



Georgia Department of Public Health

Georgia Outbreaks: Like A Trip to Whole Foods!



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We Protect Lives.

“WHOLE FOODS IS LIKE VEGAS. You go there to feel good, but you leave broke, disoriented, and with the newfound knowledge that you just swallowed a symbiotic colony of bacteria and yeast.”

(in your Kombucha tea, of course!)



Actually, Whole Foods is a Lot Like Our Disease Outbreaks



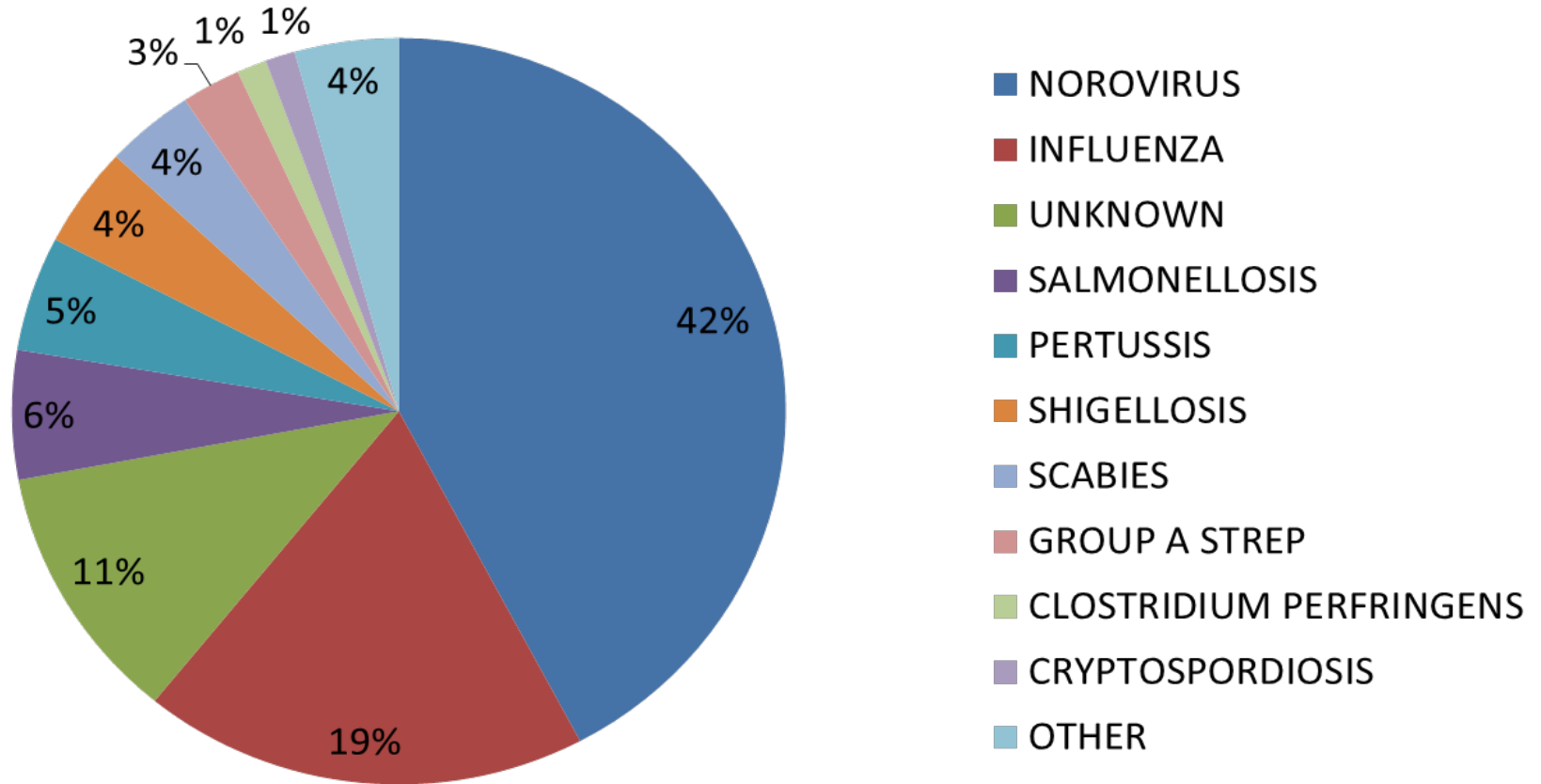
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Whole Foods Tour

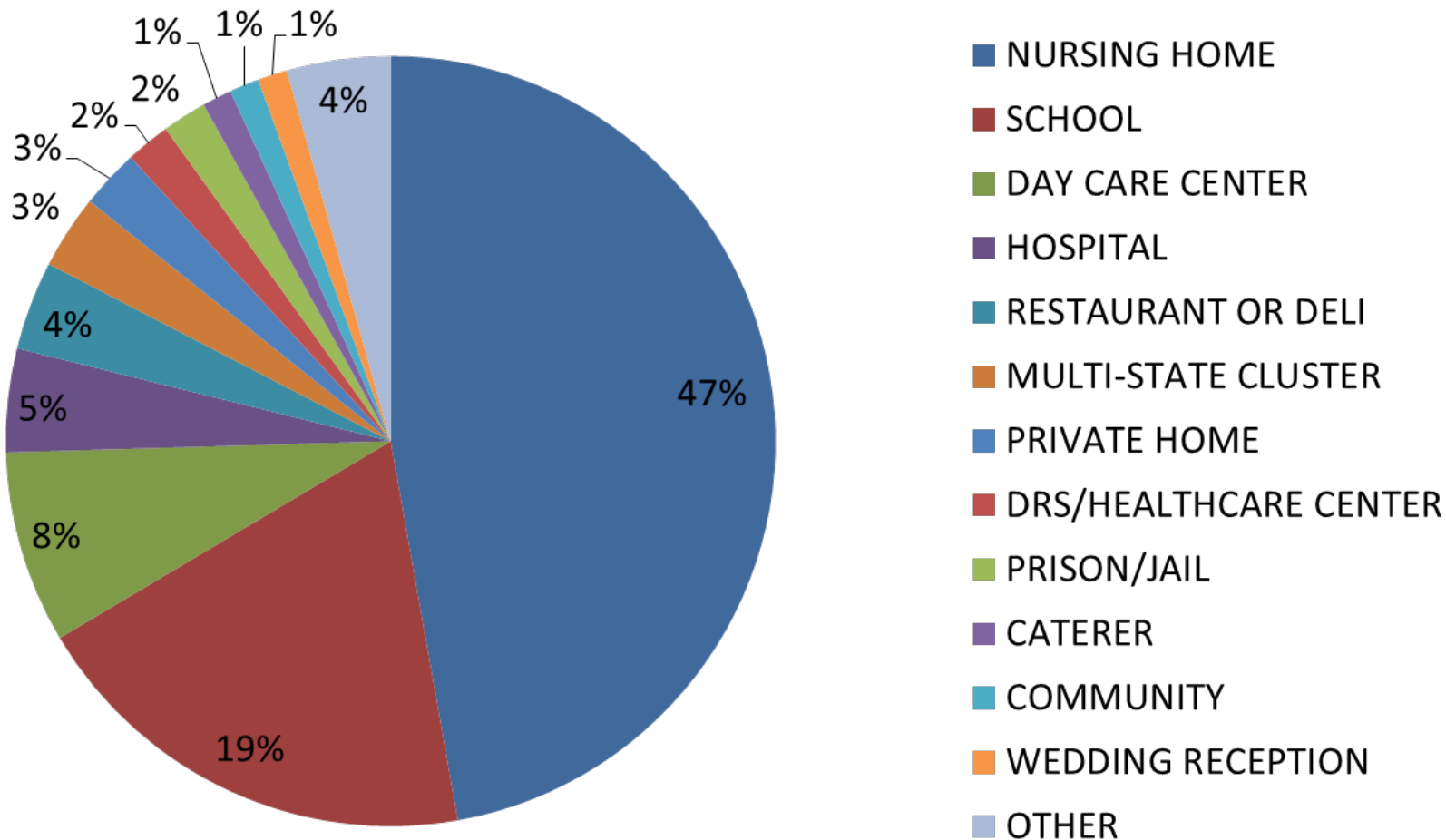
- Pre-Market Research
- Aisle 1: Unicorns
- Aisle 2: Gluten-Free Water
- Aisle 3: Camel's Milk
- Aisle 4: Uh-Oh! Gluten!
- Aisle 5: Breakfast
- Checkout!



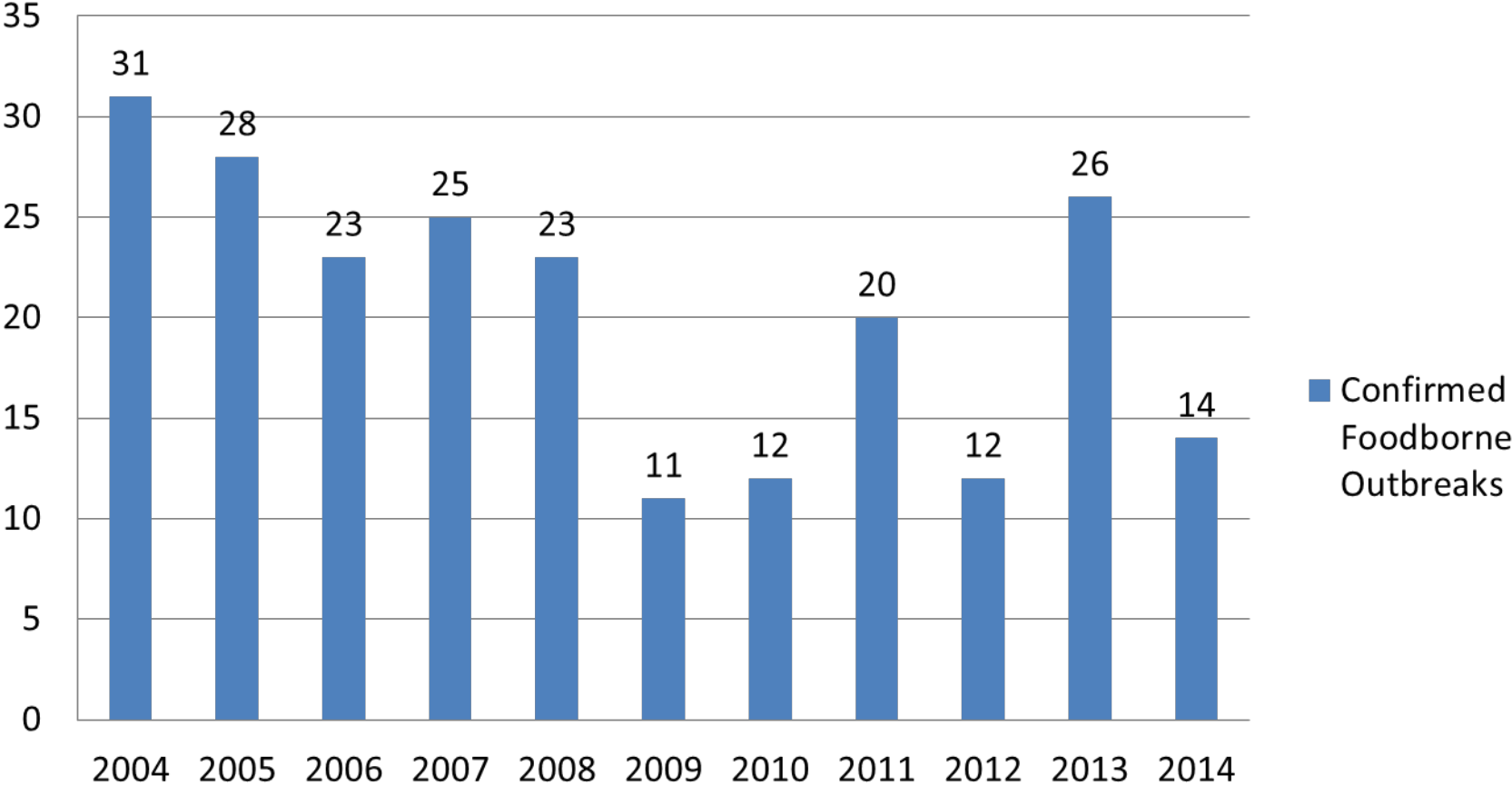
Etiologies of Confirmed Georgia Outbreaks, 2014 (n=161)



2014 Georgia Outbreaks: Settings (n=161)



Confirmed Foodborne Outbreaks, Georgia, 2004-2014



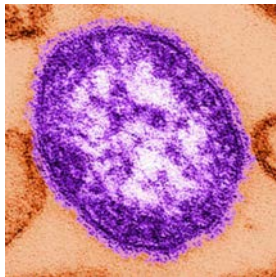
Aisle 1: Unicorns and Other Magical Thinking



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Magical Thinking





Measles

- Measles is one of the world's most contagious diseases and still poses a threat to domestic and global health.
- The US experienced a record number of measles cases during 2014, with 644 cases from 27 states. Greatest number of cases since measles elimination was documented in the U.S. in 2000.
- The U.S. experienced 23 measles outbreaks in 2014, including one large outbreak of 383 cases among unvaccinated Amish communities in Ohio, and many cases were associated with travelers from the Philippines.
- In 2015, the US is currently experiencing a large, multi-state measles outbreak linked to Disneyland in California
- **Epi pattern for these outbreaks: international traveler-associated cases followed by transmission in non-vaccinated/susceptible populations**

Table 1: Confirmed Measles Cases in GA, 2002-2012

Year	Age	Vaccine History	Laboratory Confirmation	Travel History	Comments	Epidemiologic Classification
2002	22y	None	IgM +; genotype B3	Nigeria	U.S. resident returning	Internationally imported
2002	41y	Unknown	IgM +	Soviet Union	Foreign visitor	Internationally imported
2002	31y	Unknown	None, epi-linked	None	U.S. resident, epi-linked to TN resident returning from Philippines	U.S. acquired – import-linked
2003	12y	None	IgM +	Nigeria	Foreign visitor	Internationally imported
2004	40y	Unknown	IgM +	Republic of Georgia	Foreign visitor	Internationally imported
2008	54y	Unknown	IgM +; genotype D4	Pakistan	U.S. resident returning	Internationally imported
2009	7m	None	IgM +, genotype H1	None	U.S. resident, visited international airport	U.S. acquired – imported virus
2010	22y	Unknown	IgM +	Ethiopia	Foreign visitor	Internationally imported
2012	32y	1 MMR	IgM +; genotype D8	None	U.S. resident, worked at international airport	U.S. acquired – imported virus
2012	10m	None	None, epi-linked	None	U.S. resident, epi-linked to above case	U.S. acquired – imported virus

Source: Jessica Tuttle, MD, Ebony Thomas, MPH, Georgia Department of Public Health Epidemiology Program

Let's Add One More...

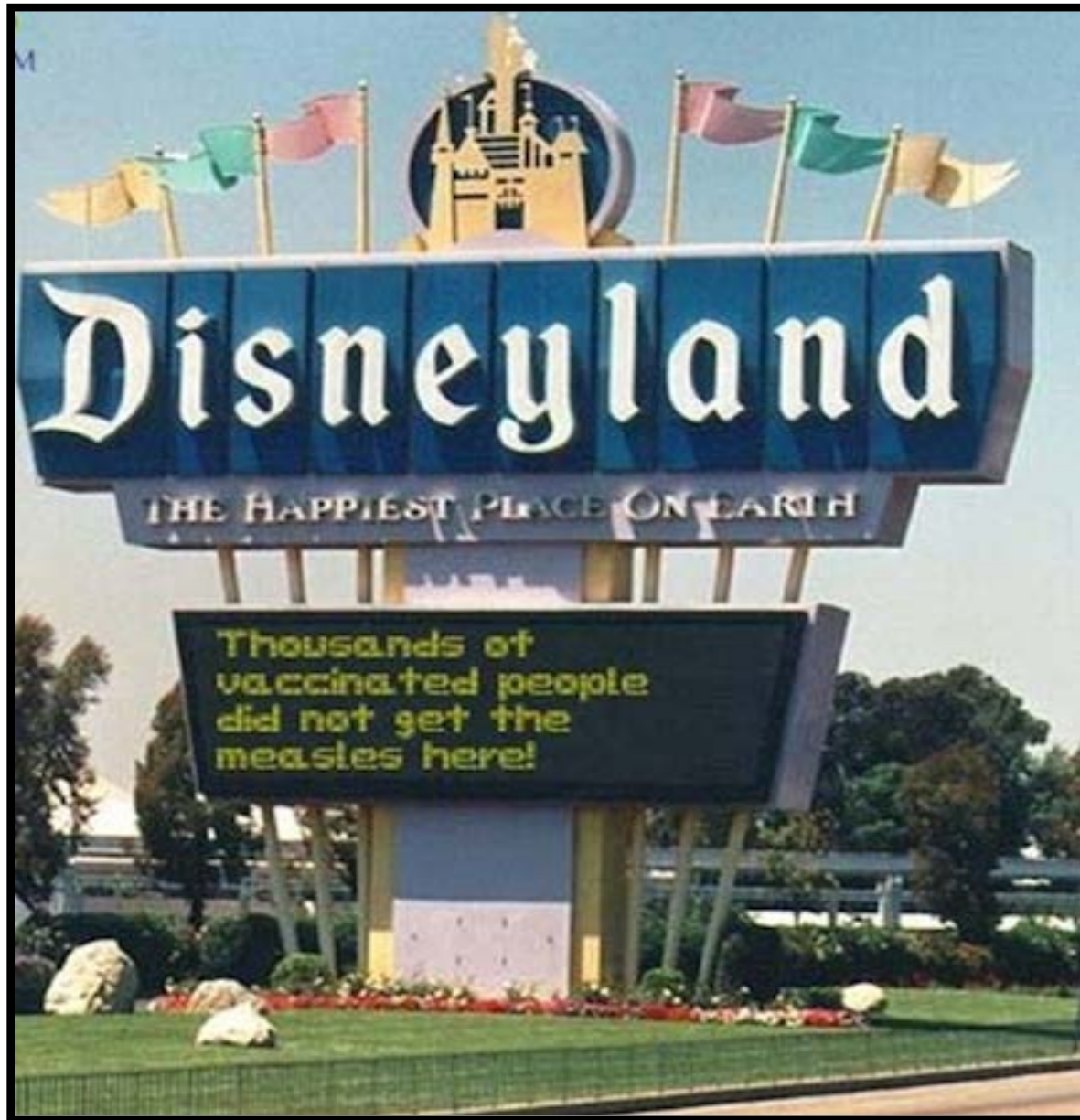
- On Feb. 4th, a 9-month old and parents arrived in Atlanta from Kyrgyzstan (currently experiencing a large measles outbreak)
- Baby's rash began on February 2, flew with rash on 3 flights total: to Istanbul, Chicago, then to ATL.
- Presented to hospital ED on Friday night, Feb 6th; measles confirmed by GPHL on Saturday morning, Feb 7th.
- Measles is a public health emergency; is contagious 4 days before the rash begins until 4 days after



Contact Investigation

- Substantial—about 400 contacts from hospital ED, health department clinic, airline flight, apartment complex, and resettlement organization.
- Exposed persons were contacted and evaluated for measles susceptibility.
- Focus on infants, pregnant women, and immunosuppressed individuals
- To prevent measles infection, we provided either MMR vaccine or immune globulin (IG) as appropriate to susceptible contacts.
- Believe it or not, NO SECONDARY CASES!





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Aisle 2: Gluten-Free Water

It's gluten-free, sugar-free, dairy-free, soy-free, egg-free, & fat free. They call it "water" and you can buy it at Whole Foods apparently.



your  cards
someecards.com

Unfortunately, Not *Cryptosporidium*-Free



Outbreak of Cryptosporidiosis Associated with A Neighborhood Pool, 2014

- *Cryptosporidium* is a single-celled parasite found in the intestines of infected human and animals; is distributed worldwide.
- *Cryptosporidium* is shed in the feces of infected humans or animals; may then contaminate soil, food, water, or surfaces. Can be shed for up to 2 weeks after symptoms stop.
- People can become infected by ingesting food or recreational water contaminated with fecal matter; the incubation period is about a week (2-10 days).
- *Cryptosporidium* causes watery diarrhea that can wax and wane over a period of 1-2 weeks.
- *Cryptosporidium* is chlorine-resistant and can live for days in chlorine-treated water.
- *Cryptosporidium* is one of the most frequent causes of waterborne disease among humans in the United States.

Outbreak of Cryptosporidiosis Associated with A Neighborhood Pool, 2014

- On August 9, 2014, the Epidemiologist in DeKalb County was notified about an outbreak of diarrheal illnesses at a private neighborhood swim club (has a main pool and a kiddy pool).
- First onset of illness was 8/5. Sixty-three (63) cases were identified between 8/5 - 8/18; 12 were lab-confirmed to have *Cryptosporidium* infection.
- 80% of cases occurred among children (overall age range 1-70 yrs); incubation period ranged from 1-6 days (median 3 days); 0 were hospitalized.
- Water samples collected from the main and kiddy pools on 8/12 were both positive for *Cryptosporidium*.

Cryptosporidium Outbreak: Why? How?

- Epidemiologic cohort investigation implicated swallowing water in both kiddy and main pools to be associated with *Cryptosporidium* infections (main pool higher risk)
- Environmental investigation found adequate chlorine levels in both pools.
- *Cryptosporidium* is an extremely chlorine-tolerant parasite, so even well-maintained pools can spread Crypto among swimmers
- This outbreak likely due to persistent high levels of Crypto in water
- Remediation: Pools were closed and subject to hyper-chlorination to kill *Cryptosporidium*.

Prevention

NOTICE

PERSONS HAVING CURRENTLY ACTIVE DIARRHEA OR WHO HAVE HAD ACTIVE DIARRHEA WITHIN THE PREVIOUS 14 DAYS SHALL NOT BE ALLOWED TO ENTER THE POOL WATER.

- Do not swim in recreational water if you have cryptosporidiosis (or any diarrheal illness) and for at least 2 weeks after the diarrhea stops.
- Immersion in the water is enough for contamination to occur (a fecal accident is not necessary).

Crypto Prevention



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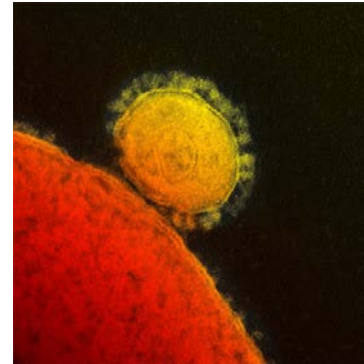
Aisle 3: Whole Foods Sells Camel Milk? Yes, Really.



**ONLY
\$25.99/BOTTLE**

Global Outbreak of MERS-Coronavirus Infections, 2012-2015

- In April 2012, a novel coronavirus called Middle East Respiratory Syndrome Coronavirus (MERS-CoV) was identified as the cause of severe respiratory infections and deaths among persons in the Arabian Peninsula.
- Since then, 1075 confirmed cases of MERS-CoV infection (and 404 deaths) have been reported from 23 countries (Austria and Turkey new)
- 14 countries have had travel-associated cases, including 2 cases in the U.S. during May 2014.
- Why are we still talking about MERS? Recent surge in Saudi Arabia; still poses a risk to U.S.



Credit: Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases, NIH

MERS Co-V, 2012-15: Epidemiology

- Severe illness; high case fatality rate (30-40%)
- MERS more common in older men with underlying conditions
- Median incubation period= 5 days (range: 2-14 days).
- **Travel-associated cases and clusters**
- **Spread in healthcare settings (patients and HCW)**
- **Recent cases in Saudi Arabia documented exposure to raw camel's milk**
- MERS-CoV found in healthy dromedary **camels** in Egypt and Saudi Arabia (same sequence as case-patients)
- Anew study of MERS-CoV in camels suggests that the virus primarily or exclusively infects calves.

MERS Co-V, 2012-15: Epi Summary Drives Prevention

People Who May be at Increased Risk of MERS (travel, healthcare, camels)

- Recent travelers from the Arabian Peninsula
- Healthcare personnel not using recommended infection prevention measures
- People with exposure to camels (especially camels under 2 years old)
- WHO says people with underlying health conditions should:
 1. Avoid contact with camels
 2. Not eat undercooked camel meat
 3. **Not drink raw camel milk** or raw camel urine

FALLING IN
LOVE
WITH MILK
— *from a* —
CAMEL



We Protect Lives.



We Protect Lives.

Aisle 4: Uh Oh! Gluten!





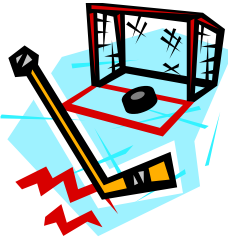
We Protect Lives.

Gluten



Ebola Virus Disease Epidemic, 2013-15

Surveillance Goals in the US and GA



- Besides the three epicenter countries in West Africa, six other countries have been affected with travel-associated Ebola cases (Mali, Nigeria, Senegal, Spain, U.S., and U.K.), some resulting in localized spread.
- Overall epidemiologic pattern: Travel-associated cases; healthcare-associated transmission

Ebola Surveillance Goal in the US

- **Early detection of suspect cases** that have traveled here--so that early access to medical care and rapid isolation can be implemented

Ultimately, to prevent spread!

Entry Screening and Post-Arrival Monitoring: Select US Airports



- In October, CDC and Customs and Border Protection (CBP) announced enhanced entry screening and active monitoring of all travelers from Guinea, Liberia, and Sierra Leone at 5 U.S. airports (JFK, Dulles, Chicago, Newark, Atlanta).
- Added travelers from Mali on November 17; removed them on January 6
- Anyone with a fever or symptoms is referred for immediate medical care
- Individuals with a high risk exposures (needlestick, etc.) may be quarantined
- DPH monitors asymptomatic passengers for 21 days:
 - Twice daily temp and symptom checks
 - Mandatory reporting via web-based system



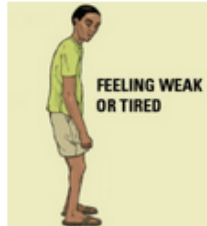
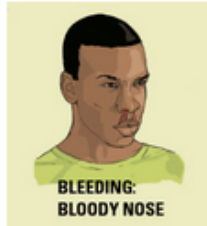
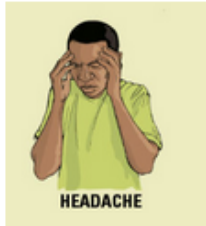
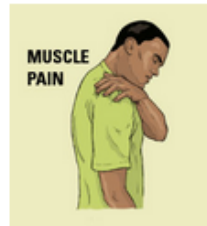
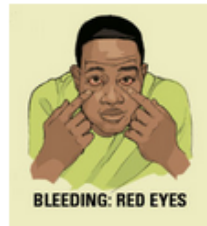
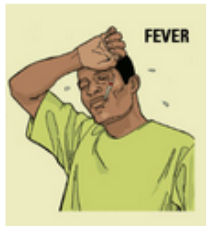
Entering symptoms for: **Karl Ebola Soet** DOB: 01/01/1950

[Click Here](#) for temperature and symptom monitoring instructions

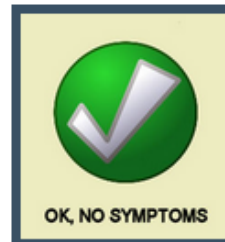
1. Please Choose the Day and Time:

2. Please enter your Temperature: ° F

3. Please indicate any symptoms you are experiencing by clicking the picture(s), then click "DONE" at the bottom:



OR



If you have no symptoms, please click OK, NO SYMPTOMS above and leave the field below blank:

List additional symptoms here:

4. Do you have any trips planned between now and 11/03/2014?:

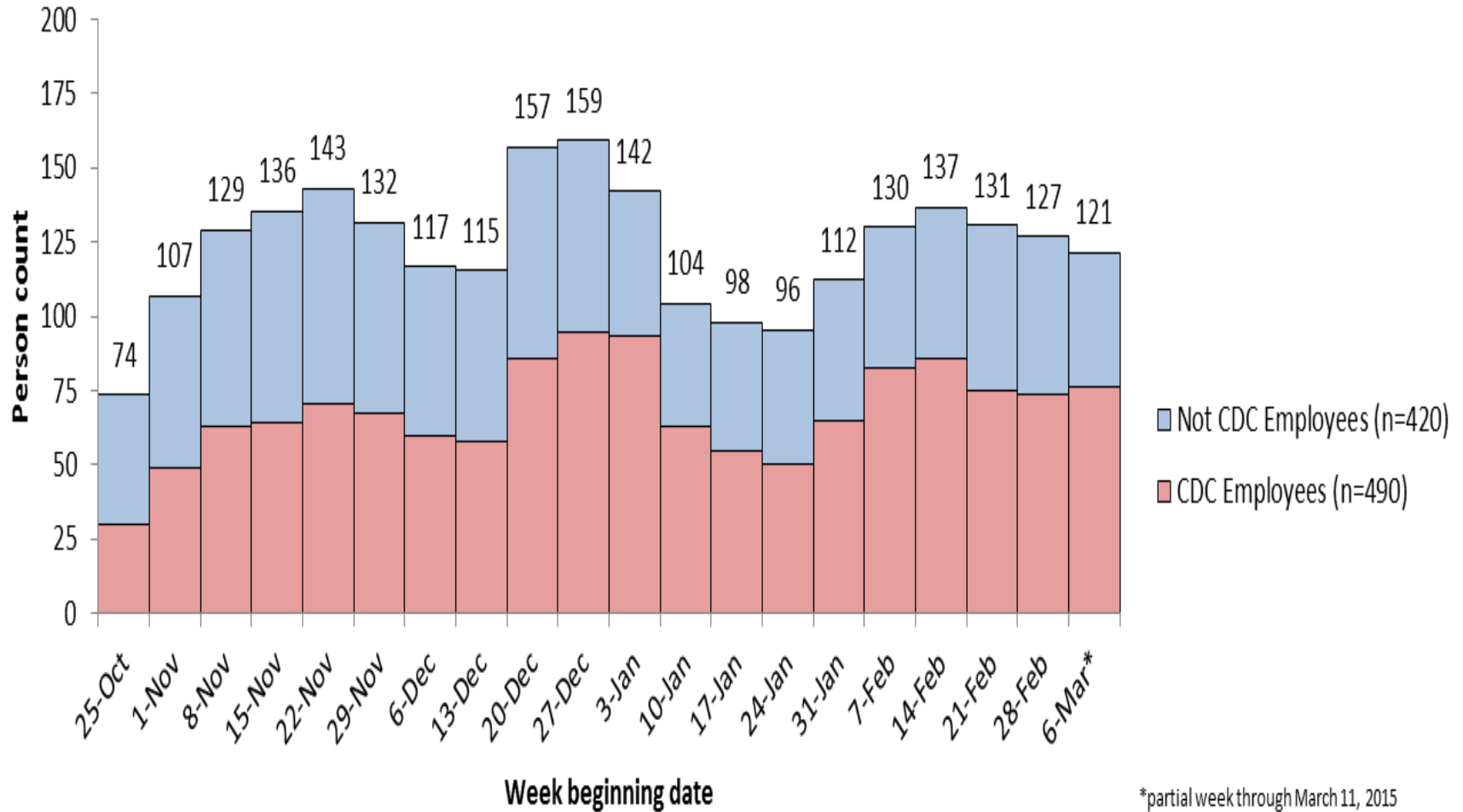
If yes, please describe the where and when you are going, and how you are getting there:

[Click Here](#) for travel approval instructions

Georgia Post-Arrival Monitoring

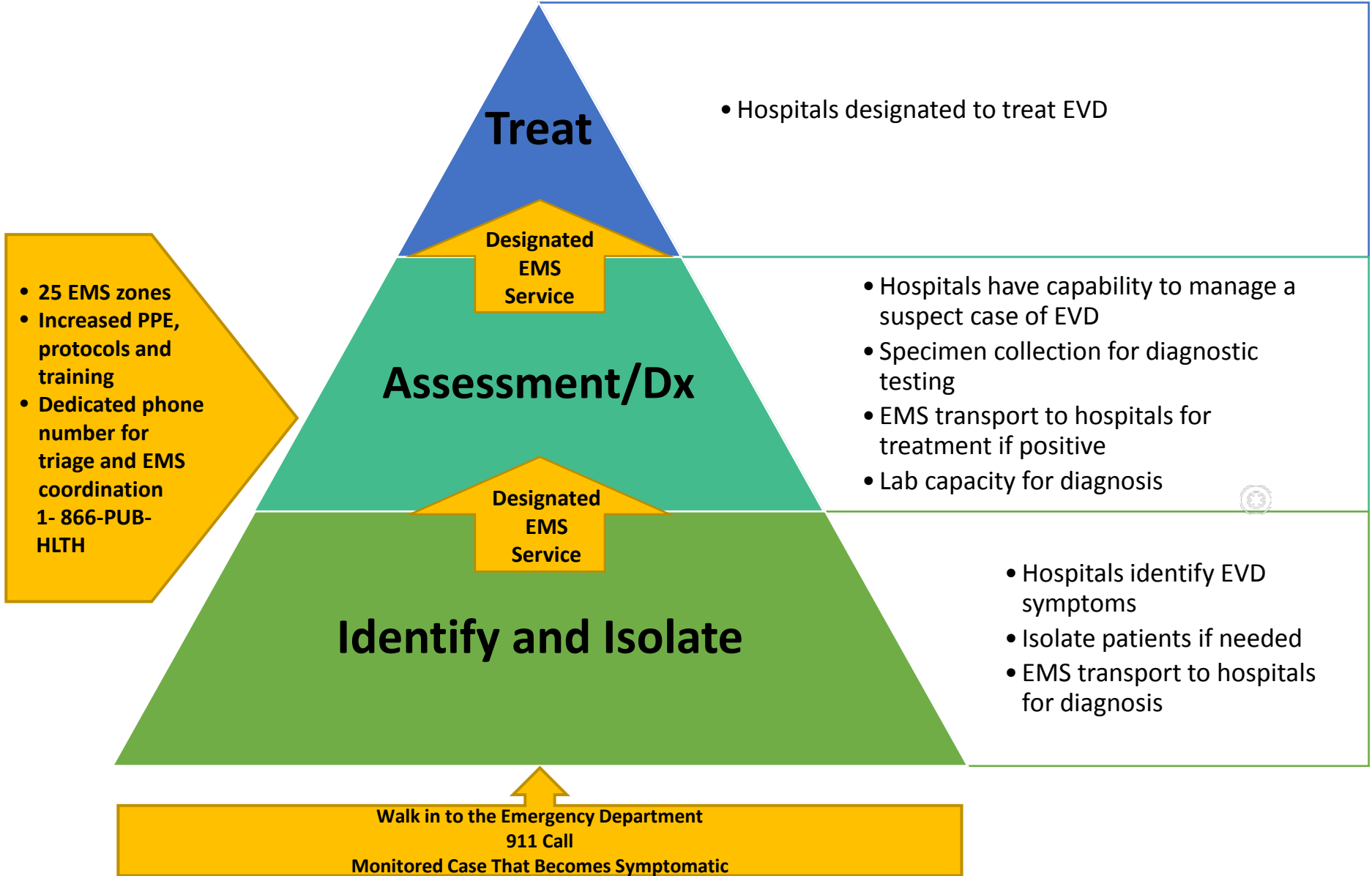
- From October 24, 2014 – March 26, 2015:
 - 1029 travelers have been monitored
 - 125 are currently being monitored (~60% CDC employees)
 - 57 children have been monitored
 - Cumulatively, 25 travelers were medically evaluated for fever. They were diagnosed with flu, URI, gastroenteritis, and malaria.
 - We have directly (in-person) monitored 25 healthcare workers with risk of Ebola exposure, including 5 with high-risk exposures who needed to be quarantined. All remained asymptomatic.

Persons Under Ebola Active Monitoring by Week (Mean) Georgia 2014-2015





Georgia 3-Tiered Hospital Plan



Aisle 5: Breakfast




Checkout



Step 1: Bag Shaming

Checkout

Step 2: Sticker Shock



1234 Mandatory Blvd. Los Angeles, CA 90000

2 SEEDLESS GRAPES	65.99 F
ITEM WE WROTE "ORGANIC" ON TO CHARGE YOU AN EXTRA 5 BUCKS	13.50 F
3 LEAVES OF KALE YOUR GIRLFRIEND FORCES YOU TO BUY AND EAT WHEN YOU DAYDREAM OF DOUBLE BACON CHEESEBURGERS	4.49 F
ALL NATURAL MOISTURIZING LOTION (AND BY "ALL NATURAL" WE MEAN IT'S MADE FROM HORSE SEMEN)	23.99 F
PINT OF ICE CREAM YOU THINK WON'T MAKE YOU FAT BECAUSE YOU BOUGHT IT AT WHOLE FOODS	5.49 F
SLICED PINEAPPLES WE BOUGHT IN A CAN FOR \$.79 FROM WALGREENS AND PUT IN A FANCY BIODEGRADABLE CONTAINER	15.99 F
THE 3 PREMIUM OLIVES YOU SECRETLY SAMPLED AT OUR OLIVE BAR (YEAH, WE SAW THAT YOU CHEAP BASTARD)	32.50 F
BOTTLE OF MULTIVITAMINS THAT WE'VE CONVINCED YOU IS SOMEHOW BETTER THAN MULTIVITAMINS ANYWHERE ELSE BUT ARE REALLY JUST SUGAR PILLS	JUST GIVE US WHATEVER YOU HAVE IN YOUR CHILD'S COLLEGE FUND AND WE'LL CALL IT EVEN
4 PAPER BAGS WE CHARGED YOU FOR SINCE YOU DIDN'T BRING YOUR OWN AND ARE THEREFORE "RUINING THE ENVIRONMENT" EVEN THOUGH MOST NORMAL HUMAN BEINGS DON'T THINK TO BRING THEIR OWN BAGS TO A DAMN GROCERY STORE	16.50 F
***OVERLY PRETENTIOUS TAX	20.135.54
BALANCE	20,135.54

Checkout

Step 3: Acknowledgments

- District Epidemiologists
- Georgia Public Health Laboratory
- Melissa Tobin-D'Angelo, MD, MPH
- Hope Dishman, MPH
- Audrey Kunkes, MPH
- Amanda Feldpausch, MPH
- Laura Edison, DVM, MPH
- Jessica Tuttle, MD
- Ebony Thomas, MPH
- Entire Ebola Team (Taylor Guffey, Katy Sanlis, et al)
- YOU!



Not So Fast...



....So That's Why Ebola is Still Here!

We Protect Lives.