

2540. Targeting ID Education for Advanced Practice Providers: A Growing Learning Group in Academic Medical Centers

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Background. Advanced Practice Providers (APPs), including nurse practitioners (NPs) and physician assistants (PAs), increasingly provide patient care in inpatient settings at academic medical centers. However, little is known about their medical education. We sought to describe current APP educational experiences at our institution and to implement and evaluate an educational intervention aimed at decreasing inappropriate antimicrobial use for asymptomatic bacteriuria (ASB) amongst this group.

Methods. 33 inpatient-based APPs participated in the educational intervention consisting of in-person sessions and an online video reviewing diagnosis and management of ASB. Pre- and post-intervention surveys assessed knowledge before and after the intervention. Surveys also assessed APP's educational background, opportunities, and barriers.

Results. 17 APPs completed the pre-intervention survey. 59% estimated less than 10 hours of antimicrobial education during their training. 88% reported that the majority of their current learning is independent. All APPs reported desiring more educational opportunities. 76% felt current opportunities are designed for medical students or housestaff. Commonly reported barriers included patient care, rounding obligations, and lack of protected time. 8 APPs attended the in-person sessions and there were 21 views of the online video. 10 APPs completed the post-intervention survey. All reported interest in similar sessions in the future. 70% planned to prescribe fewer antimicrobials for ASB; however, the same number also reported "Attending or fellow decision" as the main barrier to decreasing prescriptions. Mean knowledge scores significantly increased after the intervention from 2.5 to 4.125 ($P < 0.05$).

Conclusion. APPs within an academic medical center have unique educational backgrounds and needs. APPs identified current educational opportunities as student/resident directed and incompatible with their work schedules. More APPs utilized the video session than attended in-person lectures. This intervention improved immediate knowledge acquisition; however, retention and impact on clinical outcomes are still being evaluated.

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2541. Impact of a Combined Infectious Disease-Critical Care Medicine (ID-CCM) Track on Fellowship Recruitment

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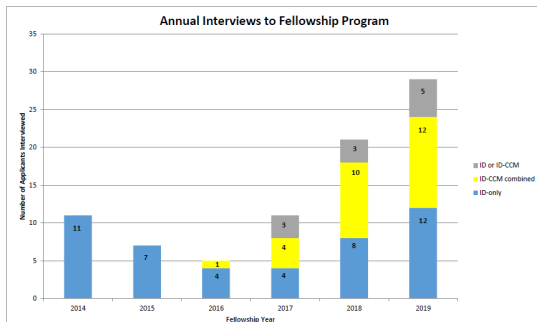
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Background. There has been a declining national trend in recent years of resident applications to Infectious Disease (ID) fellowship programs. This dearth of interested and available applicants has resulted in many programs failing to fill some or all of their fellowship slots. Our ID fellowship program, founded in 2013 at Allegheny General Hospital, had met with similar difficulty.

Methods. To increase the recruitment pool of candidates and combat the challenge to fill our positions, we incorporated a combined 3 year ID-Critical Care Medicine (CCM) track in 2016, initially with one of our two annual fellowship slots allotted to this track. This entailed a collaborative effort between the ID and CCM divisions, an internal application completion outlining the need and rationale for this combined program, and finally, approval from the institutional as well as the Accreditation Council for Graduate Medical Education (ACGME).

Results. The number of applicants interviewed from 2013 to 2016 for ID (pre-inception of the ID-CCM track), as well as those for ID, ID-CCM, or those interviewing for both tracks following 2016, were counted. We noted a consistent increasing trend in the numbers interviewed for both the ID (4, 8, and 12 total applicants) and ID-CCM (4, 10, and 12 total applicants) tracks over the three since the inception of our combined fellowship program; 3 additional applicants in years 2017 and 2018, and 5 in 2019, expressed interest in either ID or ID-CCM (Graph 1). This favorably amounted to filling our training positions.

Conclusion. Implementation of a combined ID-CCM fellowship program proved to be a viable strategy to increase the number of applicants at our institution. Given the success of having one dually-accredited slot, we have expanded the combined-track to both positions. As the first fully-integrated ID-CCM fellowship program in the country, we may be pioneering this novel training pathway for future physicians.



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2542. ID-Psych Addiction Rounds: A New Model to Address Opioid Use Disorder For Patients on the Infectious Disease Consult Service

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Background. ID physicians often treat the infectious sequelae of opioid use disorder (OUD) and are uniquely poised to link hospitalized patients to substance use resources. In a large safety net hospital, we launched a multi-disciplinary initiative to ensure that patients on the ID consult service with OUD were always offered medication-assisted treatment (MAT). We used infections as "sentinel" events to identify patients with OUD and described the clinical characteristics of the high-risk patient population jointly consulted by ID and Psychiatry teams. This healthcare workforce initiative aimed to expand the role of ID providers in the opioid epidemic and decrease barriers to buprenorphine prescribing.

Methods. Every 2 weeks, ID fellows identified patients on their consult lists with infectious complications of OUD. Focused discussions were then held with the Psychiatry service and discussion of each patient continued at subsequent case conferences with attention paid to re-engaging those lost to follow-up. We performed chart abstraction of demographic and clinical characteristics as part of a quality improvement initiative.

Results. From October 2018 to March 2019, 23 patients were discussed at 10 case conferences with input from attendings, fellows, housestaff, social workers, and representatives from a novel Primary Care Safety Net program. The average patient age was 43 (range 24–50). Patients were predominantly male (65%), heroin users (90%) with high rates of HIV (22%) and untreated HCV (40%). ID-related infections included endocarditis (39%), osteomyelitis (31%), skin and soft-tissue infections (17%) and spinal abscesses (17%). The median time for a patient to be presented at an ID-Psych Addiction Rounds was 7 days (IQR 4.5–11.5). The mean length of hospitalization was 30 days (range 2–112). MAT was initiated in 75% of patients (41% buprenorphine; 59% methadone). The 30-day lost to follow-up rate was exceedingly high, with 80% of post-hospital appointments being missed.

Conclusion. ID physicians can effectively link hospitalized patients with OUD to substance use resources. A multi-disciplinary approach is key to addressing the opioid epidemic. Future work should explore how to create effective post-hospital transitions to decrease those lost to follow-up.

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2543. Implementation of a Fellow-Driven B-Lactam Allergy De-Labeling Initiative on an Inpatient ID Consult Service

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Background. Approximately 10% of patients in the US report a penicillin (PCN) allergy, but more than 90% can safely receive β -lactam (BL) antibiotics. Having a reported BL allergy (BLA) is associated with increased length of stay, cost of care, adverse events, and mortality. As part of our institutional quality improvement incentive program for graduate medical trainees, the Infectious Diseases (ID) and Allergy/Immunology (AI) fellows implemented a protocol-driven approach to BLA evaluation. We sought to evaluate the success of this implementation.

Methods. This is a pre-post investigation of our BLA protocol. As an initial pilot phase prior to house-wide deployment, the ID and AI services implemented a BLA guideline incorporating thorough history-taking, graded challenge, and focused penicillin skin testing for patients on the ID consult service. All patients seen by the ID consult service from July 1, 2018 through June 30, 2019 with a documented BLA were included (baseline period April 1, 2018 through June 30, 2018). The primary endpoint was the proportion of patients meeting any one of the following: receipt of a BL, inpatient or outpatient referral to AI, or removal of BLA from the medical record by the time of discharge. Data were tracked quarterly and fed back to ID and AI fellows electronically. The Chi-square test was used to compare pre-post outcomes.

Results. Over the first three quarters, 258 patients with BLA were evaluated by the ID consult service. Our baseline compliance was 65%, which increased to an average of 81% over the subsequent three quarters ($P = 0.003$). Among patients with BLA seen by the ID consult service during the intervention, 177 (69%) received a BL, 37 (14%) underwent inpatient AI evaluation, 11 (4%) received discharge referrals to AI, and 126 (49%) had their BLA removed. Several patients met more than one primary endpoint.

Conclusion. Implementation of a protocol-driven BLA guideline by ID and AI fellows was feasible and led to an increase in the number of patients either receiving BLs in the hospital or undergoing timely evaluation or removal of BLA. In conclusion, the implementation of a β -lactam allergy de-labeling initiative is an effective way to empower trainees to incorporate BLA de-labeling into their practice.

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2544. An Exploratory Study of Resource Utilization by Practitioners when Managing Infections

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Background. Antimicrobial prescribing mistakes are common and adherence to guidelines for treatment of infections is poor. Effective use of clinical resources could help ameliorate these issues, but little is known about the use of such resources by physicians and pharmacists. We thus aimed to explore how practitioners utilize clinical resources in the management of infections.

Methods. We conducted individual interviews with a purposeful sample of eight Hospitalists, eight ID attendings, four ID pharmacists, and six non-ID pharmacists. As part of a larger, semi-structured interview exploring ID practice patterns, we asked respondents how they utilize resources when managing infections. We describe the resources mentioned by the different practitioners, as well as the frequency of their reported use.

Results. All respondents reported using at least one resource to help manage infections, with a mean of 5.6 resources each. The majority of respondents use resources daily, although some ID practitioners use resources more frequently and some general practitioners less frequently (Figure 1). The types of resources utilized by respondents fell into six main categories: local ID resources, outside ID resources, primary literature, guidelines, colleagues, and pharmacy resources (Figure 2). In general, local resources are utilized more frequently by non-ID practitioners, while guidelines and the primary literature are utilized more frequently by ID practitioners. ID physicians use pharmacy resources more frequently than non-ID physicians. Six respondents spontaneously reported being motivated to review resources for their own interest or learning. Several also commented that accessibility was important in choosing resources.

Conclusion. Providers report use of resources to manage infections, although the type of resource and frequency of use varies. ID practitioners utilize more detailed resources than nonspecialists. Accessibility seems to influence resource utilization, which may explain the popularity of local ID resources. As such, efforts to make local ID resources as accessible and clear as possible may have an impact on appropriate antibiotic use. Future quantitative studies could help illuminate rates and perceived advantages of specific resource utilization.

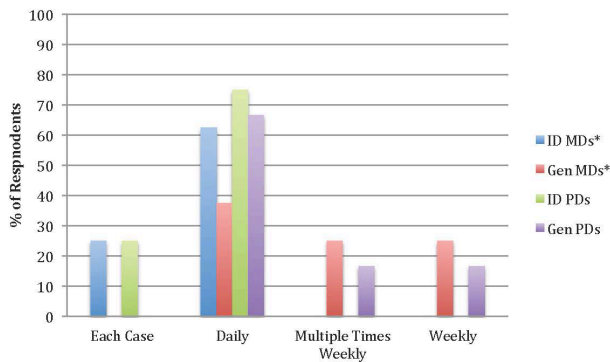


Figure 1: Frequency of clinical resource use by different practitioners in the management of infections.

*Only answered by 7 of 8 respondents

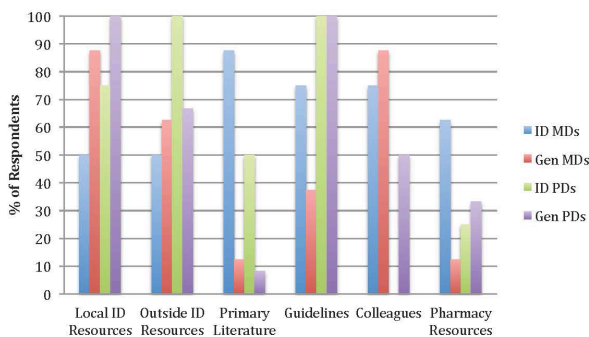


Figure 2: Types of resources utilized by different practitioners in the management of infections.

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2545. Needs Assessment for a Presentation Skills Curriculum in an Infectious Diseases Fellowship Program

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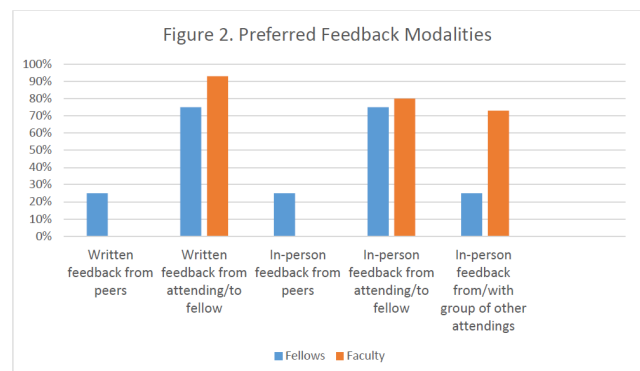
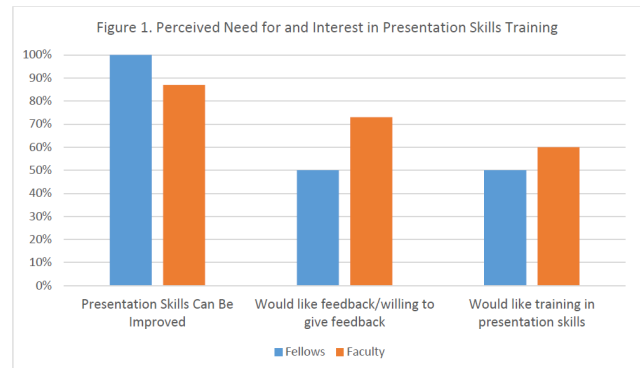
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Background. Presentation skills are critical for infectious diseases fellows regardless of their ultimate career path. Despite this, there is little emphasis on training in presentation skills within the infectious diseases (ID) fellowship curricula.

Methods. To determine the perceived need for a presentation skills curriculum for ID fellows, faculty and fellows were asked to complete a brief online needs assessment. The survey included questions on demographics, prior presentation experience and skills training, perceived need for and interest in a presentation skills curriculum, and the preferred modality for such a curriculum. Descriptive statistics were calculated for each theme.

Results. In April 2019, 4/4 fellows and 15/22 faculty members completed the online survey. While all fellows (100%) agreed or strongly agreed their presentation skills could be improved, only 50% wanted more feedback about their presentation skills and only 50% were interested in training to improve their presentation skills (Figure 1). Concerns about time constraints were noted in the optional comments. Most faculty (87%) agreed or strongly agreed that fellow presentation skills could be improved and most felt empowered (73%) and were willing (73%) to provide the fellows with feedback. Only 27% of faculty reported prior training in presentation skills and 60% expressed an interest in receiving training before providing the fellows with feedback. Regarding presentation skills feedback modalities (Figure 2), fellow respondents expressed a preference for written feedback (75%) and in-person, one-on-one feedback (75%); faculty respondents were willing to provide written feedback (93%), in-person, one-on-one feedback (80%) and in-person feedback with a group of other faculty (73%).

Conclusion. This study provides a framework for ID fellowship programs interested in developing a presentation skills curriculum. The results support the need for a presentation skills curriculum, but interest in such a curriculum is not universal. Our findings will guide the development and structure of a curriculum that will target interested faculty and aim to benefit the fellows without putting an undue onus on their time and other commitments.



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2546. The Mentor Model: Improving Fellow-Level Transitions of Patient Care

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