bowl 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 c² 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.

Diabetes 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 diarrhea illness during pregnancy may have an impact on SGA births in resource-limited settings.

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1097. Is Early Bisphosphonate Treatment Safe or Effective for Pyogenic Vertebral Osteomyelitis With Osteoporosis? Jihye Kim, Doctor’ and Tae-Hwan Kim, Professor1; 1Division of Infection, Pediatrics, Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Seoul, Korea, Republic of (South), 2Spine Center, Hallym University Sacred Heart Hospital, Anyang, Korea, Republic of (South)

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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 interest 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 differences were 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.

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1098. Clinical Features and Outcomes of United States Marine Corps Recruits Hospitalized With Shiga Toxin-Producing Escherichia coli Infection and Hemolytic–Uremic Syndrome Terrel Sanders, MD1; Graham Ellis, MD2; Philip Castrovinci, MD3; Robert Deiss, MD4 and Ryan Maves, MD5; FIDSA6; 1Infectious Diseases Clinical Research Program, Uniformed Services University, Bethesda, Maryland, 2Infectious Diseases Clinical Research Program, Uniformed Services University, Bethesda, Maryland, 3Infectious Diseases Clinical Research Program, Uniformed Services University, Bethesda, Maryland, 4Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, Maryland

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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

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.
average 7.4 days of renal replacement. Three patients experienced enchephalopathy with seizures and were managed with levetiracetam and corticosteroids for Sx-induced cerebral edema. One patient received ecilizumab, a terminal complement inhibitor approved for atypical HUS, with resolution of seizures and return to his neurocognitively baseline but with persistent electroencephalographic abnormalities. There were no deaths, and all recruits had recovery of renal function.

**Conclusion.** This case series represents the largest STEC-HUS outbreak affecting a military population. Rates of HUS and mortality were lower than seen in prior outbreaks, in part due to a high level of baseline health and early detection and management of suspect cases. The limited volume expansion and the monitoring of cases may have reduced the risk for HUS progression and long-term sequelae.

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1101. Comparison of Clinical Characteristics and Demographics of GII.4 vs. Other GII Noroviruses Associated With Sporadic Acute Gastroenteritis in Children in Nashville, TN, 2012–2015

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**Background.** Norovirus is a leading cause of acute gastroenteritis (AGE) in all age groups, with diarrhea in children of all age groups expected. Most outbreaks over the last 15 years have been caused by genogroup II (GI) viruses, of which GI.4 viruses have caused more than 50%. Since clinical differences between different genotypes are poorly understood, we sought to compare clinical characteristics in children non-GI.4 norovirus (GII) vs. GI.4.

**Methods.** We used the 2006–2015 National Hospital Ambulatory Medical Care Survey (NHAMCS) EDs and Outpatient Ambulatory Medical Care Survey to describe antibiotic prescribing for AGE. An AGE visit was defined as one with a new problem (<3 months) as the main visit indication and an ICD-9 code for bacterial or viral gastrointestinal infection or AGE symptoms (nausea, vomiting, and/or diarrhea). We excluded visits with ICD-9 codes for diarrhea or AGE symptoms (nausea, vomiting, and/or diarrhea). We estimated the number of fecal EPEC using a qPCR for eaeA subsets carrying eaeA/lifA which encodes for adherence factor 1/lymphocyte inhibitory factor A, are associated with diarrhea. The role of EPEC and its subtypes as agents of epidemiologic associations with diarrhea from atypical EPEC (aEPEC, carrying eaeA/lifA subsets carrying eaeA/lifA, primarily GI.4 isolates and GI.4, primarily E. coli O45, predominantly GI.4, primarily E. coli 042, predominantly GI.4) and GI.4.

**Results.** We estimated the number of fecal EPEC using a qPCR for eaeA subsets carrying eaeA/lifA (which encodes for adherence factor 1/lymphocyte inhibitory factor A) which are associated with diarrhea. The role of EPEC and its subtypes as agents of epidemiologic associations with diarrhea from atypical EPEC (aEPEC, carrying eaeA/lifA subsets carrying eaeA/lifA, primarily GI.4 isolates and GI.4, primarily E. coli O45, predominantly GI.4, primarily E. coli 042, predominantly GI.4) and GI.4.

**Conclusion.** Most EPEC in cancer patients with diarrhea are aEPEC acquired in the community and when carrying eaeA/lifA (+), are associated with more severe disease.

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