

#WhyID: Crowdsourcing the Top Reasons to Choose Infectious Diseases in the Age of Twitter

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Upon being asked to give a presentation to “sell” current Internal Medicine residents on why they should choose infectious diseases (ID) as a subspecialty, I reflected on my own journey toward choosing this specialty as well as the current state of affairs facing trainees entering ID. Leaders in the field of ID have sounded the alarm regarding the dwindling pipeline of applicants to ID fellowship training, with 20%–40% of fellowship programs going unfilled every year [1]. National news outlets picked up on this “scary shortage of Infectious Disease doctors” and its potential implications for society in light of the rise of drug-resistant and emerging infections and other public health threats [2]. Although factors influencing internal medicine residents’ choice of ID over other specialties are complex and begin prior to residency, the comparatively low salaries and lack of recognition of the value of the ID specialty loom large in explaining these trends [1, 3]. Despite low compensation, ID specialists rate high on measures of career satisfaction relative to our other colleagues [4]. Resolved not to dwell on the negative drag of lagging salaries, I set out to do “field research” to

determine the top reasons why the next generation of trainees should choose ID as a specialty using the powerful, crowdsourcing tool of Twitter. Following over 14 000 impressions and 375 engagements of my initial tweet thread [5], I was both inspired and armed with the following top 10 reasons (in an ode to David Letterman) for #WhyID to share with the resident audience.

10. YOU ARE A MEDICAL DETECTIVE AND AN INTERNIST’S INTERNIST

A common initial draw to ID, as in my own case, is the intellectual stimulation of the “detective work” needed to diagnose mysterious cases of rare ID or unusual manifestations of more common diseases. Not limited to a single organ system, ID specialists often are sought after as expert diagnosticians for difficult cases and are among the most respected clinicians and medical educators at most institutions. To recognize non-ID diagnoses that mimic infection, ID specialists must maintain a broad understanding and up-to-date knowledge of general medicine topics.

9. YOU ARE THE HOSPITAL’S SOCIAL BUTTERFLY

Another appealing aspect of ID is the opportunity to collaborate with physicians across the other disciplines, not only all medical subspecialties, but also surgery, emergency medicine, radiology, pathology, laboratory medicine, and many others. Notably, with cases involving

transplant ID, opportunistic infections in immunocompromised hosts, or complicated prosthetic joint or cardiac device infections, among others, ID specialists play an integral role in multidisciplinary teams to improve the outcomes of these complex patients. Finally, the close partnership of ID physicians with ID pharmacists, microbiology laboratory technicians, and infection preventionists in the disciplines of antimicrobial and diagnostic stewardship or infection prevention provide a model of effective interdisciplinary teams within the hospital.

8. YOU GET TO MAKE THE SOCIAL HISTORY RELEVANT AGAIN

Although often neglected as an irrelevant part of the history except for billing purposes, for the ID consultant, the social history is the gateway to a menagerie of interesting and exotic epidemiologic exposures related to food, recreational activities, travel, animal, or vector encounters. Nothing is more gratifying than the expertly obtained social history clue that “cracks open” a previous diagnostic puzzle. More humbling still, ID doctors (along with other doctors) carry a sacred bond and trust as they share some of the most intimate details and walk through some of life’s most consequential events with their patients.

7. YOU GET TO HELP PEOPLE YOU NEVER EVEN MEET

With their leadership roles in public and population health, ID specialists’ impact on health can stretch far beyond

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the bounds of the individual patients for whom they provide care. Infectious diseases training provides key skills for the critical public health work of state and local health departments as well as national institutions, such as the Centers for Disease Control and Prevention and its renowned postdoctoral training program, the Epidemic Intelligence Service [6]. Infectious diseases physician scientists have led efforts at vaccine development, implementation, and advocacy, leading to disease eradication of scourges like smallpox while also responding to re-emerging threats, such as measles. Finally, ID physicians are at the forefront of infection prevention and antimicrobial stewardship programs seeking to stem the tide of antimicrobial resistance and “to preserve the miracle of antibiotics” [7].

6. YOU DON'T HAVE TO CHOOSE BETWEEN BEING A SPECIALIST AND GENERALIST

Although not always recognized, ID fellowship training provides the opportunity to serve as both a medical subspecialist as well as a primary care generalist, especially for those persons living with HIV infection. Some ID physicians choose to spend the majority of their time providing expert inpatient and outpatient consultative care across the spectrum of ID-related diseases. However, others choose to focus on HIV primary care, an area where the literature has demonstrated that having a provider with more training and experience in HIV care in the ambulatory setting can lead to improved patient outcomes [8].

5. THE WORLD IS YOUR OYSTER (HOPEFULLY, WITHOUT *VIBRIO* IN IT)

One striking feature of the field of ID is the enormous variety of different career paths that can be pursued from the jumping off point of an ID fellowship. Describing potential ID careers as a “colorful universe of possibilities”, the September 2017 supplement issue of *The*

Journal of Infectious Diseases highlights the breadth of potential careers in ID for future trainees or those interested in a midcareer change (see reference 9 and accompanying articles) [9]. More specifically, the intersection of ID and global health is a major draw for some trainees in choosing a specialty [3], and the ID knowledge and skill set can “travel well” in pursuit of clinical, research, or public health opportunities across the globe.

4. YOU WILL NEVER BE BORED BECAUSE YOUR WORK IS CONSTANTLY “EVOLVING”

A major reason for the “perpetual challenge of infectious diseases” and the source of its boundless intellectual stimulation is the unpredictable and potentially explosive nature of emerging and re-emerging ID-related outbreaks [10]. Much of this threat is due to the remarkable transmissibility and adaptability of infectious pathogens via their capacity to evolve in response to environmental and therapeutic pressures [10]. The seemingly constant stream of emerging antibiotic-resistant pathogens, such as carbapenem-resistant Enterobacteriaceae or extensively drug-resistant tuberculosis, and novel infectious threats, such as *Candida auris*, ensures a societal demand for ID experts [2], and every day holds the potential for something new and different within the field of ID.

3. YOU GET TO PLAY WITH COOL NEW “TOYS”

Although a previous generation of ID physicians experienced the miracle of the advent of antibiotics and vaccines, the current generation has witnessed the revolutionary impact of combination antiretroviral therapy for HIV and direct-acting antivirals for chronic hepatitis C virus infection. The next revolutionary breakthroughs in the field of ID are likely to include widespread adoption of molecular and next generation metagenomic sequencing diagnostics in the clinical microbiology laboratory [11], the increasing use of phage therapy in the treatment of

multidrug-resistant pathogens [12], advances in our understanding and capacity to manipulate the human microbiome in a variety of disease states [13], or possibly some other undiscovered breakthrough.

2. YOU WILL SAVE PATIENTS' LIVES AND BE WELL-POSITIONED TO LEAD IN AN ERA OF VALUE-BASED CARE

A core part of the ID provider's mission is to assist with the diagnosis and treatment of critically ill patients with a variety of infectious complications. A growing body of literature has demonstrated that early involvement of ID consultants is associated with improved patient outcomes, including decreased mortality, lower costs, and decreased length of stay and readmissions across a wide variety of ID [14]. As the US healthcare market shifts away from volume-based to value-based care, many ID-trained physicians possess the administrative and leadership prowess as well as public health skills to navigate and succeed in this new landscape in medicine.

1. YOU JOIN A COMMUNITY THAT LOVES WHAT THEY DO AND PASSIONATELY ADVOCATES FOR ALL PATIENTS NO MATTER WHAT

Finally, as evidenced by the robust response from the #IDTwitter community, the decision to choose ID is an invitation into a medical community that loves what they do and passionately advocates for their patients. With so much overlap between the ID-related diseases and the social determinants of health, ID providers find themselves on the frontlines of advocacy for underserved and marginalized patient populations. We also can serve as the social conscience for the field of medicine, reminding us all of the oaths we pledged to our patients and the reasons we went into medicine in the first place.

The recruitment prospects for the future ID workforce remain uncertain and will require concerted and sustained efforts on the part of our specialty societies and federal and local institutions to

tackle critical issues like compensation and loan repayment, research funding and mentorship, and innovation in medical education [1]. However, from my vantage point, the future of ID is brighter and more hopeful when I consider the array of diverse, talented, passionate ID colleagues (only a slice of whom are active on #IDTwitter) who will be traveling that journey with me and help remind me of the many reasons I chose the noble calling of the ID physician.

So #WhyID? It all comes back to the people—the ID community and our patients—who remind us why we went into medicine in the first place and who show us the power of what we can accomplish together.

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