implemented in Alberta in June 2019. As a result, more SCID patients will be diagnosed earlier in their course, and therefore prior to most routine vaccinations. However, newborn screening will not pick up some types of combined immune deficiencies. Some children may still be at risk of vaccine-associated illnesses due to undiagnosed underlying immune deficiencies.
Funding: None
Disclosures: None
Doi:10.1017/ice.2020.981

Presentation Type:
Poster Presentation
Procalcitonin Use in a Large Community Healthcare System
Mandelin Cooper, HCA Healthcare; Hayley Burgess, HCA Healthcare; Jeffrey Cuthbert, HCA Healthcare; Edward Joel Septimus, Harvard Medical School and Harvard Pilgrim Health Care Institute; Heather Signorelli, HCA Healthcare

Background: Appropriate testing of blood procalcitonin (PCT) can potentially inform antibiotic de-escalation in patients with severe infections. When used along with observed clinical improvements, PCT testing can support antimicrobial stewardship. However, this testing must be used optimally to ensure that it is actionable, cost-effective, and provides patient benefit. Although this test is widely used, little is known about the appropriateness of this testing in select populations. **Methods:** In this retrospective review, we evaluated PCT monitoring patterns and appropriateness of use and relationship to antibiotic days of therapy in a system of community hospitals. We evaluated the use of PCT testing in patients with known confounders, namely pregnancy, chronic kidney disease, or neutropenia, which we classified as "inappropriate use" because these conditions can affect the interpretation of PCT results. We also evaluated the relationship between PCT testing and antibiotic days of therapy for patients with sepsis, pneumonia, or lower respiratory tract infections. **Results:** In a 1-year period, ~206,302 PCT tests were performed at 146 facilities, an average of ~1,413 per facility per year. Approximately 27.7% of these tests were given to patients who were pregnant or had a confounding comorbidity such as chronic kidney disease or neutropenia. Of these "inappropriate" tests, >90% were given to patients with chronic kidney disease. Older patients (aged 60–80 years, n = 93,021) were more likely to receive a PCT test while also having a confounding comorbidities; 24% of older patients with a PCT test also had chronic kidney disease. Of all patients with a PCT test and chronic kidney disease, ~76% were also diagnosed with either sepsis, pneumonia, or lower respiratory tract infections. **Conclusions:** Confounding conditions can affect PCT levels independently of infection. Additionally, some clinicians use PCT tests as probes for other physiological maladies. This analysis demonstrated that there is opportunity for education about the appropriate use of this test, how to interpret results in the presence of confounding conditions, and how to transform PCT test results into actions that facilitate antimicrobial stewardship and better patient care.
Funding: None
Disclosures: None
Doi:10.1017/ice.2020.982

Presentation Type:
Poster Presentation
Process Surveillance and Follow-Up Monitoring to Increase Compliance to Standards in Medical Device Reprocessing
Mark Scott, Infection Prevention and Control, Alberta Health Services; Sharon Wilson, Infection Prevention and Control, Alberta Health Services; Kathryn Bush, Infection Prevention & Control, Alberta Health Services; Karin Fluet, Infection Prevention and Control, Alberta Health Services; Heather Gagnon, Alberta Health Services; Tiffany Herrick, Alberta Health Services

Background: Effective medical device reprocessing (MDR) is essential in preventing the spread of microorganisms and maintaining patient safety. Alberta Health Services (AHS) is an Alberta-wide, integrated health system, responsible for delivering health services to >4.3 million people living in the province. In 2010, periodic province-wide MDR reviews were initiated by the provincial health system to verify that the cleaning, disinfection, and sterilization of reusable critical and semicritical medical devices met established standards. To date, there have been 3 review cycles; in cycle 3, a follow-up process for tracking and reporting corrective actions was initiated. **Methods:** As in previous MDR review cycles, cycle 3 included the use of a standardized suite of tools to measure compliance with standards set by Accreditation Canada, the Canadian Standards Association, and the Government of Alberta. Each cycle involved a review of MDR areas completed by trained reviewers. Interrater reliability among reviewers was maintained through training and debriefings following reviews to ensure agreement. Following reviews, reports were generated for areas, zones, and AHS. As part of the corrective actions and follow-up process, identified deficiencies were categorized into 5 themes. Corrective actions were tracked and periodic reports were generated showing the progress of deficiency resolution. Resolution rates (number of resolved deficiencies divided by total number of of deficiencies) were calculated for each of the identified themes as well as overall for cycle 3. **Results:** Overall compliance for cycle 3 was 93%. Cycle 3 reviews revealed that more than half of the deficiencies (58%) were identified previously in cycle 2. The resolution rates ranged from 78% to 95% for identified deficiencies for 4 of the 5 themes: documentation, technique, PPE/attire/hand hygiene, and other. The theme related to physical infrastructure showed a considerably lower resolution rate of 49%. The corrective action follow-up process showed increased overall resolution rate from 59% at the start of the follow-up process to 82% at its completion. When this resolution rate was applied to the initial survey compliance rate for cycle 3, overall compliance increased to 99%. **Conclusions:** Monitoring quality of MDR practices is essential in maintaining and improving patient safety. The standardized provincial review process identified common themes and a coordinated approach to support the resolution of many identified deficiencies. Most of those deficiencies were resolved; however, those deficiencies related to physical infrastructure of the MDR department continue to be seen across review cycles. This review process with follow up of these deficiencies can help bring attention to organization leadership and Funding: authorities during budget cycles.
Funding: None
Disclosures: None
Doi:10.1017/ice.2020.983

Presentation Type:
Poster Presentation
Proficiency Testing Performances Analysis of Microbiology Laboratories Participating in Cambodia Antimicrobial Resistance (AMR) Surveillance System
Vandarith Nov, Graduate School of Public Health, Yonsei University; Darapheak Chau, National Institute of Public Health; Kimsorn Pa, National Institute of Public Health;

Keodane Hem, National Institute of Public Health; Sidonn Krang, Department of Communicable Disease Control, Ministry of Health, Cambodia

Background: The WHO recommends the establishment of sustainable and evidence-based surveillance systems are recommended for the prevention of microbial resistance. For these surveillance systems, all medical microbiology laboratories are required to participate an external quality assessment (EQA) program that covers antimicrobial susceptibility testing (AST). Clinical microbiology EQA panels with 3 isolates have been provided 3 times per year to antimicrobial resistance (AMR) sentinel laboratories in Cambodia since 2012. We evaluated the performance of laboratory testing implemented between 2016 and 2019, based on 4 years EQA results to highlight the main sources of unsatisfactory analytical processes and to suggest areas for improvement. **Methods:** We analyzed the results of microbiology EQA in 7 AMR surveillance sentinel laboratories from 2016 to 2019, which were coordinated by the National Institute of Public Health (NIPH) under the program of Pacific Paramedical Training Centre (PPTC) from New Zealand. All participating laboratories were required to identify bacteria to the species level, to verify AST results, and to answer a case study question on parasitology. Feedback results and appropriate corrective actions were reviewed to identify the root cause of nonconformity and to suggest areas for improvement. **Results:** Proficiency test results of participating laboratories from 9 cycles with 27 isolates were analyzed. The overall average of EQA result was 94.0%. The laboratories failed to identify the isolated pathogens in 7.0% of the tests and failed to interpret the inhibition zone of AST (ie, resistant, intermediate or susceptible) in 6.0% of tested strains. The main causes of erroneous of PT results were either preanalytical (ie, handling of the samples, timing of analysis, equipment and reagent management), analytical (ie, quality control, unsuitable methods, confusion of samples, or errors of confirmation), or postanalytical mistakes (eg, interpretation guideline, cross-checking of results, or the information management system). Followed by the root causes, internal quality control and inventory management were the highest-priority suggestions for improvement. **Conclusions:** All participating laboratories showed good performance on EQA for evidence-based AMR surveillance. The national antimicrobial resistance data quality is sufficiently good and the data should be shared on national and international platforms. However, the regular monitoring of national AMR surveillance system should be conducted for continued quality improvement.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.984

Presentation Type:
Poster Presentation

Progress in Preventing Bloodstream Infections in Hemodialysis: Data From the National Healthcare Safety Network, 2014–2018

Shannon Novosad, Centers for Disease Control and Prevention; Lucy Fike Minn Soe, Centers for Disease Control and Prevention; Shunte Moon; Preeti Ravindhran; Erikka Woolfolk, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention; Lauren Moccia, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention; Duc Nguyen, Centers for Disease Control and Prevention; Priti Patel, Centers for Disease Control and Prevention

Background: More than 450,000 patients receive outpatient hemodialysis in the United States. Patients on hemodialysis are at high risk of bloodstream infections (BSIs), which are associated with significant morbidity and mortality. National prevention efforts targeting hemodialysis facilities have resulted in widespread changes in practice, including modifications to central venous catheter (CVC) maintenance procedures. We analyzed dialysis event surveillance data submitted to the CDC NHSN to describe changes in BSI rates among hemodialysis outpatients from 2014 to 2018. **Methods:** Outpatient hemodialysis facilities report BSIs (ie, positive blood cultures collected in the outpatient setting or within 1 calendar day after hospital admission) and the number of hemodialysis outpatients treated during the first 2 working days of each month to the NHSN. For each BSI, the suspected source (ie, vascular access, another site, contamination, or uncertain) and vascular access type are indicated: CVC, arteriovenous fistula (AVF) or arteriovenous graft (AVG). Pooled mean rates (per 100 patient months) were calculated for BSIs, access-related BSIs (ARBSIs), and BSIs and ARBSIs were stratified by vascular access type. Annual BSI rate trends were

Figure Pooled mean bloodstream infection rates (per 100 patient-months), incidence rate ratios, and average annual percent change, by vascular access type, National Healthcare Safety Network (NHSN) Dialysis Event Surveillance, 2014–2018

							Annual Trends	
Event	Access type	2014	2015	2016	2017	2018	Incidence rate ratio (95% CI)	Average annual % change (95% CI)
BSI	ALL	0.64	0.60	0.56	0.51	0.47		
BSI	Fistula	0.26	0.24	0.22	0.21	0.18	0.92 (0.91, 0.93)	-8.2 (-9.1, -7.3)
	Graft	0.39	0.39	0.37	0.35	0.33	0.95 (0.93, 0.98)	-4.7 (-7.1, -2.2)
	CVC	2.16	2.01	1.86	1.72	1.46	0.90 (0.88, 0.93)	-9.5 (-11.5, -7.5)
ARBSI	ALL	0.49	0.45	0.42	0.39	0.36		
ARBSI	Fistula	0.16	0.13	0.13	0.12	0.11	0.93 (0.92, 0.94)	-7.2 (-8.3, -6.1)
	Graft	0.27	0.26	0.25	0.25	0.24	0.97 (0.94, 1.00)	-3.4 (-6.3, -0.3)
	CVC	1.83	1.68	1.57	1.46	1.24	0.91 (0.88, 0.93)	-9.4 (-11.7, -6.9)

ARBSI=Access-related bloodstream infection, BSI=Bloodstream infection, CVC=Central venous catheter, CI=Confidence interval

Fig. 1.