Title: Poor prediction of potentially drug-resistant pathogens using current criteria of health care-associated pneumonia

Dr. Seon Cheol 14817 Park pscheol@yuhs.ac MD ¹, Dr. Youn Ae 14818 Kang mdkang@yuhs.ac MD ¹, Dr. Byung Hoon 14819 Park serandoc@yuhs.ac MD ¹, Dr. Eun Young 14820 Kim narae97@yuhs.ac MD ¹, Dr. Moo Suk 14821 Park pms70@yuhs.ac MD ¹, Dr. Young Sam 14824 Kim ysamkim@yuhs.ac MD ¹, Dr. Se Kyu 14825 Kim sekyukim@yuhs.ac MD ¹, Dr. Joon 14827 Chang chang@yuhs.ac MD ¹ and Dr. Ji Ye 14829 Jung stopyes@yuhs.ac MD ¹. ¹ Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Korea.

Body: Background: Health care-associated pneumonia (HCAP) includes a broad range of patients having frequent or chronic contact with health care systems. However, the relationship between current defining criteria for HCAP and the risk of potentially drug-resistant (PDR) pathogens is controversial. Methods: We retrospectively evaluated patients admitted to Severance Hospital in South Korea with culture-positive pneumonia from January 2008 to December 2009. We analyzed the associations between risk factors for HCAP and infection with PDR pathogens. Results: Among 339 patients, PDR pathogens were observed in 122 (36.0%) and non-PDR pathogens in 217 (64.0%). PDR pathogens were more common in HCAP than community-acquired pneumonia (CAP) (48.5% vs 23.8%, P < 0.001), but 51.5% of HCAP showed non-PDR pathogens. In a logistic regression, prior hospitalization within 90 days of pneumonia (OR = 2.52, P = 0.003), recent treatment with antimicrobials (OR = 2.35, P = 0.039), and nasogastric tube feeding (OR = 13.94, P < 0.001) were independently associated with PDR pathogens. Conclusions: The current criteria for HCAP are poor predictors of PDR pathogens and all patients with HCAP should not be empirically treated for these pathogens. To avoid excessive antibiotic use, individual risk stratification approaches should be considered.