



ACUTE GASTROENTERITIS SURVEILLANCE

Monthly Report

12 Mar 2020

Data Summary for:

1–29 Feb 2020

Purpose: To summarize current AGE surveillance data among military recruit and trainee populations

LAB TEST RESULTS

FEB 2020

TOTAL POSITIVE SAMPLES

22

TOTAL TESTED SAMPLES

29

Table 1. All AGE surveillance samples received during the given month undergo diagnostic testing for 21 enteric pathogens. Samples are tested approximately one to two weeks post collection date and/or symptom onset.

| | MCRD-SD | MCRD-PI | RTC-GL | FtLW | NSWC |
|----------------------------|---------|---------|--------|------|------|
| Samples Tested | 0 | 27 | 0 | 1 | 1 |
| Total Positive Samples | - | 22 | - | 0 | 0 |
| Percent Positivity | | 81.5 | | | |
| Total Pathogens Identified | | 28 | | | |
| Norovirus GII | | 19 | | | |
| Adenovirus | | 9 | | | |

Note: Fecal shedding of adenovirus vaccine strains is expected in recruits. Positive specimens listed here are pending sequencing.

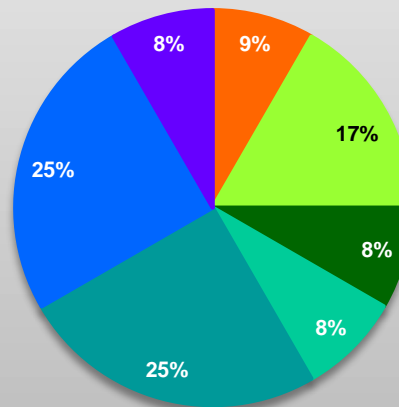
ENTERIC PATHOGEN CHARACTERIZATION – NOROVIRUS GENOTYPING

JUN 2019 – JAN 2020

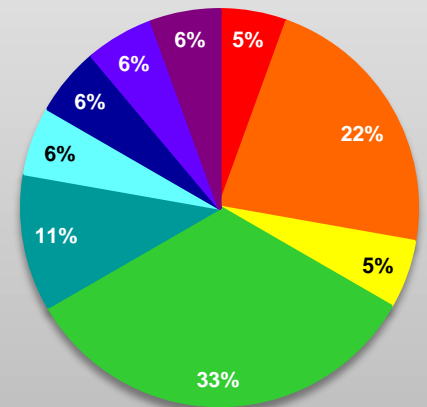
Figure 1. NHRC-OID received previously identified enteric pathogen-positive specimens from collaborators at USAFSAM and CDC-CDHP-BIDS (U.S.-Mexico border surveillance sites) for advanced characterization. The graphs indicate norovirus genotypes identified from specimens received between June 2019 – January 2020.

Norovirus genotypes GI.1 and GII.4 are included in the Takeda® norovirus vaccine currently under human clinical trial investigation.

USAFSAM
Submitted Specimens
n=12



U.S.-Mexico Border
Submitted Specimens
n=18



- GI.1[P1] ■ GII.3[P12]
- GI.3[P3] ■ GII.3[P untypeable]
- GI.5[P4] ■ GII.4 untypeable[P4 New Orleans]
- GII.1[P16] ■ GII.4 Sydney[P16] ■ GII.4 untypeable[P16] ■ GII.4 Sydney[P31] ■ GII.5[P40] ■ GII.7[P7] ■ GII.17[P17][P3]

AGE Recruit and Trainee Surveillance Sites: Marine Corps Recruit Depot San Diego, Marine Corps Recruit Depot Parris Island, Recruit Training Command Great Lakes, Fort Leonard Wood, Naval Special Warfare Center, Camp Pendleton 31 Area.

CDC-CDHP Border Infectious Disease Surveillance Sites: El Centro Regional Medical Center Outpatient Calexico, El Centro Regional Medical Center Outpatient El Centro.

Acute Gastroenteritis (AGE) Case Definition: ≥ 3 episodes of vomiting and/or diarrhea in 24 hr OR ≥ 2 episodes of vomiting and/or diarrhea in 24 hr presenting with at least two of the following symptoms: vomiting, diarrhea, abdominal cramps, abdominal pain, fever, nausea, blood/mucus in stool.

Abbreviations: EIEC – enteroinvasive *Escherichia coli*, EAEC – enteroaggregative *E. coli*, ETEC – enterotoxigenic *E. coli*, EPEC – enteropathogenic *E. coli*, STEC – shiga toxin-producing *E. coli*.



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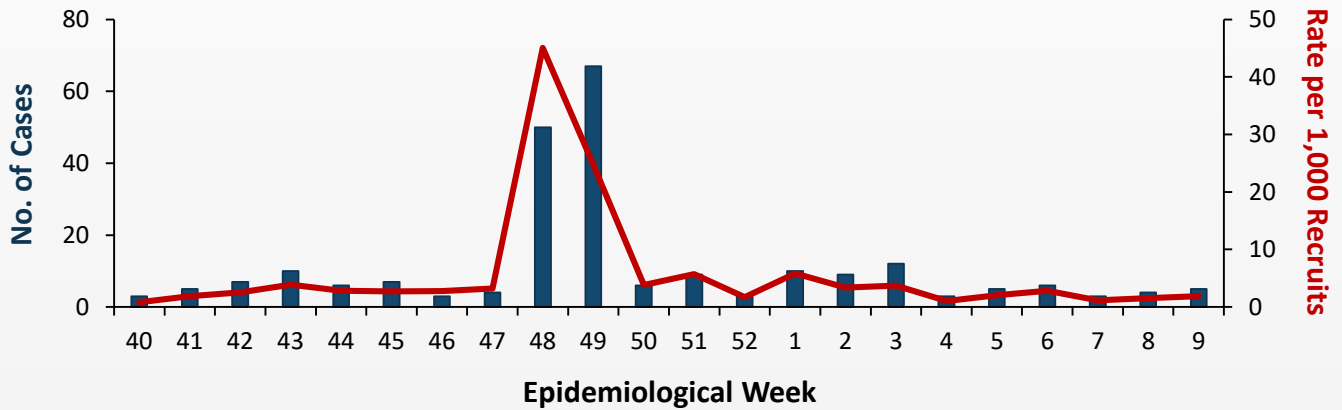
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CUMULATIVE AGE INCIDENCE AMONG MILITARY RECRUITS

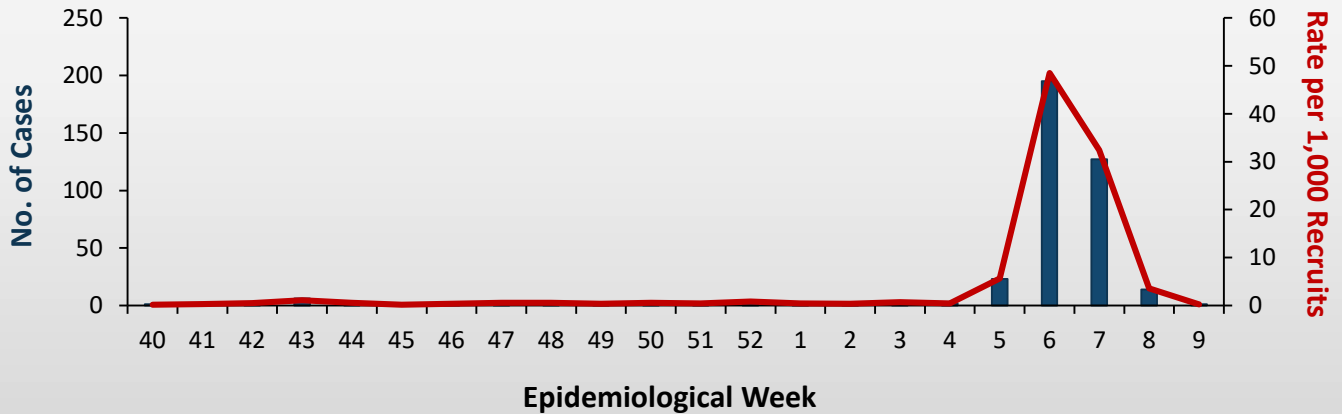
29 SEP 2019 – 29 FEB 2020

Figure 2. Recruits meeting AGE case definition, epidemiological week 40 to date (blue bars). Overall incidence rate, per 1,000 recruits (red line). Note that site graphs are individually scaled.

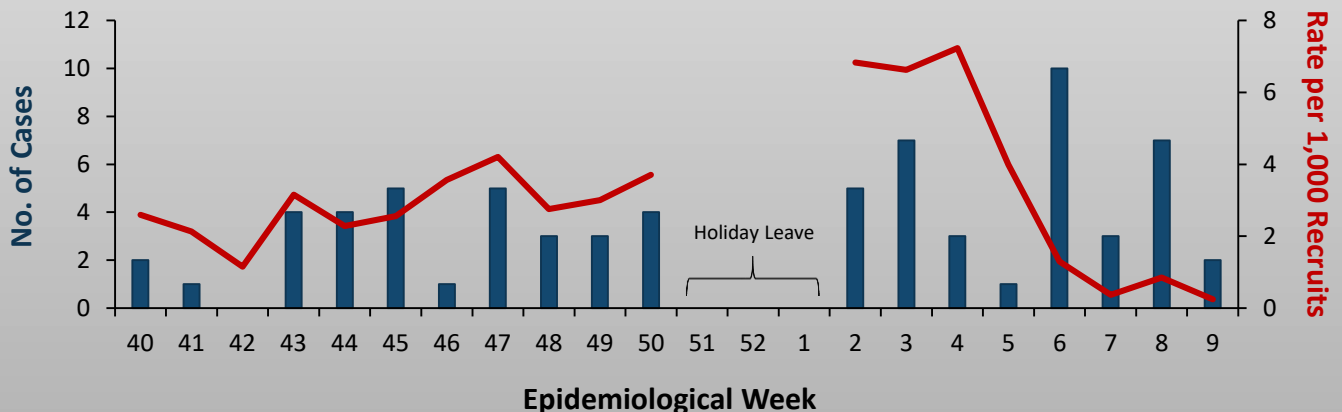
MCRD – San Diego



MCRD – Parris Island



Fort Leonard Wood



RTC – Great Lakes: Data pending while research assistant position is in transition.