

**A Local Health
Department's Investigation
of an *E. coli* Outbreak
Associated with Cheese**

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September 29, 2011



Introduction

- Tri-County Health Department's (TCHD) role in outbreak
 - Environmental Health (EH)
 - Epidemiology, Planning, and Communication (EPC)
- Findings
- Lessons learned
- Conclusion

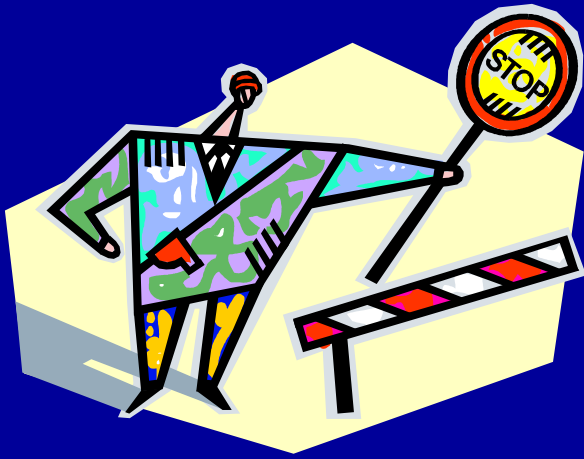
Initial Call

- EH received a call from Disease Intervention Specialist (DIS) in late October 2010
- A food handler at a grocery store was positive for *E. coli* O157:H7 and worked while ill
- Interviews would be conducted at the grocery store



Grocery Store Manager Interview

- Manager interview conducted
- Very open with all information



- Corporate officials put up road blocks

Employee Interviews

- Tri-County staff conducted interviews with grocery store employees
 - Customized forms unique to the outbreak
- Employee interviews of samplers (employed by different company) were also conducted

Employee Interviews

- Only 1 additional person from the grocery store admitted to being sick
- Employees began pointing fingers
- Two of the samplers admitted to being sick



Samplers' Manager Interview

- Different company
- Manager interview
 - Food Safety
 - Orientation
 - Before every shift
- Cheese Road Show



Inspection of Samplers' Booths

- Inspection of samplers' booths
 - Violations
- Continuing discussion



Department Planning Meetings

- Meetings were conducted using Incident Command System (ICS)
- Who attended meetings
- EPC's role
 - Communication between TCHD and Colorado Department of Public Health and Environment (CDPHE)
- Clear Agenda



Department Planning Meetings

- Daily communications
- Eventually daily meetings transitioned to weekly meetings
- Weekly meetings transitioned to email and phone calls

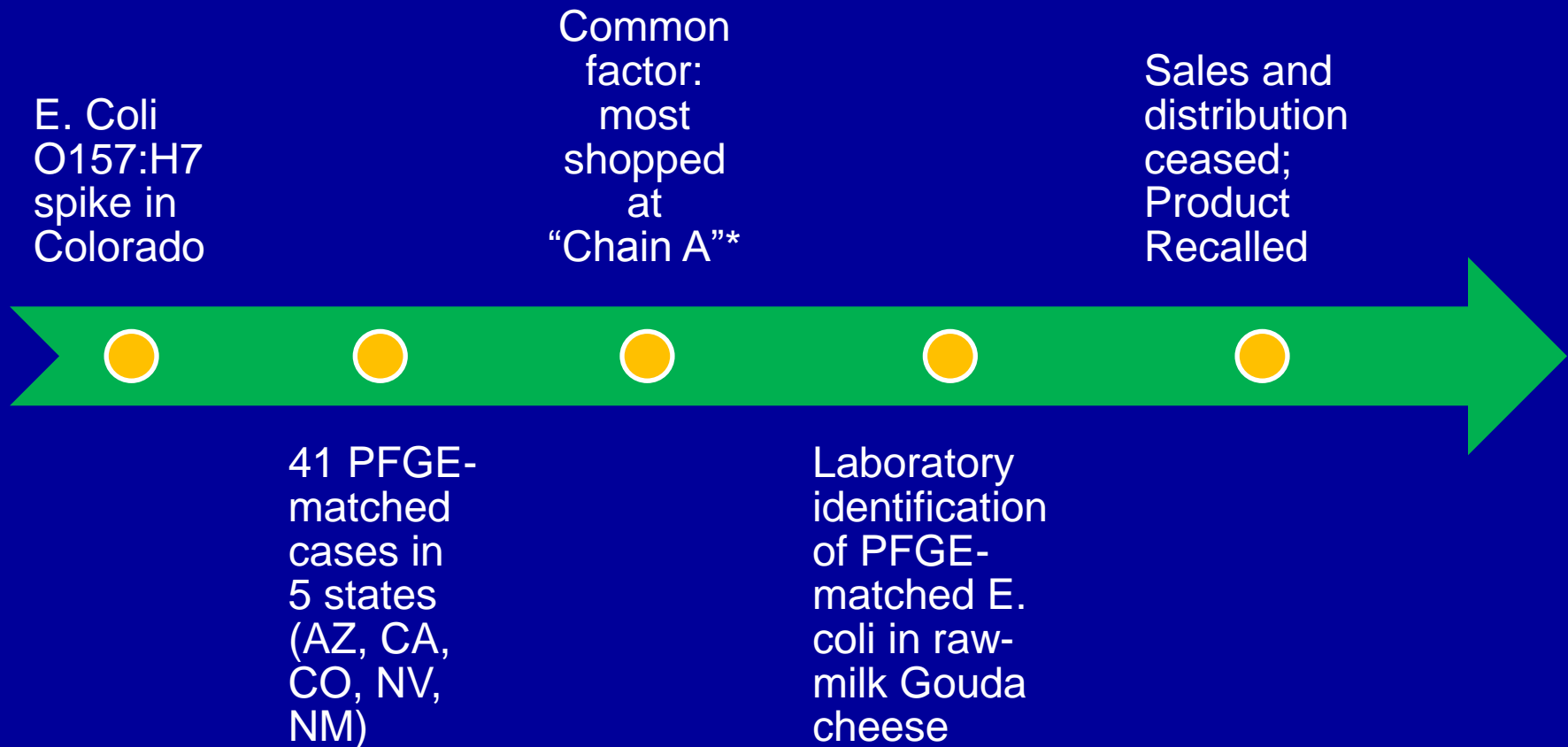
Acquiring Samples for Testing

- Cheese implicated from questionnaire analysis
- Early November, eight different cheese samples collected from grocery store
- Cheese samples also obtained from the homes of individuals
- Acquiring expensive items

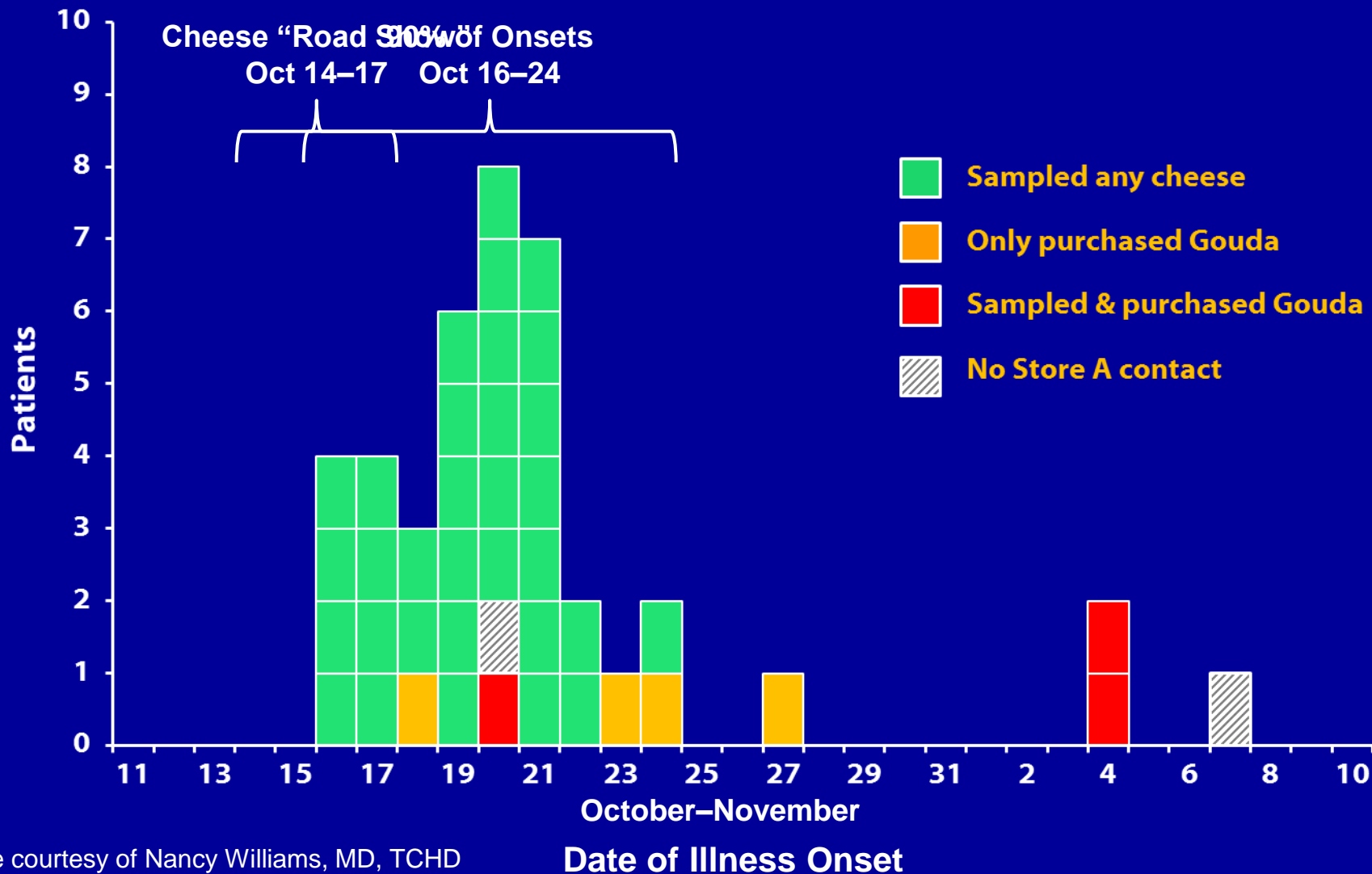
Testing Results

- Gouda cheese from Bravo Farms tested positive for *E. coli* O157:H7
- TCHD attempted to collect further samples
- Further investigation by FDA and California Department of Food and Agriculture
- Bravo Farms issued a voluntary recall

Spike in Colorado Shiga Toxin-Producing E. coli Cases Helps Identify Multi-state O157:H7 Outbreak



Number of Patients by Date of Illness Onset and Cheese Exposure — All States, 2010 (n = 41)



Slide courtesy of Nancy Williams, MD, TCHD
 Epidemic Intelligence Officer from CDC

Case Control Study*

- Performed January - February 2011
- Invited 5 states to participate (2 participated)
- Conducted interviews by telephone
- Sampling cheese at the grocery store was the most statistically significant

*Case Control Study conducted by Nancy Williams, MD (CDC Epidemic Intelligence Officer assigned to TCHD) and CDPHE



Lessons Reinforced

- Utilizing Public Information Officer (PIO)
- Responding to inquiries from the public
- Debriefing meeting held in March 2011
 - 72 hour food history
 - Chain of custody
 - Electronic versions of statutes
 - Samplers being regulated



Documentation of Outbreaks

- Very important
- During investigation have a standardized form or method of documenting outbreaks
- Documents may be requested by lawyers



Conclusion

- Importance of communication
 - Collaboration between EH and EPC
 - Open communication between TCHD and other agencies
- Found that contaminated product and poor food handling practices most likely led to increase in illness

Acknowledgments

- **Tri-County Health Department**

- Tista Ghosh, MD, MPH
- Nancy Williams, MD, MPH
- Richard L. Vogt, MD, Executive Director
- Anita Watkins, MPH

- **Centers for Disease Control and Prevention**

- Jeff McCollum, DVM, MPH
- Kris Bisgard, DVM, MPH

- **Colorado Department of Public Health and Environment**

- Alicia Cronquist, RN, MPH

- **San Diego County Public Health**

- Azarnoush Maroufi, MPH
- Monica Sovero, MPH

- **Boulder County Public Health**

- Gail Wright

Questions?

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