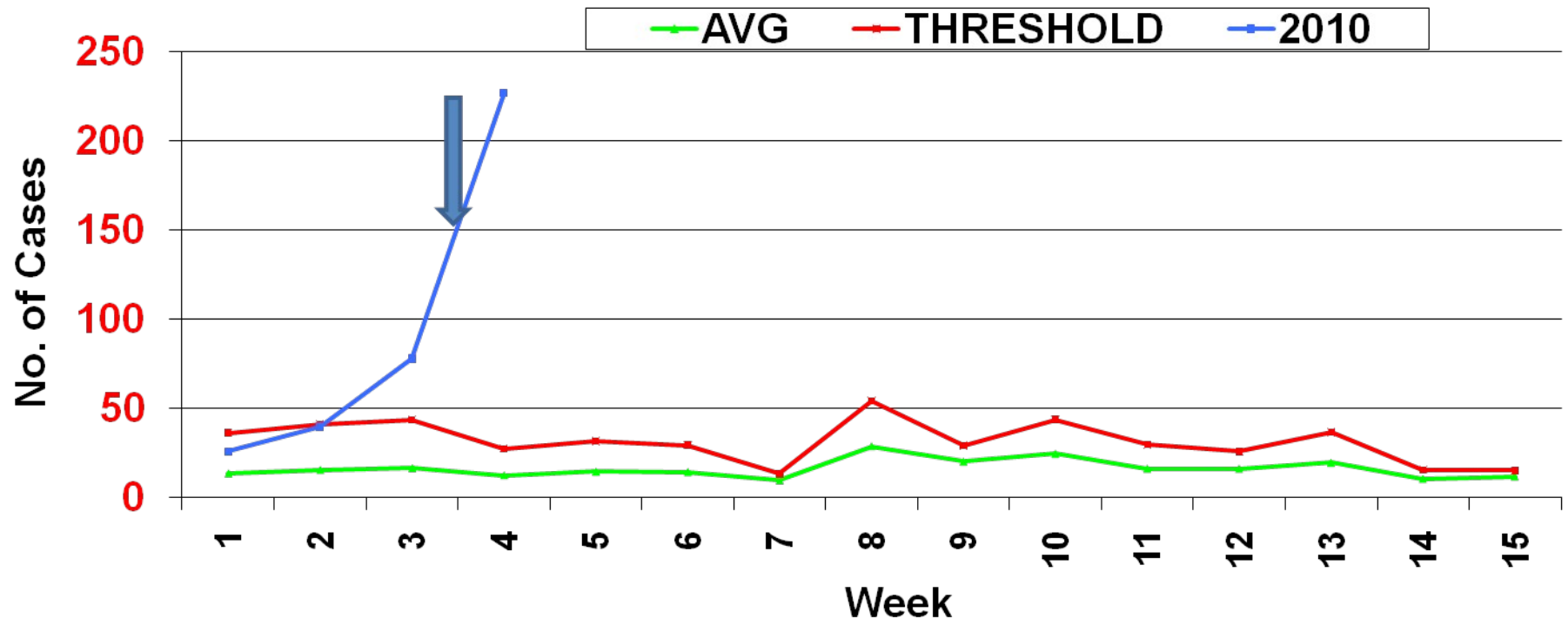
No. of GE (<5 & >5 years age-group),
Week 1-3_2010, Dominica



End of week 3, NPHSRT responded and all departments intensified surveillance effort including specimen collection.

Sequence of Events (cont'd)

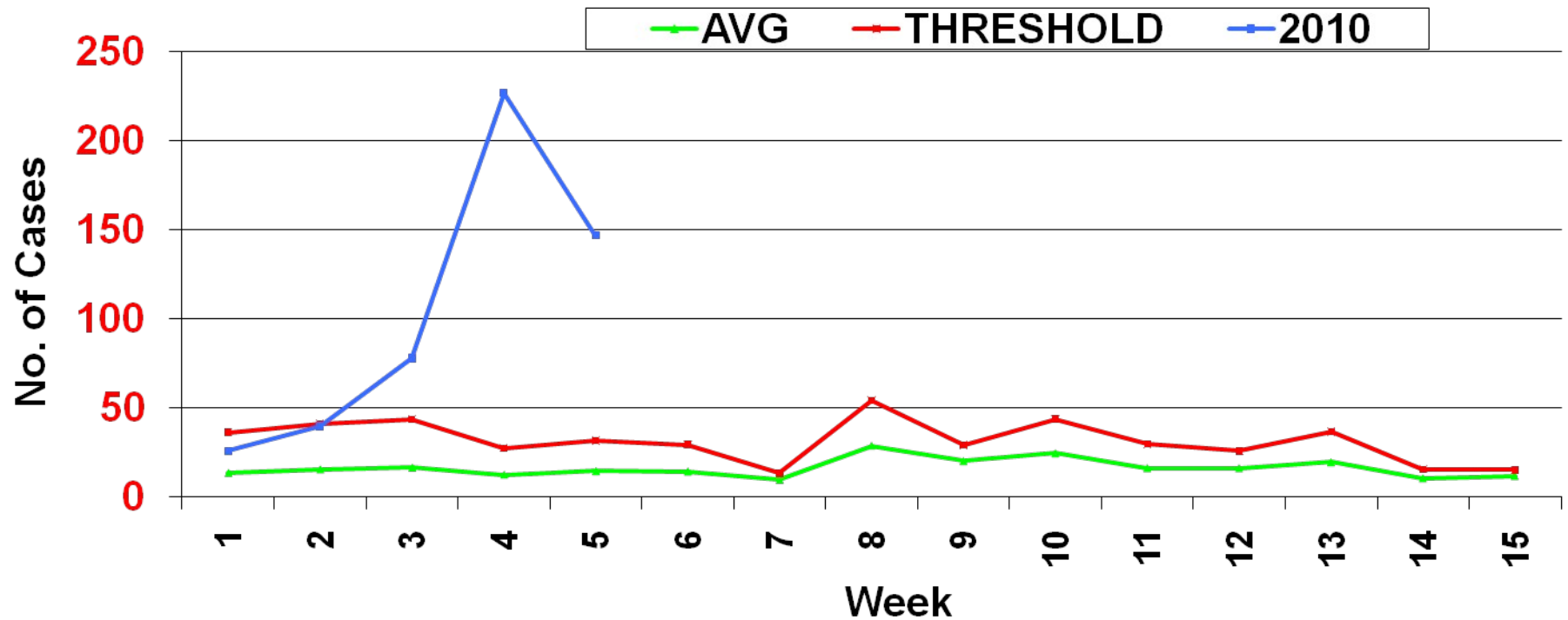
No. of GE (<5 & >5 years age-group),
Week 1-4_2010, Dominica



- During this phase, hand-washing and proper hygiene campaign was implemented
- No bacteria found at the National Lab and aliquot were sent to CAREC (reference lab) for virology testing

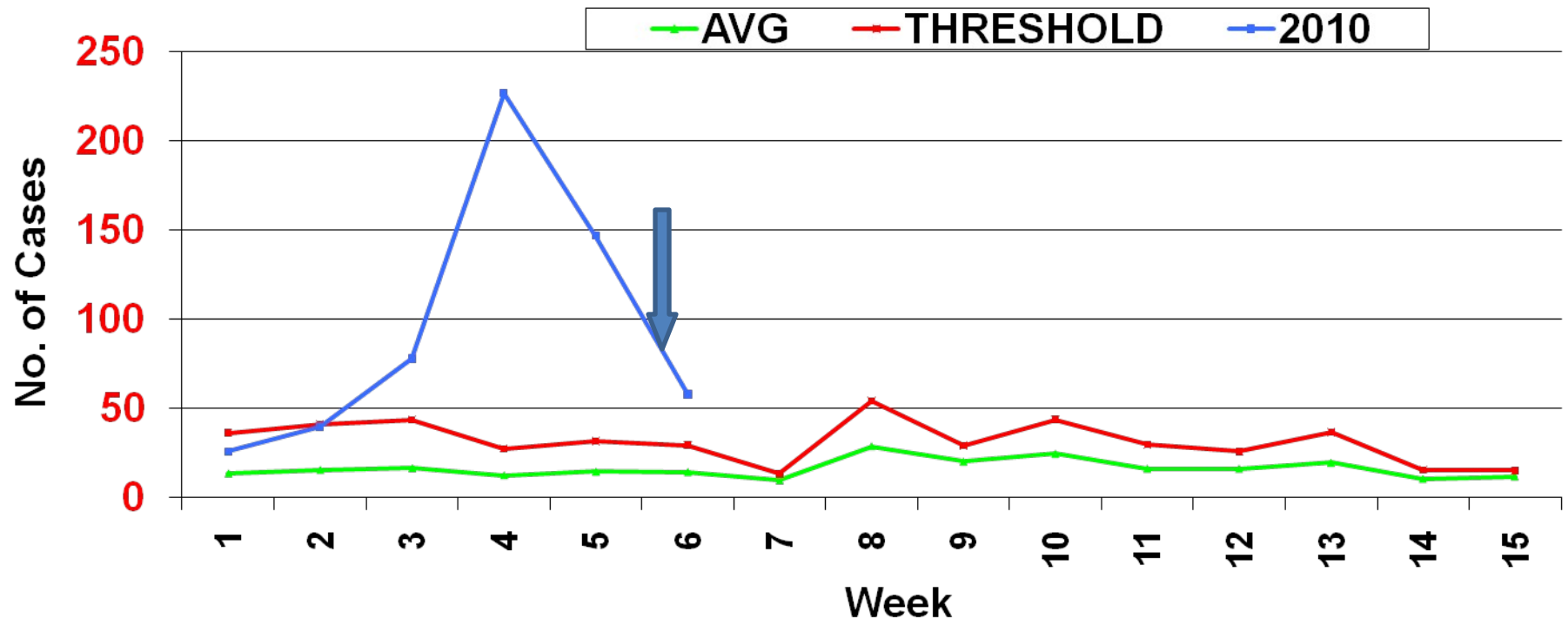
Sequence of Events (cont'd)

No. of GE (<5 & >5 years age-group),
Week 1-5_2010, Dominica



Sequence of Events (cont'd)

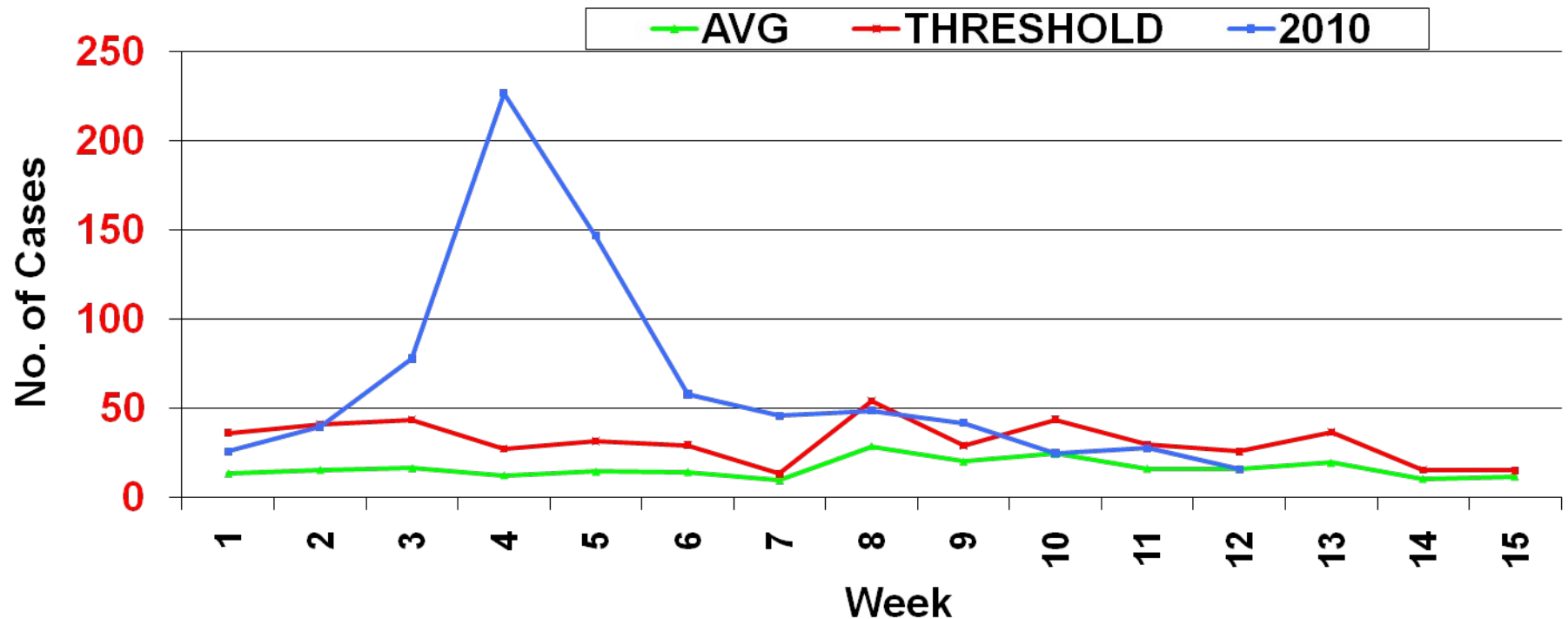
No. of GE (<5 & >5 years age-group),
Week 1-6_2010, Dominica



- Result received from CAREC – norovirus, subtype GII

Sequence of Events (cont'd)

No. of GE (<5 & >5 years age-group),
Week 1-12_2010, Dominica



- Outbreak peaked at week 4 (week of January 24th)
- Ended at week 8 (weekend February 27)

OUTBREAK DATA

Epicurve

Hospitalization

- Duration: average 2 – 3 days

Distribution

Distribution (cont'd)

Number of Cases by Health Districts



Signs and symptoms

- Predominant signs and symptoms (that were seen at the A&E and medical wards):
 - Vomiting – all cases presented with vomiting
 - Diarrhea – most cases
 - Nausea – some cases
 - Headache – some cases
 - Fever – minority cases
 - Dehydration – all hospitalized cases had mild to moderate dehydration

Summary Results

- Started in **week 3** and ended in **week 8**
- Peak of outbreak was in **week 4**
- Total number, who sought medical care, **605**; **8** were lab confirmed
- Mostly were from Roseau Health District
- Total **15** cases required hospitalization; mostly were paediatric cases
- Most effected age-group were between **15 to 44 years**
- **No mortality.**

Outbreak Investigation

- No epidemiologic investigation
- Laboratory investigation
 - Total 8 cases were confirmed for *norovirus*
 - No bacterial isolate
- Environmental health investigation
 - A Series of measures were taken to control the outbreak, however there was no retrospective investigation to identify transmission route or source of outbreak.

Outbreak Investigation (cont'd)

- Environmental health intervention measures:
 - Water
 - Increased monitoring of water source
 - monitoring chlorine level
 - test for organism
 - Requesting Dominica Water Supply to re-chlorinate
 - Food
 - Checking all school vendors
 - Inspecting school kitchen
 - Monitoring hospital and type III health centre kitchen

Outbreak Investigation (cont'd)

- Environmental health intervention measures:
 - Education
 - Conducting health education at the health centres
 - Holding radio programs on prevention and control of diarrheal disease in collaboration of the Health Promotion
 - Sending out public service announcements via media

Preventive Measures

- Wash hand frequently
- Wash hand with soap and water preferably
- Wash fruits and vegetables before consumption
- Disinfect contaminated surfaces using 10% household bleach thoroughly

Lesson Learned

- Spread very rapidly
- Watch out for GE in cruise-ship
- Increased cases with only vomiting should not be ignored

Challenges

- Human resource
- Financial resource
- Inadequate and on-time sampling (turn-around time)
- Stool specimen is difficult to obtain

Acknowledgement

- Dr. Paul Ricketts, National Epidemiologist
- Ms. Ferdinia Carbon, SEHO
- Ms. Joanna Laurent-Blaize, ICN
- Members of NPHSRT
- Laboratory technologist, PMH Laboratory
- David Brumley, MD, MBA;

Board of Public Health, Duxbury,

Massachusetts

SEHO=Senior Environmental Health Officer

ICN=Infection Control Officer

NPHSRT=National Public Health Surveillance and Response Team

March 20, 2003

Acknowledgement (cont'd)

- Norovirus Outbreaks: Epidemiology
Anne Winter, RN, MHSc, BScN
Senior Epidemiologist
September 15, 2010

Thank you