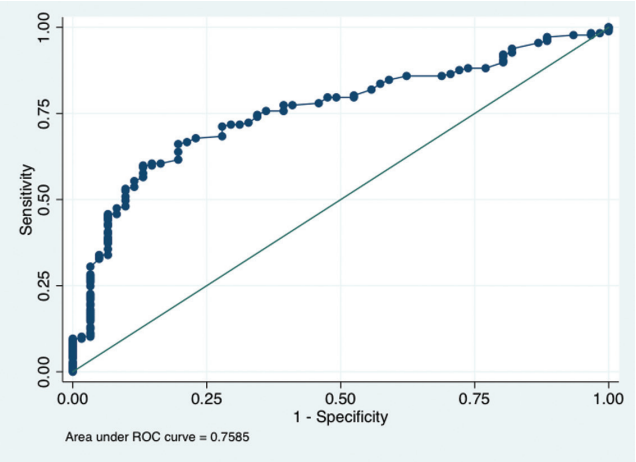
Table 1: Toxin EIA and PCR Ct Performance

RefStd (n for QCC)	QCC EIA (*n* = 253) Sn	QCC EIA (*n* = 253) Sp	IC EIA (*n* = 218) Sn	IC EIA (*n* = 218) Sp	Median PCR Ct (Ref+/Ref–)
PCR+ only (253)	0.36		0.34		24.3
PCR+ / Cx+ (211)	0.41	0.93	0.39	0.94	23.7 / 29.1**
PCR+ / CCCNA+ (128)	0.69	0.99	0.65	0.99	22.2 / 28.5**
PCR+ / cCDI+ (103)	0.46	0.71	0.47	0.74	23.6 / 25.2*
PCR+ / Cx+ / cCDI+ (89)	0.51	0.73	0.51	0.76	23.2 / 26.1*
PCR+ / CCCNA+ / cCDI+ (63)	0.73	0.77	0.72	0.80	21.8 / 26.3**

Ref+ vs. Ref- (Wilcoxon rank-sum): *$P < 0.05$; **$P < 0.0001$.

Figure 1. ROC Curve of PCR Ct to Identify PCR+ / CCCNA+ / cCDI+ Children.



Disclosures. **L. Kociolek**, Alere/Techlab: Investigator, Research support.

1095. The Value of Hardwiring Diagnostic Stewardship in the Electronic Health Record: Electronic Ordering Restrictions for PCR-Based Rapid Diagnostic Testing of Diarrheal Illnesses

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Session: 132. Diarrhea Diagnostic Dilemmas
Friday, October 5, 2018: 12:30 PM

Background. In 2015, the microbiology laboratory introduced a multiplex PCR test (FilmArray™ Gastrointestinal Panel (GIP)), replacing traditional stool culture. The GIP is faster and more sensitive than traditional stool culture, detecting 22 common viral, bacterial, and parasitic pathogens; but is significantly more expensive. The antimicrobial stewardship program (ASP) developed guidelines on test use and interpretation, recommending inpatient use only once per admission and not after hospital day 5. *C. difficile* test results from the GIP were not reported at any time.

Methods. Inpatient GIP use was reviewed over one year and considered inappropriate if performed >3 days after admission or repeated. Noncompliance with ASP recommendations was common; no meaningful pathogens were detected upon review of all inappropriate GIP use. An inpatient GIP electronic order restriction was implemented in April 2017 eliminating the ability to order tests inappropriately. GIP testing outside the restriction could be approved by the microbiology lab director. We captured separate *C. difficile* testing rates as a counterbalance measure. We used Poisson regression models to compare the rate of GIP and *C. difficile* tests per month between Period 1 (July 2015–March 2017) and Period 2 (April 2017–March 2018) per 1,000 patient-days (PD).

Results. The restriction resulted in a 26% reduction in GIP ordering rates between the two periods (Table 1, Figure 1). Direct cost savings was approximately $63,000. Table 1 shows changes in *C. difficile* test ordering rates during Periods 1 and 2. When including GIP tests that were ordered but not completed, potential GIP testing was reduced by 46% for a savings of $131,000 (Figure 2). Only 42 test overrides were approved by the microbiology director since the intervention; of those only two were positive (*Cryptosporidium* and *Norovirus*).

Table 1: Differences in Test Ordering Between Two Periods

	Period 1	Period 2	Estimated Risk of Ordering (95% CI)	*P*-value
GIP Rate	7.03	5.22	0.74 (0.65, 0.84)	<0.0001
C-Diff Testing Rate	2.66	2.23	0.84 (0.74, 0.94)	0.0039

Conclusion. Diagnostic stewardship of GIP using guidelines and electronic ordering restrictions can lead to meaningful improvements in test appropriateness and reduction in cost and waste, demonstrating the value of ASP interacting with the microbiology laboratory.

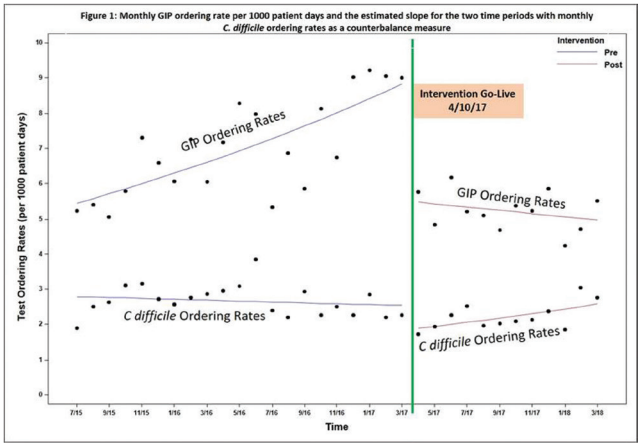
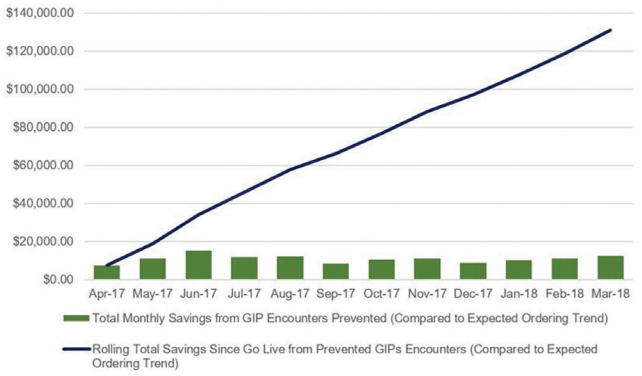


Figure 2: GIP savings from encounters prevented since Go Live – compared to expected ordering trend



Disclosures. **All authors:** No reported disclosures.

1096. Effect of Diarrheal Illness During Pregnancy on Adverse Birth Outcomes in Nepal

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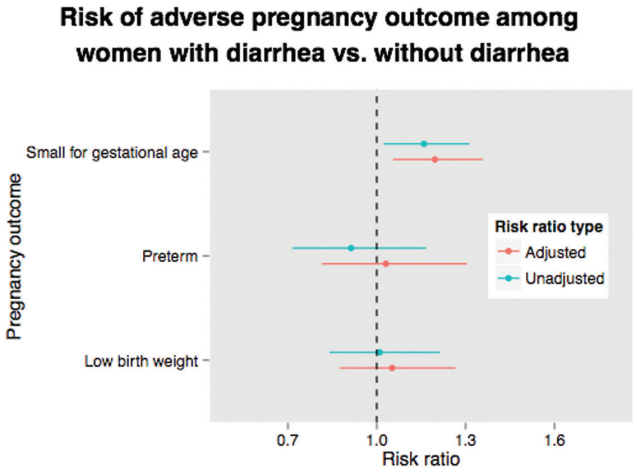
Session: 133. Enteric Infections
Friday, October 5, 2018: 12:30 PM

Background. Adverse birth outcomes, including low birthweight (LBW), small-for-gestational-age (SGA) and preterm birth, contribute to 60–80% of infant mortality worldwide. Little published data exist on the association between diarrhea during pregnancy and adverse birth outcomes. We sought to identify whether diarrhea during pregnancy was associated with adverse birth outcomes.

Methods. We used data from a community-based, prospective randomized trial of maternal influenza immunization of pregnant women and their infants conducted in rural Nepal from 2011 to 2014. Illness episodes were defined as at least three watery

bowel movements per day for one or more days with 7 diarrhea-free days between episodes. Diarrheal illnesses were identified through longitudinal household-based weekly symptom surveillance. The c^2 test, two-sample *t*-test, and log-binomial regression were performed to evaluate baseline characteristics and the association between diarrhea during pregnancy and adverse birth outcomes.

Results. Of 3,682 women in the study, 527 (14.3%) experienced one or more episodes of diarrhea during pregnancy. Diarrhea incidence was not seasonal. Women with diarrhea had a median of one episode of diarrhea (interquartile range (IQR) 1–2 episodes) and two cumulative days of diarrhea (IQR 1–3 days). Of women with diarrhea, 16.1% (85) sought medical care. Mean maternal age, parity, biomass cook stove use, home latrine, water source, caste, and smoking did not differ in pregnant women with and without diarrhea. In crude and adjusted analyses, women with diarrhea during pregnancy were significantly more likely to have SGA infants (42.6% vs. 36.8%; adjusted risk ratio=1.20, 95% CI 1.06–1.36, $P = 0.005$). LBW and preterm birth incidence did not significantly differ between women with diarrhea during pregnancy and those without. There was no significant association between seeking medical care for diarrhea and birth outcomes.



Note: small for gestational age and low birth weight adjusted models include latrine type, household running water, household electricity, maternal smoking, Brahmin status, Madeshi status. Preterm birth adjusted model includes follow up time; model with additional variables did not converge.

Conclusion. Diarrheal illness during pregnancy was associated with a significantly higher risk of SGA infants in this rural South Asian population. Interventions to reduce the burden of diarrheal illness during pregnancy may have an impact on SGA births in resource-limited settings.

Disclosures. **All authors:** No reported disclosures.

1097. Is Early Bisphosphonate Treatment Safe or Effective for Pyogenic Vertebral Osteomyelitis With Osteoporosis?

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Session: 133. Enteric Infections
Friday, October 5, 2018: 12:30 PM

Background. Patients with pyogenic vertebral osteomyelitis (PVO) are expected to have increased risk of bone loss. Therefore, early bisphosphonate therapy would be clinically effective for PVO patients with osteoporosis.

Methods. A retrospective case review was performed on PVO patients with osteoporosis. PVO patients were divided into three groups: group A (initiation of bisphosphonate within 6 weeks after PVO diagnosis); group B (initiation of bisphosphonate between 6 weeks and 3 months after PVO diagnosis), and group C (no treatment for osteoporosis). Cox proportional hazard model was used to evaluate long-term effectiveness and safety of bisphosphonate in PVO patients, and event of interests included surgical treatment, recurrence of infection, subsequent fracture of adjacent vertebral bodies, and death.

Results. A total of 360 PVO patients with osteoporosis were investigated for the four events of interest. Group A PVO patients had significantly lower hazard ratios for undergoing later (more than 6 weeks after diagnosis) surgery than group C PVO patients ($P = 0.014$ for model 1 and 2) (Figure 1) despite similar occurrences of overall surgery. Significant difference was also observed in the occurrence of subsequent fractures at adjacent vertebral bodies ($P = 0.001$ for model 1 and $P = 0.002$ for model 2), and group A and B PVO patients had significantly lower hazard ratios for subsequent fracture than group C PVO patients (Figure 2). There were no significant differences in the hazard ratios of recurrence and death among the three groups.

Conclusion. Early bisphosphonate treatment in PVO patients with osteoporosis was associated with significantly lower occurrence of subsequent vertebral fracture at adjacent vertebral bodies, and lower occurrence of later surgery.

Figure 1. Cumulative probability of surgery according to the treatment group. (a) surgery free survival for overall surgery and (b) surgery free survival for later surgery.

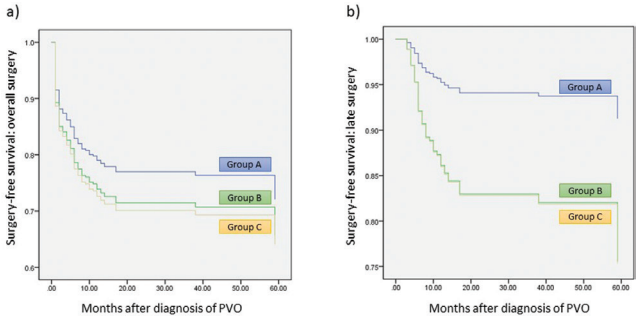
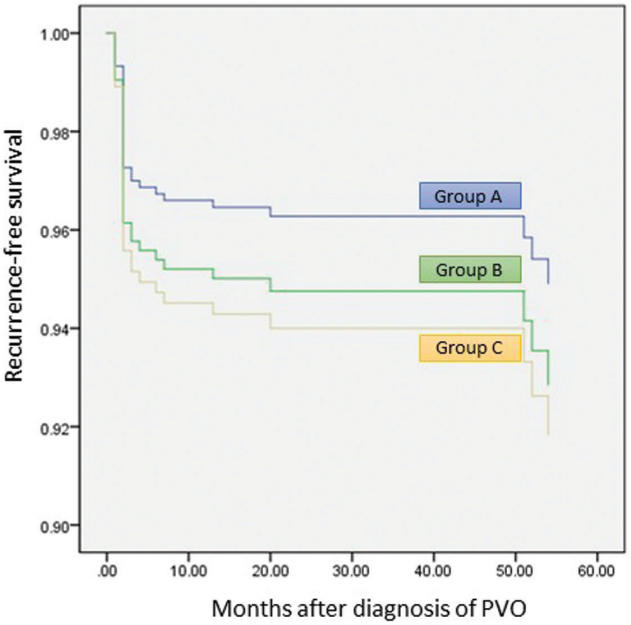


Figure 2. Cumulative probability of subsequent fracture on adjacent vertebral bodies.



Disclosures. **All authors:** No reported disclosures.

1098. Clinical Features and Outcomes of United States Marine Corps Recruits Hospitalized With Shiga Toxin-Producing *Escherichia coli* Infection and Hemolytic–Uremic Syndrome

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Session: 133. Enteric Infections
Friday, October 5, 2018: 12:30 PM

Background. Shiga toxin-producing *Escherichia coli* (STEC) is associated with potentially life-threatening dysentery, along with its most feared complication, the hemolytic–uremic syndrome (HUS), occurring in up to 20% of STEC-infected patients. 10–30% of patients may experience chronic renovascular and neurologic sequelae after acute resolution. We describe clinical features and outcomes of a young, male military recruit population hospitalized for STEC infection and HUS in 2017.

Methods. Between October and November 2017, an STEC outbreak occurred at Marine Corps Recruit Depot San Diego (MCRD-SD) affecting 244 recruits, including 30 who required hospitalization. Polymerase chain reaction and pulsed-field gel electrophoresis of stool culture isolates demonstrated *stx2*-positive *E. coli* O157:H7. Thirty recruits required hospitalization; the remaining 214 underwent daily clinical evaluation and laboratory testing at MCRD with daily crystalloid volume expansion until the resolution of dysentery.

Results. 50% (15/30) of hospitalized recruits developed HUS and were initially managed with volume expansion until the onset of oliguria. Five recruits with severe HUS required hemodialysis; six required intensive critical care unit (ICU) admission; and three suffered from respiratory failure requiring mechanical ventilation. Average length of hospitalization was 10 days. Patients requiring hemodialysis received an