was to determine the effect of meropenem stewardship on the prevalence of Carbapenem-resistant Acinetobacter Baumannii, Carbapenem-resistant Pseudomonas Aeruginosa and evaluate meropenem cost of purcashing. Retrospective cohort study from medical records, pharmacy records and microbiology data from microbiology from 2020 to 2023 was taken. Data is presented in the form of tables and graphs. **Results:** Before antimicrobial stewardship was implemented, in 2020 the prevalence of Carbapenem-resistant Acinetobacter Baumannii reached 69.1% and began to decline in 2021 by 52.35%, in 2022 it became 43.8% and 44.3% in 2023, respectively. The prevalence of Carbapenem-resistant Pseudomonas Aeruginosa also decreased, in 2020 was 31.6% to 27.3% in 2021, in 2022 it fell again to 24.8% and in 2023 only 18.4%. The cost of purchasing meropenem at Prof Ngoerah hospital before implementing antimicobial stewardship in 2020 was IDR 229,905,300,- decreasing to IDR 94,156,920,- in 2021, IDR 98,025,255 in 2022 and in 2023 IDR. 97,147,335,-, respectively. **Conclusions:** Meropenem stewardship at Prof. Ngoerah Hospital reduces the prevalence of Carbapenem-resistant Acinetobacter Baumannii and Carbapenem-resistant Pseudomonas Aeruginosa. Meropenem stewardship also reduces hospital costs in purchasing antibiotics.

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Korean community hospital network for preventing and managing healthcare-associated infections: a 7-year review of activities

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Objectives: Hospital networks can significantly improve healthcare-associated infection (HAI) prevention and management through quality improvement and standardization. Since 2017, the Korea Disease Control and Prevention Agency (KDCA) has coordinated a network project involving a central hospital and participating community hospitals nationwide. This paper shares our experience as one of the central hospital operating the program for seven years (2017-2023). **Methods:** Our network comprised one central tertiary-care hospital and 12 community hospitals. Activities focused on education, consultation, and quality improvement (QI). QI activities analyzed hand hygiene (HH) practices, alcohol-based hand rub consumption, and the World Health Organization's HH Self- Assessment Framework (HHSAF) results. We provided educational resources for personal protective equipment (PPE) training, particularly during the COVID-19 pandemic. Annual workshops facilitated the sharing of specialized infection control programs from each hospital. **Results:** The project conducted 19 training sessions on topics like multidrug-resistant organism (MDRO) infection control, with 1,435 participants. We offered consultations for 41 cases (paper, phone, and 8 on-site visits) and shared consultation details through regular meetings. QI activities resulted in most hospitals maintaining a HH practice rate above 90%. All eight hospitals that consistently participated in the program saw improvements in their HHSAF scores compared to baseline. Notably, two hospitals achieved an "Advanced" level, having previously been at an "Intermediate" level. PPE training for 12,762 healthcare workers across 13 hospitals strengthened their response capabilities during COVID- 19 and reduced occupational infection risks. **Conclusions:** Frequent patient transfers and rising HAI rates highlight the limitations of individual hospitals in preventing and managing HAIs. The community hospital network establishes a government-led infection prevention response system. This model fosters enhanced infection control capabilities across network hospitals by offering technical support to resource-constrained facilities and implementing effective infection prevention initiatives that address ongoing challenges.

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A rare case of purulent massive pericardial effusion in an 85- years-old male: case report

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Introduction: Purulent pericarditis is defined as an infection in the pericardial space that produces macroscopically or microscopically purulent fluid. It was a rare but life-threatening condition. It may be primary or secondary to another infectious process. The diagnosis can only be confirmed by pericardiocentesis. Treatment must include drainage of the pericardial space combined with systemic antibiotics. This case report focuses on a critical and rare clinical scenario of purulent massive pericardial effusion in an 85- year-old male patient. This condition, characterized by an infectious or inflammatory accumulation of fluid in the pericardial cavity, presents significant diagnostic and therapeutic challenges, particularly in the context of multiple comorbidities. **Case Description:** The patient's presentation, complicated by pneumonia, diabetes mellitus (DM), and heart failure, underscores the complexities in diagnosing and managing elderly patients with diverse medical backgrounds. The diagnosis of massive pericardial effusion was confirmed through echocardiography, which revealed the purulent fluid from pericardiocentesis procedure, a finding critical for guiding the diagnostic and management strategy. The source of infection wasn't clear in patient with immunocompromised condition. Some examination performed to find the source of infection that led to a subdiaphragmatic suppurative focus. Infection management was good, but the patient ended with a constrictive that make his condition worse. The patient passed away on the 10th day of hospitalization. **Conclusion:** It is importance to recognize and promptly address purulent massive pericardial effusion in elderly patients with complex medical histories. The successful clinical outcome following the pericardiocentesis and the adaptive antimicrobial treatment approach provides valuable insights into the management of this severe condition.

Keywords: Bacterial Pericarditis; Secondary pericarditis; Pericardial effusion; Purulent pericarditis; Pneumonia; Pericardiocentesis
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Establishing a standardized high touch cleaning (HTC) training and competency framework

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Objectives: Environmental hygiene of patient zones in the wards of TTSH- a 1700 bedded hospital in Singapore is upkept through twice daily HTC. An outbreak in two wards end March 2023 with high levels of Adenosine Triphosphate (ATP) found on surfaces after cleaning corroborated that the cleaning process was ineffective [1]. Though operatives undergo on-job training (OJT), they expressed difficulty in understanding the purpose of such cleaning and remembering the steps. To address these gaps, a new training and competency framework was developed. We thus sought to evaluate its usefulness in improving compliance to HTC. **Method:** The framework, effected from May 2023, consisted of three domains: standardized education, competency assessment, and feedback mechanisms[2, 4]. Educational materials explaining the importance of HTC and overall infection prevention were developed in three common languages to facilitate understanding for operatives of different races. Under the framework, all existing and new operatives undertake a 2-day classroom teaching and OJT, before a competency check. Upon passing the first competency,

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they are given a two-week probation. Another assessment is done before certifying them competent. Operatives who fail twice are redeployed to non-clinical areas. The audit team gave direct feedback during monthly audits to evaluate performance and provide ongoing support and reinforcement. **Results:** The compliance of HTC in the patient zone picked up immediately from 71% in April to 92% in June. However, a decrease to 68% was observed between September to December 2023, but soon picked up to 82% in February 2024 after retraining was conducted. Decrease in ATP levels after cleaning further validated increase efficiency of HTC. **Conclusions:** These results highlight that structured learning rapidly improves the thoroughness of cleaning [2, 3]. Ongoing assessment and feedback are essential to address subsequent deficiencies and for corrective actions to be taken promptly [2, 4]. This framework may be useful for teams seeking to optimize strategies in environmental hygiene.

Keywords: High touch cleaning; Patient environment; Training and Competency

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Assessing the impact of including sterile 2% chlorhexidine gluconate with 70% isopropyl alcohol applicator in a preoperative skin preparation bundle on surgical siteinfection rate

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[1]Becton Dickinson Holdings Pte Ltd, Singapore Abstract topic: Healthcare Associated Infection (HAI), Singapore

Objectives: 2% chlorhexidine gluconate (CHG) with 70% isopropyl alcohol (IPA) has been recommended over povidone-iodine (PVI) for skin preparation. BD ChloraPrep™ is a ready-to-use applicator pre-filled with sterile 2% CHG and 70% IPA solution, which healthcare professionals have reported higher preference over PVI in an applicator or a bulk bottle. This study aims to evaluate the impact of including 2% CHG with 70% IPA applicator in the care bundle for preoperative skin preparation on surgical site infection (SSI) rate. **Methods:** A systematic literature review was conducted on PubMed in July 2022. Study inclusion criteria were (1) English publications, (2) 2% CHG with 70% IPA applicator included in a preoperative skin preparation bundle and (3) SSI rate reporting. A weighted average of SSI rate change was calculated, using the study sample size as weights. **Results:** A total of 116 studies were identified and 51 of them were found relevant for further review. Of them, 18 studies met the study inclusion criteria and 13 of these publications (72%) studied BD ChloraPrep™ in their bundle of care. 92% (12/13) of these studies demonstrated a statistically significant reduction in SSIs. 10 studies reported statistically significant SSI reduction rates, one study reported full compliance with the care bundle was associated with lower risk of SSI and one study reported four-fold higher likelihood of achieving zero SSI. Based on the 10 studies which reported statistically significant SSI reduction rates, a sample-size-weighted average of 71% reduction in SSI was observed when BD ChloraPrep™ was included in the bundle for preoperative skin preparation. **Conclusions:** There remains considerable low compliance and major variation in standardised skin preparation practices among hospitals. Using BD ChloraPrep™ may encourage a standardised and thorough approach in skin preparation. With the implementation of a bundle, together with appropriate training, compliance with skin preparation may be improved, which can potentially reduce SSIs.

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Risk factors of catheter – related infection in patients undergoing hemodialysis using non – tunneled double lumen catheter at Dr. Kariadi Hospital Semarang

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Introduction: Hemodialysis (HD) is the most common renal replacement therapy modality for chronic kidney disease patients. Nearly 80% of patients starting HD use a non-tunneled double lumen (DL) catheter as the first vascular access. However, the use of this access may increase the risk of both exit site and bloodstream infections. This study aims to identify the risk factors for infection related to non-tunneled DL catheters in HD patients at Dr. Kariadi Hospital, Semarang, Indonesia. **Methods:** A retrospective cross-sectional study design was applied among adult patients who underwent HD using non-tunneled DL catheter in the Hemodialysis Unit at Dr. Kariadi Hospital between January 2022 and March 2024. Data were collected from medical histories and patients' medical records, then analyzed using SPSS 21. P-values less than 0.05 were considered statistically significant. **Results:** This study involved 72 adult HD patients, with 58% male subject. Among them, 23 (31.9%) subjects experienced infections related to non-tunneled DL catheter. These infections included exit site infections (21%) and bloodstream infections (95%). The most dominant microorganism in infected patients was *Staphylococcus aureus*. The location of catheter insertion in the femoral vein ($p = 0.03$) and a high white blood cell count ($p = 0.03$) were significant risk factors for infection. However, factors such as age, diabetes mellitus, duration of catheter insertion > 3 months, serum iron levels, hypoalbuminemia, and anemia were not significant risk factors ($p > 0.05$). **Conclusion:** In conclusion, catheter insertion in the femoral vein and a high white blood cell count were identified as contributing factors to infections related to non-tunneled DL catheters in HD patients.

Keywords: Catheter - Related Infection; Hemodialysis; Risk factors

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Cefepime continuous infusion as a part of antibiotic stewardship against MDR: NICU of Cipto Mangunkusumo Hospital (CMH) experience

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Background: As the incidences of preterm births and surgical cases increases, so do cases of neonatal sepsis in CMH. Furthermore, the common etiology of neonatal sepsis are multidrug-resistant bacteria which increase the risk of mortality. Cefepime is a fourth-generation cephalosporin which is increasingly being utilized in NICUs. Theoretically, continuous infusion of beta lactam antibiotics could maximize the time-dependent bactericidal activity and improve the probability of target attainment. This study aims to determine the effectiveness and safety of continuous cefepime administration in managing sepsis. **Methods:** This is retrospective cohort study on infants who suspected late onset sepsis from 2021 to 2023. The independent variables are continuous infusion and intermittent infusion, with outcomes including mortality rate, reduction in septic markers, use of antibiotic combinations, duration of

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