2790. Respiratory Viral Testing and Antimicrobial De-escalation Among Hospitalized Patients at a Tertiary Care Facility, 2015–2016: A Matched Cohort Study Series

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Background: The use of multiplex respiratory viral panels (RVP) is increasing. They have the potential to reduce unnecessary antibiotic use, but data are limited on their clinical effectiveness. Our objective was to estimate risk differences for antimicrobial de-escalation (discontinuation, intravenous to oral, or spectrum narrowing) between different sequences and results of RVP and rapid polymerase chain reaction (PCR) tests for influenza +/− respiratory syncytial virus.

Methods: We conducted a retrospective chart review of adults (age ≥18 years) admitted to a floor or stepdown unit at University of North Carolina Hospitals who had a respiratory viral test (RVT) within 48 hours of admission between September 2015 and April 2016. We estimated 3-day RDs for the relation between RVT and antimicrobial de-escalation. To control confounding and account for the 37-hour mean lag between PCR (faster) and RVP (slower) tests resulting, we leveraged the treatment decision design over a series of 1:1 matched cohort studies. Each targeted a clinically relevant scenario: (1) ordering RVP test (vs no RVP order) after learning PCR status; (2) learning RVP+ result (vs. no RVP result) after knowing PCR status; (3) learning RVP+ result (vs. RVP–) after knowing PCR–status; and (4) learning RVP+ result (vs. RVP–) given no prior PCR. For each subcohort, referent patients were matched to index patients by race, gender, RVT in prior month (y/n), age (±10 years), and season (±1.7 months).

Results: The overall cohort (*n* = 1,342) was 61% White, 29% African American, and 51% female. Median age was 56 years (IQR 39–69). Across all matched subcohorts (Figure 1), the matching success rate was 79–88% and referent frequency of antimicrobial de-escalation ranged 0.6%–1.9%. In scenario 1, ordering RVP results was associated with higher de-escalation (3-day RD 7.6%; 95% confidence intervals [CI] 3.2%, 12.1%). In scenarios 2–4, learning RVP+ results was associated with more frequent de-escalation (3-day RDs 14.8%, 13.8%, and 15.4%).

Conclusion: RVP testing and positive RVP results were associated with increased antimicrobial de-escalation, although de-escalation was overall infrequent. Future research should assess effect modification across subgroups and evaluate cost-effectiveness.

Figure 1. Three-day risk differences for antimicrobial de-escalation across four matched subcohorts.
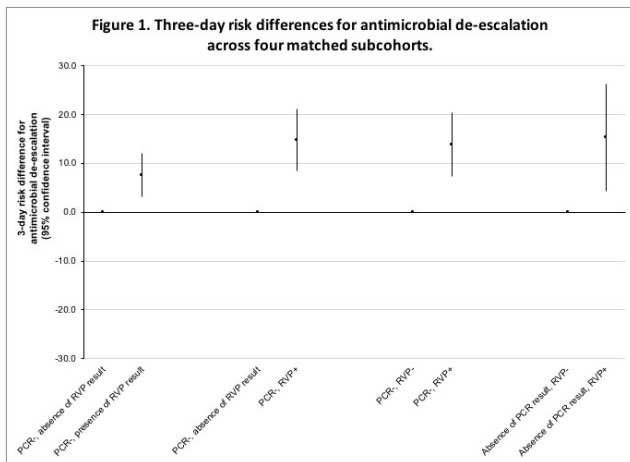
Disclosures. All authors: No reported disclosures.

2791. Burden of Respiratory Infections in Trainees Higher Than Healthcare Records Indicate: Results from an Anonymous Survey

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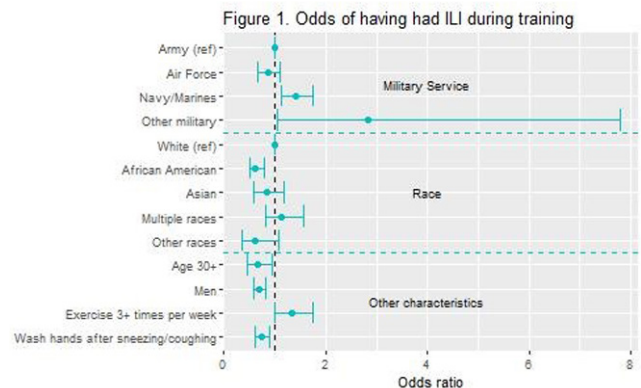
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Background: Influenza-like illnesses (ILIs) are common in military populations, particularly among trainees, and can impair mission-readiness. To develop effective preventive measures against ILIs, it is vital to understand the ILI burden in the military population and identify potential risk factors for infection.

Methods: Anonymous ILI surveys were administered from January 2017 to March 2019 to military medical trainees living in a congregated setting on Fort Sam Houston (JBSA-FSH), TX. The surveys included questions about sociodemographic characteristics, weight, height, smoking status, activity level, as well as some basic questions about ILI and potential risk factors. Factors associated with ILI were identified using chi-square, t-tests, and multivariate models.

Results: 2,381 surveys were returned that included age, sex, and ILI information. Respondents were 16–54 years old, 1,301 (55%) were male, 782 (33%) were Air Force, 817 (34%) were Army, and 763 (32%) were Navy/Marines. 39% of those surveyed (929) reported having experienced an ILI during their training with 40% (370) seeking healthcare for those symptoms. The primary reasons for seeking healthcare included the severity of the illness (59%), concern about spreading the illness (50%), and the accessibility of healthcare (41%). 53% of the respondents reported that ILI had an impact on their performance, among whom 77% stated reduced study time, 66% missing physical training, and 53% missed class. The final multivariate model indicates that men and participants 30+ years old were less likely to report ILI (OR 0.69 (0.58, 0.82); OR 0.65, (0.45, 0.94)) (Figure 1). In addition, participants who reported washing their hands after they coughed or sneezed were less likely to report having had an ILI (OR 0.73 (0.61, 0.89)).

Conclusion: Although 39% of respondents reported having an ILI during their training, only 40% sought healthcare, indicating that ILIs are more common during training than healthcare records indicate. More information is needed regarding how training outcomes vary among those with ILI who seek care, those with ILI who do not seek care and those without ILI during training, to allow a better estimate of the impact of ILI and development of ILI mitigation strategies.

Figure 1. Odds of having had ILI during training

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2792. Association of Body Mass Index with Rates of Hospitalization in Patients with Respiratory Viral Infections—Puerto Rico, 2012–2018

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