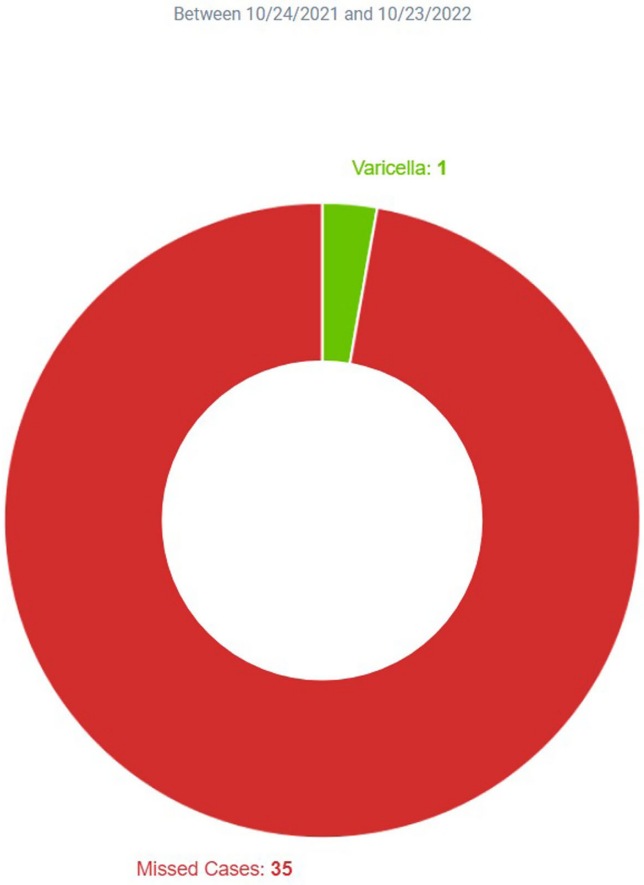
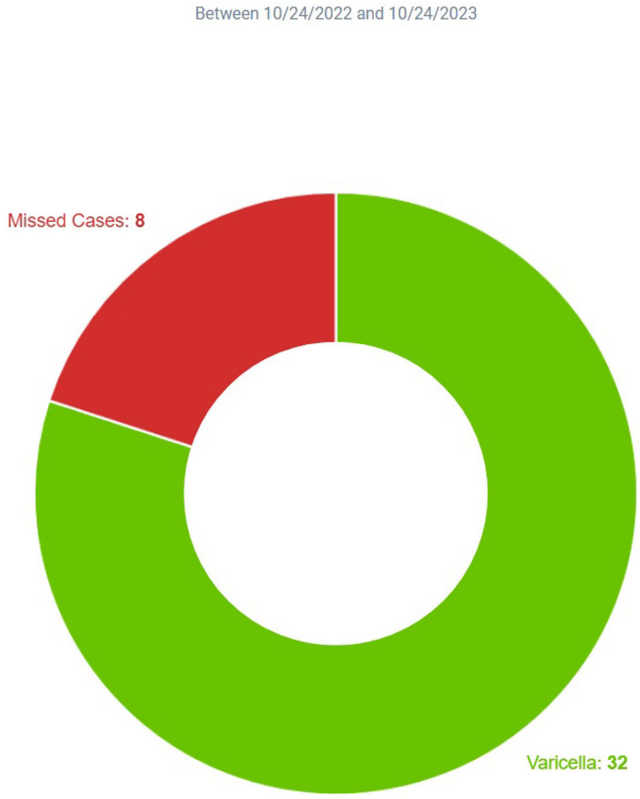
Plan, Do, Study, Act (PDSA) Cycle Summary		
Intervention	Date	Impact
Implemented BPA lookback timeframes of 14 days	November 2022	Reduced erroneous BPA
Correction to logic affecting infection status firing	March 2023	Capture rate 100% after implementation
Excluded problem list diagnosis entries without associated date	March 2023	Reduced erroneous BPA
Creation of provider BPA support for collection, testing and reporting	April 2023	Encourage appropriate testing and reporting





diagnosis codes related to Varicella zoster (VZV) infection charted by ambulatory care providers. These BPAs function by triggering infection statuses that populate the patient chart and include instructions to front line staff on personal protective equipment (PPE) requirements. These BPAs also trigger real-time notifications to the IP team to determine the validity of the infection status and exposure work-up necessity. Chart reviews of diagnosis codes utilized in pre and post intervention timeframes were completed to understand the impact of the silent BPAs. Percentages of patients captured, and Healthcare Worker (HCW) exposure reviews reported were evaluated to demonstrate effectiveness. Plan, Do, Study, Act (PDSA) was utilized to respond to gaps, increase efficiency, and limit erroneous infection statuses. **Result:** The one-year pre-intervention period revealed 36 total diagnosis codes used for Varicella zoster (VZV) infection; 3% of these infection cases were captured and 4% of eligible cases were reported for HCW exposure review. The one-year post intervention period revealed 40 total diagnosis codes used for VZV infection; 80% of these infection cases were captured and 70% of eligible cases were reported for HCW exposure review. PDSA quality improvement cycles allowed for refinement of the BPA logic that further increased infection cases captured to 100% with 100% of eligible cases reported for HCW exposure review. **Conclusion:** Utilizing the EHR, the organization appreciated enhanced identification of patients in real-time with VZV infection that allowed for appropriate mitigation strategies to be implemented. This proactive workflow design helps minimize the risk of transmission between ambulatory and acute settings and facilitated HCW exposure reviews.

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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Quality Improvement

Diagnosing Pneumonia in the Obese: Are Plain Radiographs Enough?

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Introduction: The obesity pandemic presents numerous challenges in radiography, including patients exceeding the weight limits of imaging equipment, difficulties in palpating anatomical landmarks and inadequate penetration resulting in inaccurate diagnoses and need for repeat imaging resulting in increased radiation exposure. Pneumonia is a common reason for hospitalization, but identifying an infiltrate on the chest radiograph (CXR) in obese patients can be challenging. Conversely, motion artefacts may be misinterpreted as areas of pneumonia resulting in over-diagnosis and consequently the overuse of antibiotics. This study evaluated the diagnostic utility of CXR for identifying pneumonia in obese patients by comparing it with computed tomography (CT scan) performed within 72 hours. We also evaluated the impact on initiation or discontinuation of antibiotics – a very important aspect of antibiotic stewardship. **Methods:** All patients admitted between July 2020 and 2022 with a diagnosis of pneumonia who underwent both CXR and chest CT scan within a 72-hour window were included. Patients were divided into two groups obese and non-obese based on BMI. The results were evaluated to determine the concordance between the two modalities in diagnosing pneumonia, as well as its influence on antibiotic therapy. **Results:** A total of 320

patients were included, with a mean age of 65.3 years. 146 (45.6%) were male, and 174 (54.4%) were female. 202 (63.1%) were classified as obese (BMI > 30). CXR was performed as first modality in 313 (97.8%) cases, while 7 (2.2%) underwent CT scan first. In the obese group the overall concordance between the 2 modalities for diagnosing pneumonia was 67.5%. In the non-obese group the concordance was 80.2% ($p < 0.001$). Among the obese patients who underwent CXR first, 11 (5%) had antibiotics discontinued after the CT scan results, while the number was 4 (3%) in the non-obese group. Additionally, 3 patients in the obese group had antibiotics initiated after the CT scan. **Conclusions:** Obesity poses unique challenges to healthcare facilities and imaging equipment. Diagnosing pneumonia in obese patients using CXR alone may result in over-diagnosis. This may lead to unnecessary antibiotic use and delayed diagnosis of alternate disease, or in some cases, missing a pneumonia and under-treatment. A chest CT scan is more sensitive and may be more helpful to identify a pneumonia accurately in these patients and thus facilitate appropriate antibiotic use.

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Going Commando as Part of a Multifaceted Intervention to Reduce CAUTIs in Critically Ill Children
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Background and Objectives: Catheter associated urinary tract infections (CAUTIs) are a source of preventable harm in children. Insertion and maintenance bundles have significantly reduced CAUTIs, but infections still occur. Starting in mid-2019, we experienced an increase in CAUTIs in our pediatric intensive care unit (PICU). The objective was to identify preventable causes of CAUTI and develop and test interventions to reduce them. **Methods:** This quality improvement project was initiated in the PICU of a large tertiary children's hospital. Interdisciplinary rounds led by the hospital epidemiologist and unit nursing leader with the bedside nurse occurred weekly (starting October 2019) for patients with urinary catheters in place for greater than three days. Discussions included strategies to optimize maintenance of the urinary catheter and identify catheters that could be removed. Additional interventions included no diapers for patients with a urinary catheter (starting March 2021) and use of a urine collection device that prevented both urine stasis in the drainage tube and retrograde flow of urine into the bladder (starting August 2021). Hand hygiene and CAUTI prevention bundle compliance was measured by direct observation of staff. CAUTIs were identified by prospective surveillance by infection prevention using standard definitions. The rate of CAUTIs over time was analyzed using statistical process control charts. **Results:** The baseline CAUTI rate (January 2017 - June 2019) was 0.5 infections/1000 catheter days with an average of 349 days between CAUTIs. Between July 2019 and February 2021, the CAUTI rate increased to 3.3 with an average of 88 days between CAUTIs. Annual compliance with hand hygiene and the CAUTI prevention bundle elements remained above 90% throughout all time periods. No improvement was seen after the institution of weekly interdisciplinary rounds. Starting in March 2021 after removal of diapers and implementation of the urine collection device that prevented retrograde flow, the CAUTI rate decreased to 0.9 and an average of 200 days between CAUTIs. Currently, it has been 512 days since the last CAUTI. **Conclusion:** CAUTIs decreased after removing diapers in children with urinary catheters and use of the urine collection device. Removal of diapers likely reduced stool contamination around the catheter and urethral opening. The urine collection device prevented inadvertent retrograde flow of urine into the bladder. These interventions could augment current CAUTI prevention strategies.

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Back to Basics: Blood Culture Contamination Reduction Across a Multicenter Academic Health System
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Background: Blood culture contamination is common in healthcare and contributes to diagnostic uncertainty, unnecessary treatments and follow-up testing, increased length of stay, higher rates of reportable healthcare-associated infections and events, over utilization of resources and staff including consultative care, and undue emotional stress to patients. The national benchmark for institutional blood culture contamination rates as recommended by The American Society for Microbiology (ASM) and the Clinical Laboratory Standards Institute (CLSI) is < 3 %. Our institution's overall rate was 8.9% with the highest burden being from our Emergency Department (ED) locations. We formed a multidisciplinary team aimed to reduce these rates through efforts centered around education and simplification of the collection process. **Method:** Working closely