Internet Searches About Infectious Diseases Training During the Coronavirus Disease 2019 Pandemic

To the Editor—The coronavirus disease 2019 (COVID-19) pandemic has brought on an unprecedented experience for trainees—a new disease plagued by insufficient medical knowledge, limited treatment options, and an abundance of foreseeable, yet unavoidable deaths. Further emotionally devastating is the disproportionate toll the disease has on vulnerable populations including racial and ethnic minorities. Decades ago, the human immunodeficiency virus (HIV) crisis challenged healthcare providers intellectually, emotionally, and viscerally in much the same way that COVID-19 is currently impacting our community. Leaders in Infectious Diseases (ID) have commonly cited the historical experience of HIV as their steppingstone into the field [1, 2]. Now, with many trainees facing similar circumstances, a rebirth of interest in the field of ID may be imminent. In a time in which 20% of ID programs remain unfilled and the number of vacant positions is higher than comparable fields such as Rheumatology, Endocrinology, and Hematology/Oncology, the need to appreciate, nurture, and foster such interest is paramount [3]. To help assess the presence of increased interest, we examine the use of internet search data to identify and characterize interest in ID training.

We performed a cross-sectional analysis using Google Trends, a publicly available online tool that provides aggregated search volume for specific search terms [4]. Users can enter up to 5 variables for comparative purposes. We chose to compare search interest among Hematology/Oncology, Endocrinology, Infectious Diseases, Rheumatology, and Nephrology, because these were the 4th–8th most popular specialties, respectively, in the 2020 match as defined by number of applicants. We queried the search terms “Hematology Oncology Fellowship,” “Endocrinology Fellowship,” “Infectious Disease Fellowship,” “Rheumatology Fellowship,” and “Nephrology Fellowship” for 2 approximate 90-day intervals, February 28 to May 28 2019 (representative of search interest in fellowship training on average during this time, possibly influenced by 2019 measles outbreak) and February 28 to May 28 2020 (representative of search interest in fellowship training during the COVID-19 pandemic). All queries were limited to searches performed in the United States. Queries return search volume results in the form of an average relative search volume (RSV). The RSV is a normalized score provided by Google Trends that indicates the relative popularity of search terms normalized to the overall search traffic from the reference population and time period. Values can range from “0” (meaning search volume is low or below the threshold in which Google Trends records) to “100” (highest search volume). Because RSV is dependent on the time periods selected, average RSV values cannot be compared between 2 different queries. Data about the number of applicants and unfilled fellowship positions were obtained from the NRMP for the 2020 appointment year [5].

In the 2020 Match, of the 4 fellowships queried, ID fellowships had the second greatest percentage of unfilled positions at 20.7% (84 of 406) and the second least number of applicants at 352. Rheumatology and Endocrinology had a similar number of applicants as ID (300–400), but in comparison they only had 2.8% (7 of 249) and 7.3% (24 of 329) positions unfilled, respectively. Hematology/Oncology had the most applicants (809) and the lowest percentage of unfilled positions (< 1%, 2 of 615). In contrast, Nephrology had the greatest percentage of unfilled position (38.0%, 178 of 469) and least number of applicants (330). In February–May 2019 (Figure 1), the average RSV for ID was 15, higher than Endocrinology (14), equivalent to Rheumatology (15), but lower than Hematology/Oncology (17) and Nephrology (20). In February–May 2020 the average RSV for ID was 22, higher than Rheumatology (12), Endocrinology (14), Nephrology (19), and Hematology/Oncology (19).

Our analysis demonstrates that during February–May 2020, coinciding with the COVID-19 pandemic, there has been a higher search interest related to ID fellowship training compared with Rheumatology, Endocrinology, Nephrology, and Hematology/Oncology. This contrasts with the year prior in which web searches for other fellowships were commonly as or more popular than ID. Although promising, the use of RSV has limitations that warrant consideration. We cannot adjust for spikes driven by media publicity nor for searches not related to post-residency aspirations. However, reassuring, previous studies have validated Google Trends to be predictive of the supply and demand for medical specialties [6, 7].

The COVID-19 pandemic is a pivotal moment in the era of modern Medicine and has highlighted the importance of the field of ID. The experience may inspire a new wave of humanists and helpers to join the field, eager to answer the “calling” like many ID physicians before them did during the early HIV epidemic. It will be the responsibility of the current ID community to encourage, mentor, and facilitate opportunities for this new generation of ID physicians.

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Morgan Birabaharan, Davey M. Smith, and Darcy Wooten
Department of Infectious Diseases and Global Public Health, Department of Medicine, University of California, San Diego, La Jolla, California, USA

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Correspondence: Morgan Birabaharan, MD, Division of Infectious Diseases and Global Public Health University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92039 (mbirabaharan39@gmail.com)

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