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Can patients find an Endocrine Surgeon? How hospital websites hide the expertise of these medical professionals

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ABSTRACT

Background: With information on healthcare providers available on the internet, patient self-referral has become popular. This study serves to evaluate the ease with which patients can locate an Endocrine Surgeon using hospital websites.
Methods: Websites of the 16 top academic hospitals from The US News and World Report's Hospital Rankings for 2018–2019 were accessed. Each "Find A Doctor" page was searched for: "thyroid nodule," "hyperparathyroidism," and "adrenal mass." Data for suggested providers was collected and analyzed.
Results: Search results for "thyroid nodule" found Endocrine Surgeons as the predominant providers at 6% institutions, 25% suggested none. For "hyperparathyroidism," 31% institutions suggested a majority of Endocrine Surgeons, 19% suggested none. For "adrenal mass," 25% had Endocrine Surgeons as the predominant providers, 31% suggested none.
Conclusion: The majority of hospitals did not suggest Endocrine Surgeons as the predominant providers for the queried conditions, demonstrating the challenge patients face in finding an Endocrine Surgeon through hospital websites.

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Introduction

Healthcare innovation has overcome many barriers to provide patients state-of-the-art care over the years.[1–4] The evolution of technology continues to improve the safety, efficacy, and efficiency of surgical treatment, allowing for the advent of individualized patient care. The digital era has contributed to these advances, notably transforming the way patients find and communicate with physicians.[5–7] With over 70% of adults utilizing the internet to access healthcare information, patients are more knowledgeable on the medical conditions that affect them, available treatment options, and are seeking specialist care through self-referral.[8]

Today, patients are actively involved in their healthcare decisions. Many search the internet prior to their appointment and 83% of prospective patients are influenced by digital content provided by hospital sites.[8] Increasing amounts of information on physicians and other healthcare providers available on websites allow patients to actively seek care themselves. This concept of self-referral is becoming more popular for many medical conditions.[9] Despite this abundance of available digital healthcare information, some patients still struggle to access an appropriate provider. In a recent poll, the US National Health Interview Survey demonstrated that 16% of adults reported at least one barrier to care, which included trouble finding a doctor.[10]

A patient-centric healthcare system has emerged with the advent of the internet. The majority of prospective patients consult online resources prior to seeking care and to find a doctor that fits their needs.[10–12] It is imperative for hospital websites to meet their expectations by providing accurate and accessible information. The aim of this study is to assess the ease with which patients can find an Endocrine Surgeon when searching hospital websites for endocrine surgical diseases.

Materials and methods

The US News and World Report (USNWR) annually ranks hospitals' performance by assessing quality metrics including infrastructure and resources, ability to develop and sustain a system to deliver high-quality care, patient experience, and primary outcomes of risk-adjusted mortality, relative-risk of surgical site

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infection, length of stay, preventable readmission, and patient experience. This study includes the top 20 academic medical centers USNWR recognized in their 2018–2019 Honor Roll report. The website of each institution was accessed to determine if a "Find A Doctor" function was provided. Each website providing this function was searched for the following terms: "thyroid nodule," "hyperparathyroidism," and "adrenal mass."

Each search yielded a hospital's list of suggested providers for common endocrine problems. The suggested provider list and each provider's medical specialty, gender, academic rank, and whether medical school attended was and residency training were completed in a United States (US) programs were collected. If applicable, the subspecialty of a provider was determined by their residency and fellowship training. Each institution was comprehensively assessed in regard to overall provider composition with regard to gender, medical school, residency, and academic rank. Statistical analysis was performed using descriptive statistics using Microsoft (Seattle, WA). IRB approval was not required for this study as it was considered non-human subjects research and therefore exempt.

Results

The US News and World Report ranked 20 academic medical centers. Of those, 16 (80%) allowed patients to search for a provider by medical condition. After searching "thyroid nodule," "hyperparathyroidism," and "adrenal mass" on all 16 hospital websites, the median number of providers suggested was 8.5 (range 0–1299) per search (Fig. 1). When comparing gender breakdown, 9 (56%) institutions suggested a majority of male providers (range 33–86%), while 5 (31%) institutions suggested a majority of female providers (range 14–67%). Two (13%) institutions suggested an even split between male and female providers (Fig. 2). All 16 (100%) institutions suggested a provider list with the majority of providers completing residency in the United States (range 67–100%). When analyzing providers' medical education, 15/16 (94%) institutions suggested a majority of providers who attended medical school in the United States (range 33–100%). One (6%) institution suggested a majority of providers who attended an international medical school (range 0–67%). Three (17%) institutions suggested primarily Professors, one (6%) institution suggested primarily Associate Professors, and seven (44%) institutions suggested primarily Assistant Professors. Lastly, five (31%) institutions suggested primarily providers without a listed academic rank.

After searching "thyroid nodule," Endocrine Surgeons were only the predominant provider listed at 1/16 (6%) institutions, while 3/16 (19%) institutions suggested no Endocrine Surgeons. 12/16 (75%) institutions suggested predominantly Endocrinologists, while 2/16 (13%) suggested predominantly Otolaryngologists (Table 1). When "hyperparathyroidism" was searched, 5/16 (31%) institutions suggested predominantly Endocrine Surgeons, while 3/16 (19%) institutions did not suggest any. 9/16 (56%) institutions suggested predominantly Endocrinologists, and 1/16 (6%) institutions suggested primarily Otolaryngologists (Table 2). For "adrenal mass," only 4/16 (25%) institutions listed Endocrine Surgeons as the predominant provider, and 6/16 (38%) suggested none. Predominant specialties listed by other institutions included Endocrinologists and Surgical Oncologists (Table 3).

Discussion

Hospital websites and the internet have a drastic impact on how patients seek out and receive care.[8,13] Because of this, it is critical for hospitals to have accurate and easily accessible information on their websites, including both medical and provider information. Without this, patients will likely receive incorrect or out-of-date information, which will hinder their care and could push them to seek care at other institutions.

Our results show that there is an inconsistency in the number of providers that were suggested across hospitals. For example, one institution listed 1299 providers for one of the search criteria. This amount of information is burdensome for patients to sort through when trying to find a physician for their care. In addition to the wide range in the number of providers listed, the infrequency with which Endocrine Surgeons were listed was also unexpected. While there is overlap in the treatment of endocrine disorders that may account for this, thyroid and adrenal operations have been shown

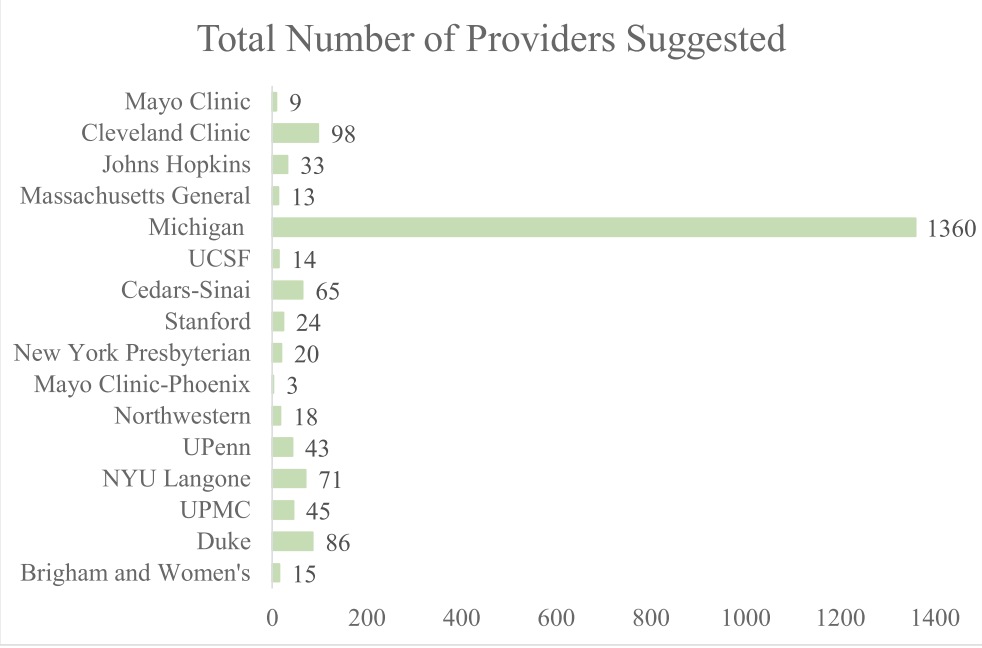

Fig. 1. Total providers suggested by institution "find a doctor" search for "thyroid nodule," "hyperparathyroidism," and "adrenal mass".

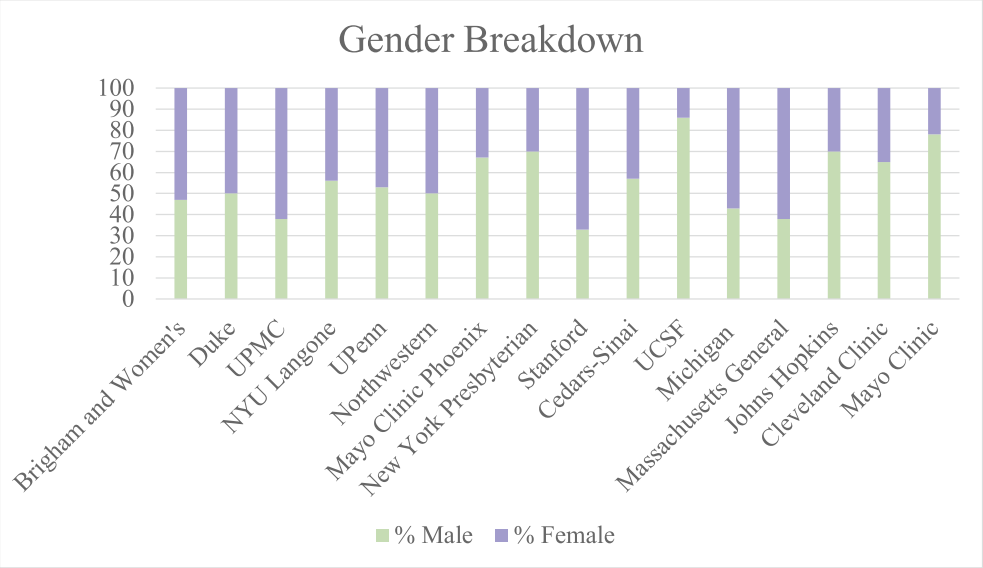

Fig. 2. Institutional gender breakdown.

to have improvement of outcomes with increasing surgeon volume.[14–17] The conditions queried for this study are predominantly managed by Endocrine Surgeons, yet the majority of these hospitals did not suggest Endocrine Surgeons as the predominant providers. This discrepancy makes finding high-volume disease-specific physicians challenging for patients.

Our results with regard to gender breakdown demonstrated discrepancy between the number of suggest male and female providers. Medicine, and especially surgical specialties, have historically been male dominated.[18–20] However, women are increasingly entering the field of surgery and face challenges that their male partners do not face.[19,20] In the US, approximately 20% of General Surgeons are female, with Endocrine Surgery having a larger proportion of female surgeons at 35%.[21] Our findings likely reflect the discrepancy amoungst gender in the workforce and demonstrate that there is still work to be done to address gender disparities at top academic institutions.[22]

While hospitals included in this study employ surgeons who can treat the above conditions, these providers may be difficult to find with current website search algorithms. Hospital leadership at all levels should be involved in website design to ensure patients are not only aware of a health-systems' providers and assets, but are also able to access them with ease. Second, information technology personnel must take part in the discussions, as their expertise will allow the search functions to be streamlined in a way that leads patients to the most appropriate providers. Lastly, surgeons themselves need to play a substantial role bringing these issued to the attention of their health system leadership, as their current and future patients are the ones that will be most affected.

This study has several limitations, the most notable derives from an inability to directly measure a patients' difficulty in identifying an appropriate provider for each endocrine condition. As the searches in this study were performed by healthcare professionals with healthcare fluency, we feel our difficulty in finding an appropriate provider likely does not mimic and patients' difficulties. Second, four of the hospitals included in the USNWR ranking did not allow one to search by specific medical condition at the time of data collection, limiting our cohort. Furthermore, some of the hospital websites auto-populated results for their searches. This could change how a patient is able to search for their condition, and this also may have altered our data collection.

Table 1
"Thyroid nodule" provider search results by specialty.

Hospital	Endocrinologist	Endocrine Surgeon	Otolaryngologist	Surgical Oncologist
Mayo Clinic, Rochester	50%	25%	0%	0%
Cleveland Clinic	45%	11%	20%	0%
Johns Hopkins Hospital	20%	7%	60%	0%
Massachusetts General Hospital	67%	33%	0%	0%
Michigan University	33%	12%	24%	2%
UCSF Medical Center	50%	13%	25%	0%
Cedars-Sinai Medical Center	59%	0%	6%	3%
Stanford Health Care	62%	23%	8%	0%
New York Presbyterian Hospital	20%	80%	0%	0%
Mayo Clinic-Phoenix	0%	0%	0%	0%
Northwestern Memorial Hospital	100%	0%	0%	0%
Hospitals of the University of Pennsylvania	30%	10%	45%	0%
NYU Langone Hospitals	58%	6%	29%	3%
UPMC	38%	13%	13%	25%
Duke	63%	3%	11%	9%
Brigham and Women's Hospital	100%	0%	0%	0%
University of Alabama at Birmingham	42%	12%	38%	4%

Table 2
"Hyperparathyroidism" provider search results by specialty.

Hospital	Endocrinologist	Endocrine Surgeon	Otolaryngologist
Mayo Clinic, Rochester	50%	50%	0%
Cleveland Clinic	68%	23%	0%
Johns Hopkins Hospital	25%	25%	38%
Massachusetts General Hospital	43%	57%	0%
Michigan University	33%	42%	25%
UCSF Medical Center	33%	33%	0%
Cedars-Sinai Medical Center	67%	0%	0%
Stanford Health Care	50%	30%	0%
New York Presbyterian Hospital	33%	67%	0%
Mayo Clinic-Phoenix	50%	0%	0%
Northwestern Memorial Hospital	100%	0%	0%
Hospitals of the University of Pennsylvania	30%	4%	22%
NYU Langone Hospitals	47%	5%	21%
UPMC	86%	3%	0%
Duke	47%	7%	13%
Brigham and Women's Hospital	43%	57%	0%
University of Alabama at Birmingham	32%	7%	22%

Table 3
"Adrenal mass" provider search results by specialty.

Hospital	Endocrinologist	Endocrine Surgeon	Surgical Oncologist
Mayo Clinic, Rochester	33%	33%	0%
Cleveland Clinic	34%	16%	0%
Johns Hopkins Hospital	40%	20%	20%
Massachusetts General Hospital	0%	67%	0%
Michigan University	2%	0%	0%
UCSF Medical Center	0%	67%	0%
Cedars-Sinai Medical Center	81%	0%	0%
Stanford Health Care	0%	0%	0%
New York Presbyterian Hospital	17%	67%	0%
Mayo Clinic-Phoenix	0%	0%	100%
Northwestern Memorial Hospital	0%	33%	67%
Hospitals of the University of Pennsylvania	0%	0%	0%
NYU Langone Hospitals	0%	0%	50%
UPMC	0%	0%	0%
Duke	56%	3%	6%
Brigham and Women's Hospital	0%	100%	0%
University of Alabama at Birmingham	32%	8%	3%

Conclusions

In conclusion, there is inconsistency amongst the provider suggestions from the websites of the top academic hospitals in the United States. As patients continue to turn to technology and the internet for medical information, this is a substantial problem. Providers must ensure that their own institutions address these discrepancies to help their patients be able to find prompt and appropriate care for their conditions.

Author contributions

Zachary Gentry was the primary author involved in data collection and manuscript drafting, and additionally assisted in the initial study design. Shivani Ananthasekar helped draft the manuscript. Herbert Chen, MD participated in the initial study design and critically edited the manuscript. Sophie Dream, MD participated in the initial study design, critically edited the manuscript, and supervised the project.

Declaration of competing interest

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