Conclusion. Hospital-specific surveys on nurses' perception and knowledge on AS and AR can be used to guide future ASP interventions, as well as to evaluate the effectiveness of these interventions. Our ASP at LUMC implemented strategies to improve nursing education and engagement in AS and evaluated this strategy using a pre-/post-survey.









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2037. A Novel Strategy of Antimicrobial Stewardship in Shanghai: Preliminary Practice with Integration of Three Surveillance Networks

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Background. The bacterial resistance surveillance networks, antimicrobial clinical use surveillance networks and provincial hospital-acquired infection (HAI) surveillance have been well established in China. They aim to inform the current situation of bacterial resistance, antimicrobial use and HAI, and to guide the rational use of antimicrobials. However, these three networks presently are running separately. To increase the data value in antimicrobial stewardship (AMS)practice, those three surveillance networks are integrated in Shanghai

Methods. The Committee of Rational Use of Antimicrobials and AMS of Shanghai Municipal Health Commission, consisting of health administrators, clinical physicians and microbiologists, clinical pharmacologists and infection control experts, was formed in 2017. The oversight committee developed a comprehensive AMS score index mainly based on the surveillance data of the three networks to evaluate the AMS requirements in the hospitals. The AMS score index consists of 3 surveillance network indexes: resistance weight index; antimicrobial weight index and HAI weight index; each of the indexes is further divided into two parts, namely the surveillance quality score and data-related score. For example, the data-related score in the resistance index is calculated for the prevalence of 6 most important MDR/XDR bacteria (CRKP, CRAB, CRPA, ESBL, MRSA, VRE). A multi-disciplinary AMS team was convened to provide expert on-site visit of the hospitals and offered AMS support in the form of practical guidance and advice.

Results. AMS score and detailed score such as the prevalence of CRKP were ranked among 50 hospitals within the networks. These scores will support the AMS team to find out the main drivers of resistance/antibiotic use and thereby support appropriate interventions during the on-site visit. For example, a hospital visited which had a high consumption of carbapenems (ranked third in Shanghai) and also had a high percentage of carbapenems used in the department of liver transplantation. The advice of the on-site visit team was to encourage a more diverse group of antibiotics so as to spare carbapenems.

Conclusion. Involvement of the multi-disciplinary team and integration of surveillance networks are very helpful in AMS practice.

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## 2038. Antimicrobial Stewardship (AS) Recognition, Confidence, and Organizational Factors: Multi-center Survey of Bedside Nurses Elizabeth Monsees, PhD, MBA, RN, CIC, FAPIC

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Background. There is no literature on practices nurses associated with AS processes and how patient safety culture influences nursing AS understanding and confidence.

Methods. This cross-sectional study used an investigator-developed survey with optional comments to describe how bedside nurses recognize and perceive their confidence performing nursing activities that support AS processes and the potential role of organization culture as an AS engagement factor. 9 hospitals ranging in size from 42 to 562 beds participated. Composite scores for practice, confidence, and safety were calculated and correlated. ANOVA with Tukey HSD post-hoc tests and non-parametric (Kruskal-Wallis) tests with Bonferroni adjusted P-values for multiple comparisons were used to evaluate differences by clinical unit and years of clinical experience.

Results. A total of 558 inpatient nurses participated (response rate 13%). A significant positive association was identified between nurses' beliefs about nursing practices that contribute to the antibiotic stewardship process and their perceived confidence to perform  $r_s = 0.454$ , P < 0.001. Nurses  $\leq 5$  years of experience were significantly less confident than those with >15 years of experience in: (a) assessing for a history of an adverse drug reaction (P = 0.049, P = 0.023), (b) reviewing preliminary microbiology results and comparing susceptibilities (P = 0.011, P < 0.001), and (c) notifying a provider of a wrong antibiotic dose (P = 0.011, P = 0.017). Medical/surgical nurses (P = 0.003 recognized that taking an allergy history contributes to the stewardship process significantly more than ICU respondents and were more confident, in assuring that cultures are obtained prior to antibiotic administration (P = 0.038). Free text comments indicated: organizational factors (n = 50), knowledge gap (n = 35) and poor communication (n = 11) impeded AS engagement.

Conclusion. This is the largest multi-site study on nursing stewardship practice that includes organizational culture as a factor influencing behavior to steward. The results identify interprofessional collaboration is needed to improve organizational factors so nurses can serve as powerful AS collaborators in this important patient safety effort.

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