



**America's hospitals
have a choice:**
Compete in the
health information
war, or lose



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Introduction

America's top hospitals are competing with each other to become our digital source of health information via search.

When analyzing the digital performance of America's top 20 hospitals, it's clear that the healthcare providers who offer their online users a comprehensive, original library of health topics like diseases and conditions are winning their fair share of a very substantial pie.

Those whose websites don't include such a library of original health content, on the other hand, are losing this important battle in the war for patient trust and attention.

To understand the extent of the opportunity available for healthcare providers to reach more patients, we first need to understand the extent of Google's role in the patient journey.

Next, we'll contextualize our subject within the evolving landscape of Google's search results pages. We'll see that the memorable years of WebMD's dominance on health information

have given way to a new power structure, one where hospitals and healthcare providers are entrusted by Google with high search rankings for the types of queries that can most affect our daily lives.

Then, we'll uncover why certain hospitals are winning large patient audiences within this shifting landscape, and why others simply aren't. By identifying why some hospitals are so far ahead, the path forward for the remaining hospitals becomes all too clear.

For those hospitals eager to capitalize on the opportunity, we'll conclude by laying out the concrete steps one must take to claim their piece of a vast patient search audience. In the end, you'll see that closing the gap between high and low performing digital healthcare brands simply requires time, resources, and a great deal of focus.

01

Google and digital health information

Health-related searches, specifically around conditions and symptoms, make up an incredibly large share of all Google searches. Even prior to the COVID-19 pandemic, searches for health information made up about seven percent of all daily Google queries ^[1] (which comes out to something like 392 million health-related searches every day).

None of us need to work very hard at all to imagine the heliospheric extent to which that figure ballooned ^[2] over the last 15 months – after all, we’re the ones who’ve been doing the searching.

Doctors, surgeons, and other healthcare practitioners are part of a larger marketing funnel that starts with, and is often punctuated by, Google searches. According to the National Library of Medicine, one in six patients type their symptoms into search before getting a diagnosis from their doctor ^[3]. That number

goes up if the symptom isn’t common. If the symptom is worrisome, there’s a one in three shot that a patient has conducted their own string of queries before stepping foot in a waiting room.

While many of us might be tight-lipped about our symptoms to coworkers, friends, and family (most of us don’t announce our ailments on social media, for instance), we’re far less opaque when we privately turn to Google to address our health concerns. As a result of this easy access to information, practitioners across all industries



are selling to customers who know much more than they did in the past, and the doctor-patient relationship is no exception.

Experts are already using health-related searches to inform public health decisions. For instance, search query data has been playing an important role in spotting coronavirus outbreaks, ^[4] and could play a much larger role in identifying and combating future pandemics.

Google has research partnerships with major healthcare providers around the world,

like HCA ^[5] and Mayo Clinic. ^[6] Through these partnerships, Google gains access to these systems' massive databases of patient health data (anonymized, of course). Google's goal in accessing this data is to train artificial intelligence systems, and, one can only imagine, to come that much closer to world domination.

Today, however, we focus on yet another no-less-important question concerning the preponderance of health-related Google searches each day: *Where is the information Google's providing to us actually coming from?*

02

Remembering the WebMD years

Of course, for most of us, WebMD was synonymous with condition search results for most of Google's mature existence. Famously, WebMD's content was either so vague or so extreme that something as routine as searching about cold or flu symptoms would result in readers bracing for imminent death. Googling health symptoms only to find that your headache could be an early sign of cancer has become a certified cultural meme, both on and offline,

thanks to those many WebMD years. The aftertaste of WebMD's hold on health information search results still lingers, but many of us have learned to take a much more discerning approach to researching our personal health online. We have learned to take the information we find with a grain of salt.

Thankfully, we now live in a somewhat more reliable world.



03

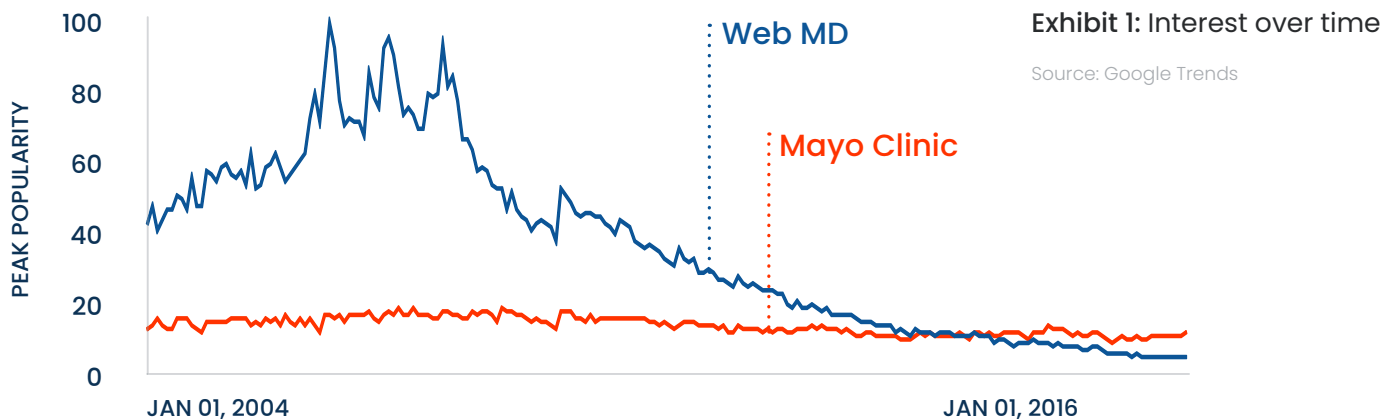
Google's 'Medic Update,' and the opportunity for hospitals

To make search results more reliable and presumably less terrifying, Google has trained its algorithms to favor more reputable sources of information about diseases, conditions, and treatments in its vast index, weakening WebMD's position.

What is now known as the 2018 'Medic Update' began as a series of sweeping changes to the way Google ranks and serves up medical information to its users. The result is a landscape that gives us medical information via search from high-authority healthcare providers, like Cleveland Clinic, Mayo Clinic, and Hopkins Medicine, as opposed to mere healthcare *content* providers.

John Mueller, Senior Webmaster Trends Analyst at Google, describes the shift: "In the past, it was really hard for us to judge the kind of quality of a medical or medically oriented site. But, over time, our algorithms have gotten better in that regard, and that's an area where I'd say maybe if you had a low-quality affiliate site that was focusing on these medical topics, then maybe you would be seeing changes."

What this means is that Google is in the market for medical content from websites that users can trust. In a world with only so many authoritative healthcare brands, those who can step up to the plate should.



04

The data is clear: Hospitals with digital health libraries are winning

What does a new landscape look like where Google's algorithm favors content from healthcare providers over that of mere healthcare content providers?

Analyzing the search traffic of America's top 20 hospitals as ranked by *U.S. News & World Report* ^[7] tells the story of two types of hospitals: Those who are using their brand to provide high-quality patient education on their websites, and those who aren't. The former group is reaping massive rewards in the forms of traffic and exposure while the latter group, the group who relies almost purely on a mix of branded and end-of-funnel search traffic, lags far behind.

When we look at the relationship between the total search traffic earned by each hospital's website, and the percentage of that search traffic earned by 'informational health content' (usually found in an A-Z 'health library' of some kind on the website), a compelling insight emerges:

Hospitals where health information content earns 70% or more of their total search traffic also earn on average ~10 times more search traffic than hospitals where health content accounts for a smaller share of the total.

Put another way, hospital sites with comprehensive health content libraries are

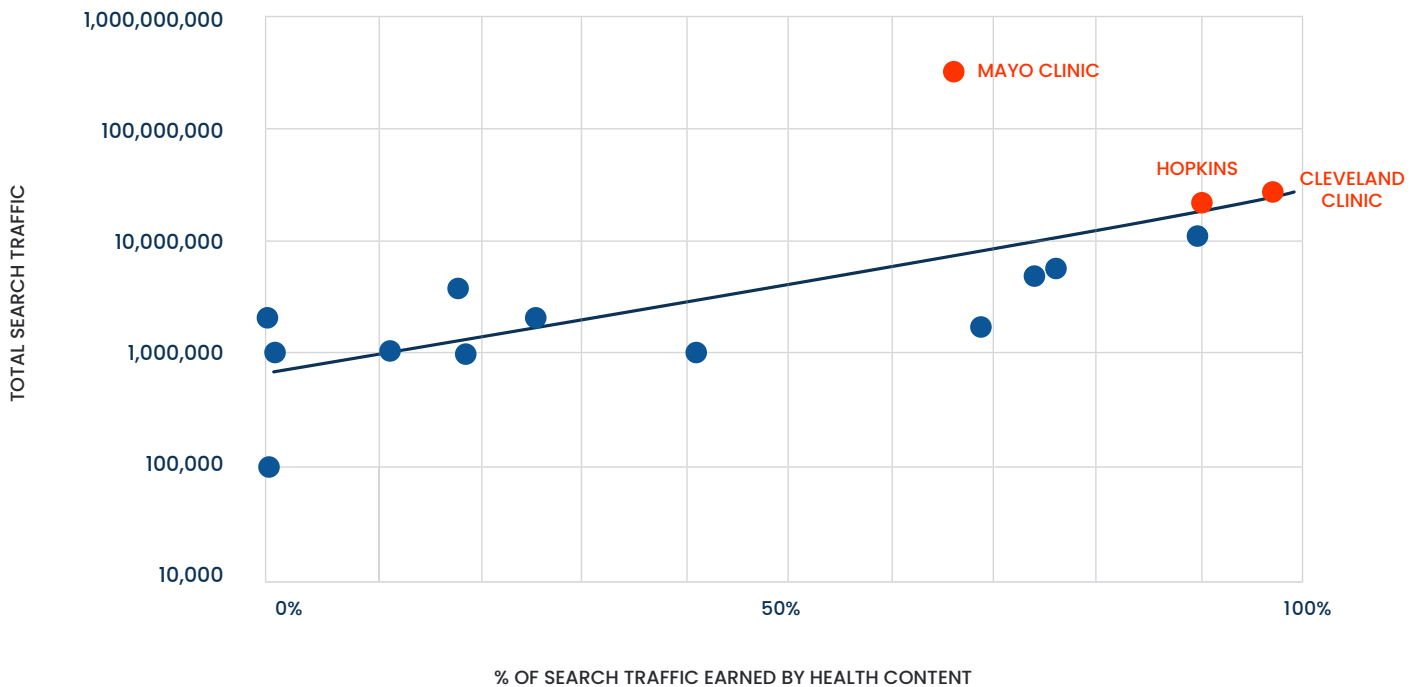


earning *exponentially* more traffic than those without them. This makes sense when you consider that, among these top 20 hospitals, **68% of all search traffic comes purely from health information content**. That means that hospitals that are not serving up health library

content are fighting over their slice of a *much* smaller pie than those that are.

If you're a hospital with a lot of authority behind your brand, this is worth keeping in mind when plotting out your digital footprint.

Exhibit 2: Relationship between total search traffic and % of traffic earned by health content



Source: SEMRush Organic Traffic Data, accessed May 2021

05

Determining the success criteria for digital health libraries

Taking a closer look at the top five US hospitals as listed in the *U.S. News & World Report* rankings reveals something important about what it takes for health content libraries to be successful via search.

When we compare these five hospitals in terms of overall search performance, we see a very sharp difference between the amount of search traffic earned by the top three hospitals (Mayo, Cleveland, and Hopkins) and the hospitals ranked fourth and fifth (NY Presbyterian and UCLA Medical Center, respectively).

Clearly, Mayo Clinic has a pretty sizable lead over the competition. But let's not overlook the fact that Cleveland Clinic and Hopkins Medicine are also both earning tens of millions of visits every month. Even further, across the top three hospitals, one thing is abundantly clear — the traffic that sets them apart from the hospitals ranked fourth and fifth comes almost exclusively by way of the health libraries they have on their site.

Since all five of these hospitals have some form of health library present on their website, we need to

understand what makes some libraries successful, while others can't seem to break through.

Mayo, Cleveland, and Hopkins each meet very important criteria for the success of their health library content:

- It's **comprehensive** (both as a library and within each page of content).
- It's **original** (they wrote it, and didn't source it from a third party).
- It lives on the hospital's **top-level domain**, or TLD (where authority can be maximized).

By checking all three boxes, the top three hospitals not only earn sizable percentages of their search traffic through health information searches, they also earn exponentially more total traffic than their counterparts.

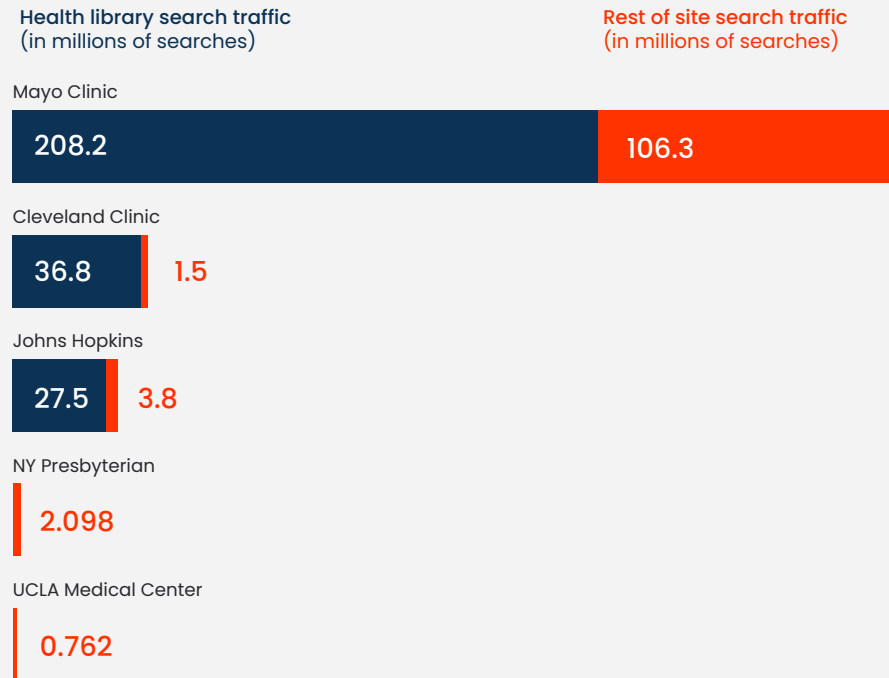
Hospitals ranked fourth and fifth, on the other hand, fail to meet these criteria:

- NY Presbyterian outsources the content for their health library from HealthWise, a third party healthcare content provider, so it's



Exhibit 3: Search traffic to health libraries vs. rest of site, top 5 US hospitals

Source: SEMRush Organic Traffic Data, accessed May 2021



not original and does not earn search traffic.

- UCLA Medical Center has a health library, but it's cut off from the top-level domain by being housed in a subdomain. Google treats subdomains as entirely separate websites, which means they don't share in the centralized authority of the top-level domains to which they belong.

Of the other hospitals ranked 6–20, two have outsourced health content, five have their content organized poorly (either buried or not in their top level domain), and three don't have health libraries at all.

While some may look at the sheer volume of traffic that Mayo Clinic generates and think the battle is over, bear in mind that the relative difference between Mayo and Cleveland (~8x) is almost negligible compared to that between Cleveland and NY Presbyterian (~50x). And that's just the difference between two sites that actually offer health libraries, with substantial differences in the quality of execution.

The difference between Cleveland Clinic and a site like Barnes Jewish Hospital, which has no health library? 380x.

06

Comparing two giants: Cleveland Clinic and Hopkins Medicine

Now that we've defined the basic success criteria for health libraries, we have another important question to answer: At what scale can healthcare providers realize success? Or, how much content do these providers need to produce for it to really start breaking through?

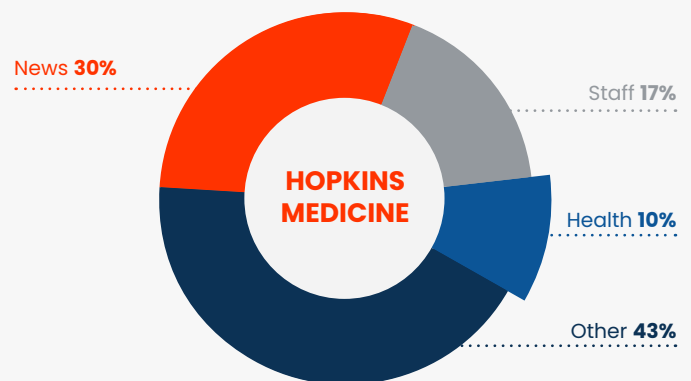
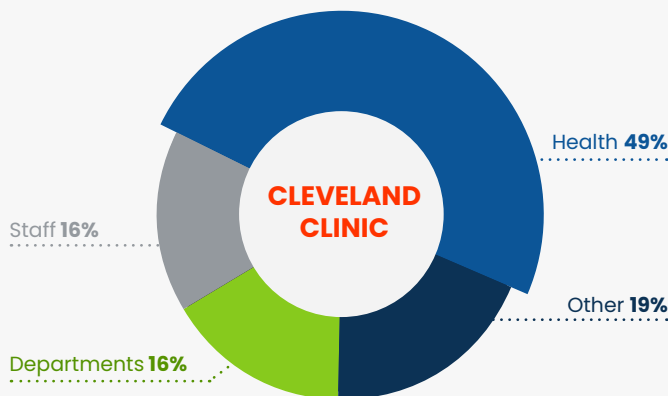
Placing Cleveland Clinic and Hopkins Medicine side-by-side, both in terms of the percentage of pages on their site dedicated to health information and what percentage of their total traffic those pages earn, we see a picture of what type of content production efforts healthcare providers need to make.

Both Cleveland Clinic and Hopkins Medicine dedicate substantial portions of their already-large websites to health content libraries.

Cleveland's health library accounts for just about half of its website, which comes out to over 7,000 unique pages of mostly disease and condition content.

Hopkins' health library accounts for a smaller portion of its whole site, at 10% or just under 3,000 pages of dedicated health content (more pages also exist under each relevant Department or Center for Hopkins).

Exhibits 4 & 5: Share of website per top site section





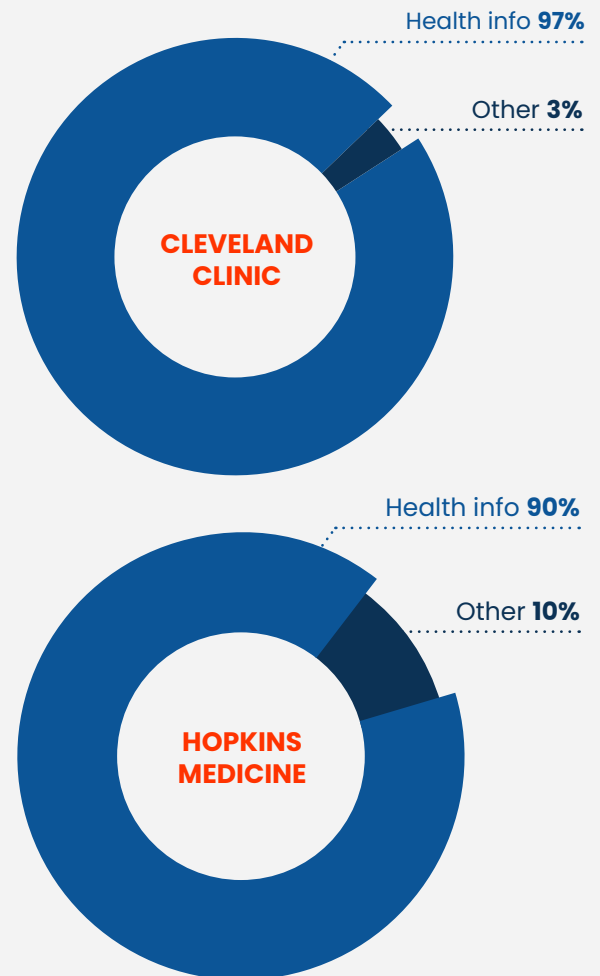
It's worth noting for scale that Hopkins has a *much* larger website than Cleveland. Hopkins' total site sits at around 34,000 pages, over double the size of Cleveland which clocks in at around 14,600. Cleveland therefore has both more total health library pages than Hopkins, and those pages also account for a much larger relative share of their total site.

Based on what we've already seen, it should come as no surprise that the search traffic earned by these hospitals' health libraries accounts for a disproportionate share of their total search traffic. The only question is, how much?

For Cleveland, the answer is startling. **Search traffic to their health library accounts for 97% of their total search traffic** — or about 36.2 million out of around 37.6 million total monthly site visits.

Hopkins earns a somewhat less shocking, but no less demonstrative, 90% of total site traffic from their health library — or about 27.5 million out of 31 million total monthly search visits.

Exhibits 6 & 7: Share of search traffic per site section



Source: SEMRush Organic Search Data, accessed May, 2021

Going one step closer and looking at the actual *categories* of searches that bring patients to these health libraries provides a clear picture of what topics within these libraries are most vital to their overall success.

For both Cleveland Clinic and Hopkins Medicine, **disease and condition** content accounts for an *overwhelming* majority of the traffic earned by health library pages. The remaining categories, while important to patient outcomes, are playing a much smaller role in driving patients to the site.

So while health libraries should be comprehensive, it's clear that not all categories of health library content are created equal. For high-performing digital health libraries, disease and condition content is the key ingredient that will get most users through the door.

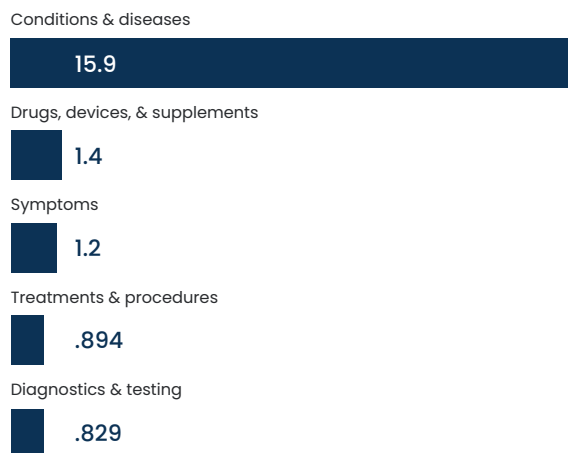
Does this mean the remaining content categories, like Treatments, Wellness, and Symptoms, should be set aside altogether when building your hospital's health library?

The answer is an emphatic no. Let's not forget that the weakest health library categories for these hospitals still earn millions of monthly search visits. Diseases and conditions are just bringing in *tens* of millions.

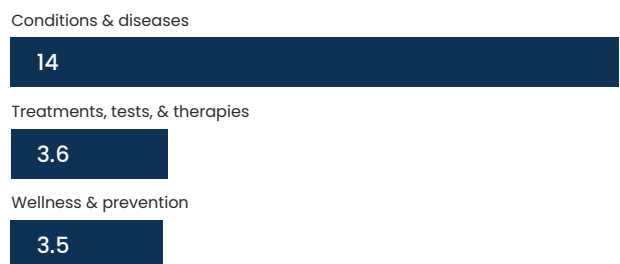
Exhibits 8 & 9: Health library search traffic by category (in millions of searches)

Source: SEMRush Organic Search Data, accessed May, 2021

CLEVELAND CLINIC



HOPKINS MEDICINE





07

Size matters: but how big is big enough?

As to exactly how many pages are needed to break through, it's hard to say there's such a thing as too much content — as long as it meets the criteria we outlined in section five. Or, if there is such a thing, no hospital's passed it.

In fact, our analysis shows that **the more pages each hospital has in their digital health library, the more traffic they tend to earn as a result.** We're not talking about a slight uptick in visitors; the growth here is exponential.

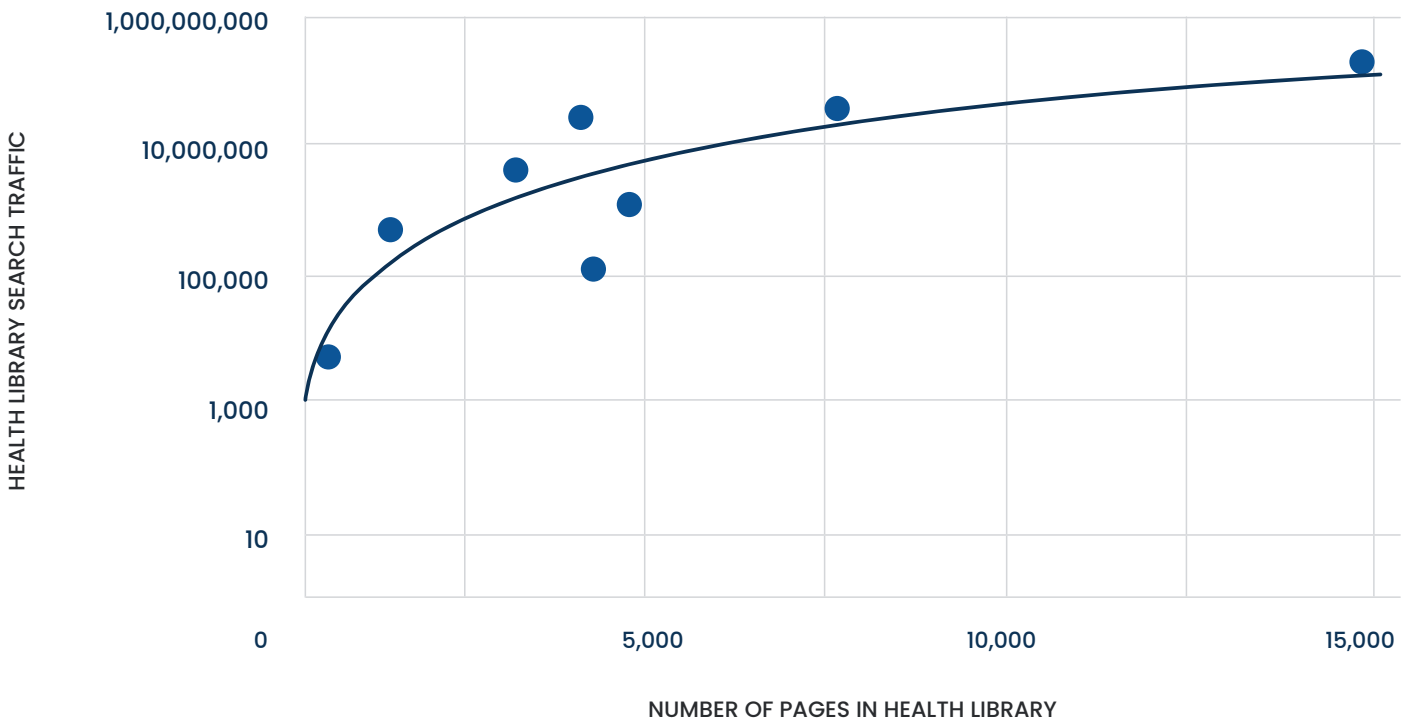
What we *can* say, with certainty, is that **there is such a thing as not enough.** Our research shows that health libraries with fewer than 2,500 pages earn between 10–100x less organic traffic than libraries with twice as many indexed pages.

As Exhibit 10 shows, health libraries with fewer than 2,500 pages tend to earn under 1 million monthly visits, while libraries with between 2,500 and 5,000 total pages earn multiples more (on average just below 10 million). As for Mayo Clinic?

No one else comes close in terms of library page count (just under 15,000 pages) – which goes a long way toward explaining their current lead over the competition. Should anyone else dare to produce content at a similar level, it remains to be seen whether that position can be maintained.

What this means for hospitals is simple: those who dedicate substantial resources toward producing, organizing, and continually growing their digital health content libraries will also benefit from exponential growth via organic search; those who don't, simply won't.

Exhibit 10: Correlating health library search traffic with library page count



Source: Google



08

Here's what to do

So what would it take for the hospitals not yet capitalizing on this opportunity to join their peers? The simple answer is time, dedication, and resources to allocate toward content production at scale – but none of those things matter if you're not sure where to hit the ground running to start making concrete steps in the right direction. To demystify this process, we've identified the key elements of a marketing roadmap and strategy that hospitals should follow.

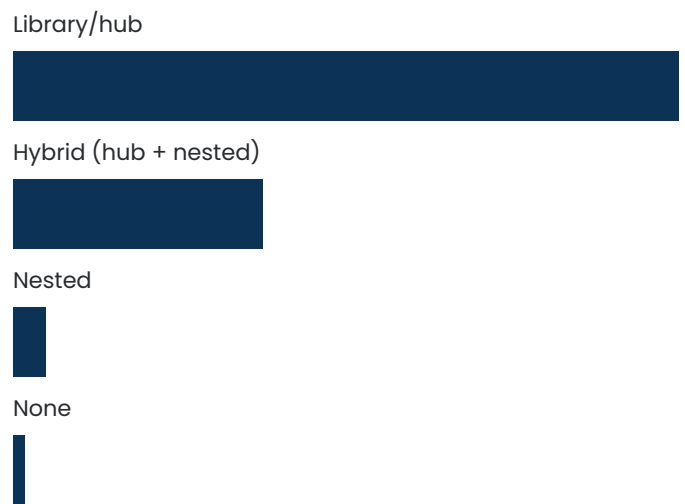
A. First, let's nail down the preferred architecture

Many hospitals might struggle with basic questions about how to organize their health library, or even with where the content should live on their website. We've identified that the most successful architecture is a centralized "hub" on the top level domain, with organizing categories. This is opposed to a "nested" architecture, where healthcare providers place health information content throughout the site underneath a specific medical specialty or 'area of care.'

To put it in concrete terms, this is the difference between a page about laryngitis containing a file path like /health/conditions-diseases/laryngitis ('hub' architecture), or it containing a file path like /specialties/primary-care/laryngitis ('nested' architecture).

The success of the hub framework becomes clear when we look at the difference in traffic between sites that use it and sites that go with a nested approach. Listed below in the "hybrid" column are hospitals that do a mix of both.

Exhibit 11: Average search traffic earned by type of health content IA



Source: SEMRush Organic Search Data, accessed May, 2021

B. Match patient search intent by targeting key moments in the care journey

To help hospitals understand and match patient search intent, we've identified a key tactical distinction in the types of keywords that should be thought about and targeted when forming the strategy for your library.

To reach patients *where they are*, health libraries need to craft content that targets both **scientific** and **unscientific** search terms. Doing so will mean that your library can reach patients both pre- and post- diagnosis — both crucial moments in the patient journey.

Let's look at the first few steps of the patient journey, both on and offline behaviors:

- Patient feels knee pain.
- Patient searches for an “unscientific” version of what she’s experiencing, like “knee problems” or “runner’s knee.”
- She uses search to self-educate and possibly self-treat until the condition worsens, and she visits a doctor to receive an actual diagnosis.
- This diagnosis comes along with a scientific name (in her case Patellofemoral Pain



Syndrome) which the patient will now be aware of, and will want to learn more about once she gets home.

- Patient then searches for “Patellofemoral Pain Syndrome”—the “scientific” term for her condition.

In order to be this patient’s source of health information both *before* and *after* this diagnosis has been issued, your library should cover both *scientific* and *unscientific* target keywords. Doing so will mean that you are her trusted guide throughout multiple stages of the patient journey.



Exhibit 12

Source: SEMRush Organic Search Data, accessed May, 2021

Unscientific Search characteristics & example searches

	Keyword	Search vol.	CPC
<p>Elective/ emergency</p> <hr/> <p>Pre-diagnosis</p> <hr/> <p>Curiosity</p>	Runners knee	33,100	1.22
	What is the master gland	8,100	0
	What does your pancreas do	5,400	0.49
	Hernia symptoms in women	5,400	0.07
	Hangover headache	5,400	0.65
	Knee problems	3,600	1.14
	Different parts of the brain	2,900	2.63
	What is conduct disorder	1,300	0.74
	Poison ivy on kids	1,300	2.9
	Baby poison ivy	1,300	0

Scientific Search characteristics & example searches

	Keyword	Search vol.	CPC
<p>Non-elective /necessary</p> <hr/> <p>Post-diagnosis</p> <hr/> <p>Investigation</p>	Cystocele	49,500	1.33
	Arthrogryposis	27,100	1.26
	Oseochondroma	22,200	2.71
	Parathyroid gland function	2,400	1.16
	Glycogen storage	1,900	7.36
	Temporomandibular disorder	1,600	1.88
	Signs of increased icp	1,000	0
	Hypopharyngeal cancer	1,000	2.89
	Vascular insufficiency	1,000	2.8
	Radiculopathy treatment	1,000	2.05

C. Getting EAT right: Expertise, authoritativeness, and trustworthiness

There are many articles dedicated to EAT, as it's an important acronym for SEO specialists and content producers to understand. In the case of a health library, it's imperative that certain EAT criteria is met, as it falls into a sensitive category of search terms referred to as YMYL (your money or your life). To simplify this concept, we've identified the key page and site elements that can contribute positively to Google's perception of your health library.

- Include a **publish date** on all library pages to demonstrate the recency of your content.
- Establish an **MD editorial board** and include an MD from the relevant department as the **linked byline for each page of library content**.
- Establish **periodic content review cycles**, when library content is evaluated for relevancy and to ensure all information reflects the most recent science.
 - These can take place every 18–24 months on a rolling basis. Refreshing the content on a rolling basis will help bolster its relevance in the eyes of Google.
- **Partner with high-authority content producers** in other areas and industries to use your hospital's library content as a linked source for any health topics they may write about.
 - The more high-authority links point to your hospital's content, the more reputable it will be according to the algorithm.





D. Getting the content written

Ok, now it's time to write thousands of pages of high-quality content. Easier said than done. But isn't everything?

To bring their new health libraries to life, hospitals have several options. The easiest, but certainly not the least expensive way, is to hire a stable of freelance copywriters or partner with a content production firm (but not one offering third-party content syndication of course) and pay for them to draft the pages en masse. Prior to publishing, each page should be reviewed by one or more MDs to ensure accuracy and comprehensiveness. Of course, this is most easily accomplished iteratively, with the library published in stages over the course of time.



It's important not to think of this as a one-time project — rather, it's a new practice you're developing in order to compete digitally with your business competitors. Like all practices, the idea is to continually refine and strengthen your capabilities over time.

For hospitals with internal content resources to dedicate to content production at scale, the content can be produced internally for potentially a fraction of the cost compared to the outsourced approach to content production. Of course, medical experts within the hospital should still verify and edit the content and stamp it with an MD byline before it is published.

Most hospitals would benefit from some kind of outside help in getting this done. Few have the internal resources at their disposal to handle it in-house, between the intensive keyword research, architectural blueprinting, and content development required. Most would benefit from enlisting a key strategic partner to ensure the success of the project (Boston Digital happens to be one such firm). The last thing a hospital would want is to devote time, money, and energy toward a project like this without results to show for it, especially since, as we've already seen, execution is just as important to overall success as having the library on your website in the first place.

Wrapping up

Digital success in the healthcare industry is becoming synonymous with success in general. It's no coincidence that the hospitals ranked highest for quality and breadth of care are also the top digital performers. However, to be clear, this isn't a purely altruistic exercise. Top-performing hospitals are also, one can assume, benefiting from higher patient conversions via digital channels by supporting this content, as well as reaping various indirect benefits that arise from the underscored credibility of being a trusted purveyor of valuable health information. Think about the lifetime patient value for hospitals who consistently reach patients during these critical moments, versus that of hospitals who don't.

This content play also offers hospitals a way to gather patient data based on digital behavior and content consumption, without having to navigate the treacherous waters of patient privacy. This type of patient information therefore represents an *entirely new lens* on patient outcomes for hospitals by allowing upstream patient activity that occurs prior to a visit (typically beyond the view of healthcare providers) to be tied with and analyzed alongside first-person, active patient data already being

captured. The picture that emerges from integrating patient data across the entire journey could lead to the *wholesale evolution* of a health system, if properly applied. And of course, the data can be monetized, both directly and indirectly; directly in the form of ads placed on health library pages via programmatic display networks, or indirectly by leveraging the data to refocus digital patient acquisition efforts where they will have the biggest impact on revenue.

While top-tier digital performance doesn't necessarily imply top-tier quality of care or vice versa (as we've seen, only a handful of the top 20 US hospitals are competing for the biggest pool of patient eyeballs online), the elevated status of being a top-tier healthcare provider now comes with the opportunity to achieve outsized digital performance at scale — one which did not exist until recently. Our hope is that the hospitals who haven't yet capitalized on this opportunity now have a demystified appreciation of exactly what accounts for the difference in performance between themselves and industry leaders. Who would have imagined that the path to digital success would be so... painfully simple?



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