

## Data Supplement S1: Supplemental material.

**Table S1:** Defined usability factors with their associated percentage weight, assessment tools, impact, and formulas. Used with permission from Calvano et al.<sup>11</sup>

Assessment Factors:	Definition:	Accessibility:	Content Quality:	Marketing:	Technology:	General Usability:	Overall Usability:	Assessment Tools <sup>a</sup> :	Applied Formula <sup>b</sup> :
Alternative text	Missing image alternative text. This is used to offer a description of an image file contained on a webpage.	15%		4%	4%	5%	6%	Screaming Frog SEO Spider (Full)	$(Total - X) / Total$
Amount of content	Assesses the amount of words present on an individual webpage.	8%	33%	9%		5%	9%	Screaming Frog SEO Spider (Full)	Pages >600 / Total
Analytics	Utilizes a Google analytics service for tracking website traffic.			4%	4%	3%	3%	Browser Developer Tools (Free)	Yes/No

Broken Backlinks	Broken inbound backlinks. Backlinks are links from outside websites that link to the website of interest.	8%		1%	8%	5%	4%	AHREFS (Full)	(Relative High - X) / Relative High
Cascading Style Sheets (CSS)	Use of cascading style sheets (CSS) for meeting page design and styling standards.	15%			8%	4%	5%	Pingdom Tools (Free)	Yes/No
Domain age	The age of registered domain name.			4%			1%	GoDaddy WHOIS (Free)	Absolute value
Error page	Assesses for the number of error pages (4xx) within a given website.			4%	8%	3%	3%	Screaming Frog SEO Spider (Full)	(Total - X) / Total
Facebook	Number of Facebook likes for a company's social media page.			8%		4%	3%	Facebook (Free)	X / Relative High
Headings	Number of missing H1 headers on a website.	8%		4%	8%	5%	5%	Screaming Frog SEO Spider (Full)	(Total - X) / Total
In-line CSS	Assesses for the use of	8%		1%	6%	5%	4%	Pingdom Tools (Free)	Yes/No

	embedded CSS throughout the site for additional page formatting.								
Incoming Backlinks	Number of currently functioning backlinks.			9%		5%	4%	AHREFS (Full)	X / Relative High
Meta Data	Number of webpages missing meta descriptions.	4%	13%	7%	4%	5%	6%	Screaming Frog SEO Spider (Full)	(Total - X) / Total
Missing Files	Number of missing structured data files.				8%	3%	2%	Screaming Frog SEO Spider (Full)	(Relative High - X) / Relative High
Open Graph	Use of Facebook's Open Graph protocol			4%	6%	4%	3%	OpenGraphCheck (Free)	Yes/No
Popularity	Alexa Popularity Ranking			9%		6%	4%	Alexa Rankings (Free)	(Relative High - X) / Relative High
Printability	Whether the website utilizes printer-friendly CSS layouts.				8%	5%	3%	Pingdom Tools (Free)	Yes/No

Readability	Assesses the Flesch Kincaid (FK) Reading Ease and Gunning Fog Index (GFI) for reading difficulty and estimated grade level required for understanding.	8%	33%	2%		5%	7%	Readable (Free)	$FK \ 1/2: \text{Absolute Value GFI } 1/2:(\text{Relative High} - X) / \text{Relative High}$
Redirections	Number of redirections (3xx) within a website.	6%			6%	1%	2%	Screaming Frog SEO Spider (Full)	$(\text{Total} - X) / \text{Total}$
Social Interest	Total number of all social media interest (Twitter and Facebook factors combined).			11%		5%	5%	Facebook and Twitter (Free)	Facebook Likes + Twitter Follows
Speed	The average website speed across multiple assessment tools.	6%		3%	15%	10%	7%	Pingdom Tools and Google Pagespeed Insights (Free)	$(\text{Relative High} - X) / \text{Relative High}$
Spelling	Percentage of spelling errors within a given website.		20%				2%	Readable (Full)	$100 - X / 100$

Twitter	Number of Twitter followers for a company's social media page.			7%		3%	3%	Twitter (Free)	X / Relative High
URL format	Use of URL formats that submit to current SSH protocol.	7%		7%	4%	4%	5%	MOZ URL Structure (Free)	Yes/No
W3C compliance	Number of W3C compliance errors within a website.	8%			8%	5%	4%	W3C Markup Validation Service (Free)	(Relative High - X) / Relative High

<sup>a</sup>Full means that it was the paid, commercially available, version of the product. Free means that it was a free, or open-source.

<sup>b</sup>"X" indicates the obtained value. Relative indicates that the number is relative to the recorded values across the factor.

**Note:** Percentages do not add to 100 for rounding purposes.

**Table S2:** EM residency websites and category scores

EM Residency Website Name	Accessibility		Content Quality		Marketing		Technology		General Usability		Overall Usability	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
<a href="#">Advocate Health Care (Advocate Christ Medical Center) Program</a>	1.9	31	5.1	33	1.0	39	0.8	18	1.3	31	1.6	32
<a href="#">Arrowhead Regional Medical Center Program</a>	1.9	28	6.0	24	0.9	46	0.6	55	1.3	32	1.7	31
<a href="#">Aultman Hospital/NEOMED Program</a>	1.5	42	3.1	44	0.6	54	0.8	12	1.0	43	1.2	48
<a href="#">Aventura Hospital and Medical Center Program</a>	2.3	17	7.2	15	0.9	41	0.7	31	1.6	17	2.0	22
<a href="#">Beaumont Health (Royal Oak) Program</a>	2.4	15	7.0	17	1.1	33	0.8	14	1.6	15	2.1	17
<a href="#">Brookdale University Hospital and Medical Center Program</a>	1.3	45	2.5	49	0.6	52	0.9	4	1.0	45	1.1	51
<a href="#">Brooklyn Hospital Center Program</a>	2.0	27	5.4	28	1.4	21	0.8	19	1.3	28	1.8	28
<a href="#">Brown University Program</a>	2.6	6	8.4	6	1.2	28	0.7	39	1.8	5	2.4	6
<a href="#">Case Western Reserve University/University Hospitals Cleveland Medical Center Program</a>	2.6	10	7.6	11	0.9	43	0.8	17	1.7	10	2.1	14
<a href="#">Christiana Care Health Services Program</a>	3.5	1	11.7	1	2.0	9	0.9	3	2.4	1	3.2	1
<a href="#">Christus Health/Texas A&amp;M College of Medicine/Spohn Hospital Program</a>	1.7	36	4.2	37	1.1	34	0.8	26	1.1	38	1.5	39
<a href="#">Cook County Health and Hospitals System Program</a>	3.1	2	10.6	2	1.2	29	0.7	28	2.2	2	2.8	2
<a href="#">Creighton University School of Medicine (Phoenix) Program</a>	2.6	11	7.9	8	1.6	17	0.8	23	1.7	8	2.3	8
<a href="#">Denver Health Medical Center Program</a>	1.5	41	4.4	35	1.3	25	0.6	52	1.2	37	1.5	38
<a href="#">Desert Regional Medical Center Program</a>	1.3	48	2.9	48	0.5	55	0.6	51	0.8	49	1.0	52
<a href="#">Detroit Medical Center/Wayne State University (Detroit Receiving Hospital) Program</a>	1.2	49	3.1	45	0.9	42	0.7	30	0.9	48	1.2	47

<a href="#">HealthPartners Institute/Regions Hospital Program</a>	0.6	55	0.2	55	1.2	30	0.7	42	0.5	55	0.7	55
<a href="#">Icahn School of Medicine at Mount Sinai/St Luke's-Roosevelt Hospital Center Program</a>	2.7	4	9.3	3	1.0	38	0.6	50	1.9	4	2.4	4
<a href="#">Inspira Health Network Program</a>	2.3	19	7.4	14	1.0	37	0.6	47	1.6	19	2.0	20
<a href="#">Lincoln Medical and Mental Health Center Program</a>	2.6	8	7.7	10	0.9	49	0.7	37	1.7	13	2.1	15
<a href="#">Loma Linda University Health Education Consortium Program</a>	2.1	22	6.4	20	1.0	36	0.8	21	1.5	21	1.9	25
<a href="#">Los Angeles County-Harbor-UCLA Medical Center Program</a>	1.4	44	4.1	40	1.2	31	0.6	54	1.0	44	1.4	45
<a href="#">Louisiana State University (Baton Rouge) Program</a>	2.5	14	8.2	7	1.0	35	0.6	48	1.7	11	2.2	11
<a href="#">Louisiana State University Program</a>	2.6	9	7.4	13	1.3	23	0.8	9	1.7	6	2.2	10
<a href="#">Maimonides Medical Center Program</a>	1.9	29	4.9	34	0.9	50	0.8	24	1.3	27	1.6	33
<a href="#">Maine Medical Center Program</a>	2.6	5	7.5	12	1.0	40	0.8	6	1.7	9	2.2	12
<a href="#">Massachusetts General Hospital/Brigham and Women's Hospital/Harvard Medical School Program</a>	0.9	53	1.4	52	1.3	24	0.7	32	0.7	53	1.0	53
<a href="#">MedStar Health/Georgetown-Washington Hospital Center Program</a>	1.6	38	4.2	38	1.1	32	0.7	36	1.1	40	1.5	42
<a href="#">New York Medical College (Metropolitan) Program</a>	1.9	30	5.1	32	0.8	51	0.7	40	1.2	35	1.5	37
<a href="#">Prisma Health-Midlands/University of South Carolina School of Medicine-Columbia Program</a>	2.6	7	8.5	5	1.6	18	0.8	25	1.7	7	2.4	5
<a href="#">Stanford Health Care-Sponsored Stanford University Program</a>	2.0	25	5.6	26	2.1	7	0.8	16	1.4	25	2.0	21
<a href="#">Tower Health/Reading Hospital Program</a>	2.2	21	5.7	25	0.9	48	0.9	5	1.5	22	1.8	27
<a href="#">UCLA David Geffen School of Medicine/UCLA Medical Center/Olive View Program</a>	2.0	26	5.5	27	2.1	4	0.7	43	1.3	26	2.0	24
<a href="#">University of Arizona College of Medicine-Tucson (South Campus) Program</a>	1.3	46	2.9	47	1.8	13	0.8	22	1.0	47	1.4	43

<a href="#">University of Arizona College of Medicine-Tucson Program</a>	1.0	52	1.3	53	1.8	14	0.8	20	0.8	52	1.1	50
<a href="#">University of Arkansas for Medical Sciences Program</a>	2.4	16	6.8	19	2.1	6	0.9	2	1.7	12	2.3	9
<a href="#">University of California (Irvine) Program</a>	2.2	20	6.2	21	2.1	1	0.8	13	1.5	20	2.2	13
<a href="#">University of California (San Francisco)/San Francisco General Hospital Program</a>	1.1	50	2.2	50	1.8	15	0.7	29	0.8	50	1.2	46
<a href="#">University of Central Florida/HCA GME Consortium (Greater Orlando) Program</a>	2.5	13	7.7	9	0.9	47	0.6	53	1.6	18	2.0	19
<a href="#">University of Central Florida/HCA GME Consortium (Ocala) Program</a>	1.8	34	5.2	30	0.6	53	0.7	45	1.2	34	1.5	40
<a href="#">University of Chicago Program</a>	1.0	51	2.0	51	1.7	16	0.7	46	0.8	51	1.2	49
<a href="#">University of Florida College of Medicine Jacksonville Program</a>	1.8	32	4.3	36	2.1	3	0.9	1	1.3	30	1.9	26
<a href="#">University of Florida Program</a>	1.5	40	3.2	43	2.0	8	0.8	8	1.1	42	1.6	34
<a href="#">University of Kentucky College of Medicine Program</a>	1.8	33	5.3	29	0.9	45	0.6	49	1.2	33	1.6	35
<a href="#">University of Maryland Program</a>	0.7	54	0.3	54	1.3	22	0.8	10	0.6	54	0.8	54
<a href="#">University of Nevada Las Vegas (UNLV) School of Medicine Program</a>	1.4	43	3.8	42	1.2	27	0.7	44	1.1	41	1.5	41
<a href="#">University of New Mexico School of Medicine Program</a>	2.1	24	6.0	23	2.0	11	0.7	38	1.4	24	2.1	18
<a href="#">University of Washington Program</a>	1.7	37	3.9	41	1.5	19	0.8	15	1.2	36	1.6	36
<a href="#">University of Wisconsin Hospitals and Clinics Program</a>	1.5	39	4.2	39	2.0	10	0.7	34	1.1	39	1.7	29
<a href="#">UPMC Medical Education (Pittsburgh) Program</a>	1.3	47	3.0	46	1.9	12	0.7	33	1.0	46	1.4	44
<a href="#">Vanderbilt University Medical Center Program</a>	1.8	35	5.1	31	1.2	26	0.7	41	1.3	29	1.7	30
<a href="#">Virginia Commonwealth University Health System Program</a>	2.5	12	7.1	16	2.1	2	0.7	27	1.6	14	2.3	7
<a href="#">Washington University/B-JH/SLCH Consortium Program</a>	2.1	23	6.2	22	2.1	5	0.7	35	1.5	23	2.1	16
<a href="#">Wyckoff Heights Medical Center Program</a>	2.3	18	6.8	18	0.9	44	0.8	11	1.6	16	2.0	23



<a href="#">Zucker School of Medicine at Hofstra/Northwell at Staten Island University Hospital Program</a>	2.7	3	8.5	4	1.5	20	0.8	7	1.9	3	2.6	3
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