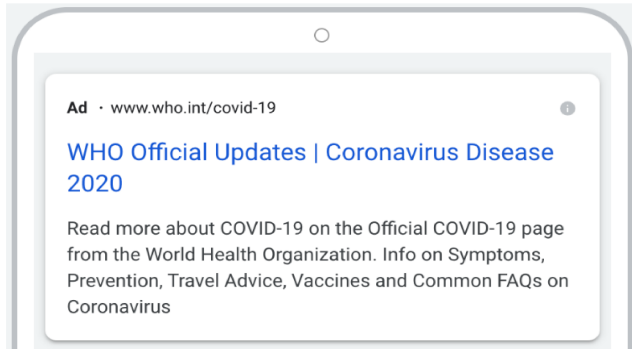


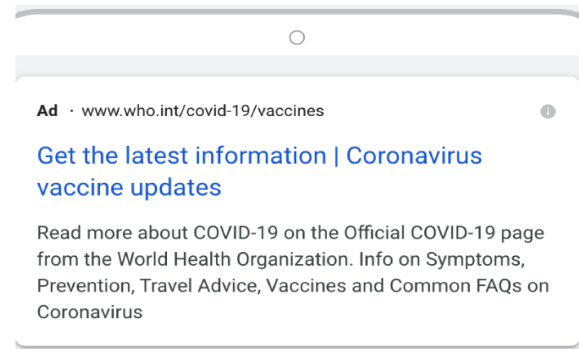
Supplementary File 1

Figure 1. Examples of WHO ads across topics shown to online users from 11 September 2020 to November 23, 2020

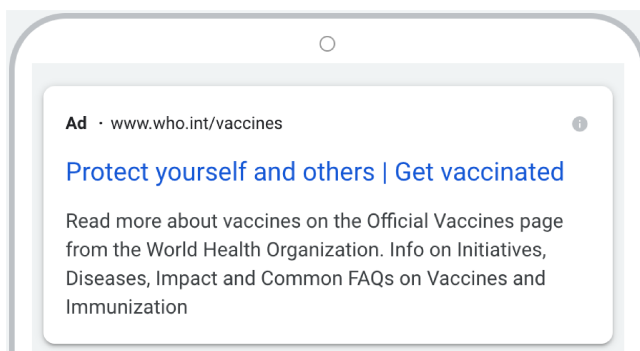
Topic: General COVID-19



Topic: COVID-19 vaccines



Topic: General vaccines



Topic: Masks

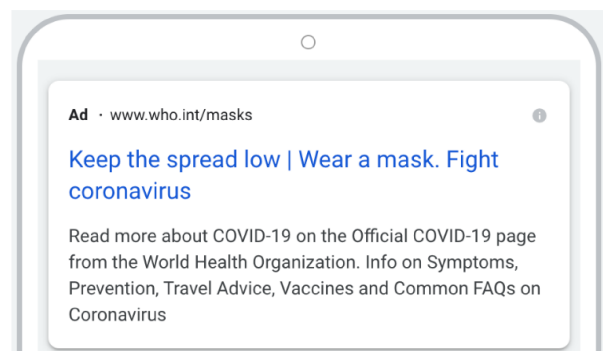


Table 1. Common search queries that led to experimental ads being shown

astrazeneca vaccine	covid vaccine update
bcg vaccine	flu vaccine
best face masks for covid	gov coronavirus
cdc coronavirus	halloween face mask covid
corona vaccine	hpv vaccine
corona vaccine update	influenza vaccine
coronavirus	johns hopkins covid data
coronavirus data	metallic taste in mouth covid
coronavirus in my area	mmr vaccine
coronavirus symptoms	moderna vaccine
coronavirus symptoms 2020	oxford vaccine
coronavirus symptoms checker	pfizer covid vaccine
coronavirus symptoms day by day	pfizer vaccine
coronavirus symptoms in children	pneumonia vaccine
coronavirus vaccine	polio vaccine
coronavirus vaccine latest update	vaccine
coronavirus vaccine news	vaccine covid
coronavirus vaccine update	vaccine news
covid	vaccine tracker

covid 19	vaccine update
covid 19 definition	when did coronavirus start
covid 19 news	where did coronavirus come from
covid 19 safety measures	who coronavirus
covid 19 vaccine	who covid 19
covid 19 vaccine update	world health organization coronavirus
covid face shield	world health organization covid
covid vaccine	world health organization covid 19
covid vaccine news	

Table 2. Ad performance by framing condition

Reported statistics are tests of proportions, comparing the framing condition's click-through rate to the average click through rate within each topic

Topic	Framing	Clicks	Impressions	Click-through rate	Topic average click through rate	χ^2	<i>p</i>
COVID-19 general	Descriptive	85507	458398	18.7%	11.7%	21,713	< .001
	Gain	28338	217450	13.0%		393	< .001
	Collective	5266	49716	10.6%		56	< .001
	Emphasizing reasons	3360	33677	10.0%		93	< .001
	Appeals to values	3797	40920	9.3%		226	< .001
	Loss	1562	18433	8.5%		182	< .001
Masks	Descriptive	7752	70062	11.1%	8.5%	602	< .001
	Gain	1606	14918	10.8%		100	< .001
	Appeals to values	6763	67524	10.0%		205	< .001
	Collective	5047	60575	8.3%		2	< .001
	Loss	2836	42554	6.7%		181	< .001
	Emphasizing reasons	2219	54792	4.1%		1,386	< .001
COVID-19 vaccines	Descriptive	649939	4306302	15.1%	11.4%	59,892	< .001
	Collective	61583	434462	14.2%		3,440	< .001
	Emphasizing reasons	28490	223574	12.7%		430	< .001
	Gain	16431	159609	10.3%		177	< .001
	Loss	30174	340421	8.9%		2,094	< .001
	Appeals to values	96717	1390501	7.0%		26,704	< .001

Vaccines general	Gain	12728	172174	7.4%	6.2%	441	< .001
	Descriptive	271401	3684051	7.4%		9,034	< .001
	Appeals to values	19577	307795	6.4%		18	< .001
	Collective	27862	502341	5.6%		343	< .001
	Emphasizing reasons	14774	266126	5.6%		179	< .001
	Loss	6307	130704	4.8%		411	< .001

Table 3. All locations in which experimental ads were shown and their ads metrics

Location	Clicks	Impressions	Click-through rate (CTR)
<i>Total</i>	<i>1,390,348</i>	<i>13,053,136</i>	<i>10.65%</i>
India	245,744	2,350,122	10.46%
United Kingdom	207,500	2,049,104	10.13%
United States	156,872	1,824,781	8.60%
Canada	89,950	865,124	10.40%
Philippines	101,038	846,844	11.93%
Australia	33,952	315,517	10.76%
United Arab Emirates	28,494	229,923	12.39%
Malaysia	25,005	217,659	11.49%
Ireland	22,838	215,118	10.62%
Pakistan	24,102	208,659	11.55%
South Africa	16,372	167,605	9.77%
Russia	13,696	151,575	9.04%
Indonesia	16,710	136,036	12.28%
Germany	15,351	133,319	11.51%
China	11,561	130,042	8.89%
Singapore	10,766	126,476	8.51%

South Korea	10,879	123,072	8.84%
Brazil	7,666	113,893	6.73%
Netherlands	12,786	108,829	11.75%
Saudi Arabia	13,245	96,597	13.71%
Italy	11,515	88,342	13.03%
Turkey	7,585	86,837	8.73%
Hong Kong	6,404	84,868	7.55%
Bangladesh	9,695	78,010	12.43%
Sweden	10,941	75,742	14.45%
France	6,272	73,460	8.54%
Romania	9,430	73,094	12.90%
Denmark	8,961	72,586	12.35%
Nepal	9,312	65,201	14.28%
Thailand	6,108	64,338	9.49%
Belgium	7,727	63,483	12.17%
Poland	6,810	60,942	11.17%
Sri Lanka	10,007	60,879	16.44%
Spain	6,825	56,995	11.97%
Mexico	5,504	56,181	9.80%
New Zealand	6,388	54,846	11.65%
Israel	7,068	53,947	13.10%

Greece	5,497	52,772	10.42%
Kenya	7,342	51,026	14.39%
Taiwan	3,679	49,663	7.41%
Egypt	6,487	49,645	13.07%
Nigeria	5,975	48,500	12.32%
Portugal	5,326	46,208	11.53%
Switzerland	6,992	46,075	15.18%
Vietnam	3,188	43,252	7.37%
Iran	7,430	42,338	17.55%
Norway	5,546	39,269	14.12%
Qatar	5,515	38,750	14.23%
Argentina	1,975	36,175	5.46%
Japan	4,005	34,032	11.77%
Hungary	3,792	31,024	12.22%
Finland	3,735	30,932	12.07%
Lebanon	4,021	29,839	13.48%
Myanmar (Burma)	5,541	28,388	19.52%
Czechia	3,463	28,302	12.24%
Austria	3,192	25,933	12.31%
Kuwait	3,096	22,919	13.51%
Ghana	2,901	20,579	14.10%

Oman	2,726	20,297	13.43%
Ethiopia	3,076	19,837	15.51%
Ukraine	1,367	19,547	6.99%
Malta	3,330	19,513	17.07%
Bulgaria	2,262	18,319	12.35%
Slovakia	3,114	18,247	17.07%
Morocco	1,702	17,952	9.48%
Colombia	1,740	17,754	9.80%
Serbia	2,084	17,358	12.01%
Jordan	2,388	17,336	13.77%
Peru	1,515	16,477	9.19%
Lithuania	2,368	15,686	15.10%
Uganda	2,375	15,676	15.15%
Croatia	1,916	15,197	12.61%
Bahrain	2,082	15,006	13.87%
Slovenia	1,922	14,699	13.08%
Iraq	1,842	14,594	12.62%
Cyprus	1,777	13,566	13.10%
Trinidad and Tobago	2,296	13,470	17.05%
Chile	1,141	13,439	8.49%
Jamaica	1,920	13,302	14.43%

Georgia	2,133	11,718	18.20%
Puerto Rico	1,220	10,564	11.55%
Latvia	1,309	9,792	13.37%
Zambia	1,241	9,766	12.71%
Cambodia	1,374	9,490	14.48%
Tunisia	1,240	9,363	13.24%
Estonia	1,025	8,436	12.15%
North Macedonia	1,273	8,180	15.56%
Mauritius	1,491	7,943	18.77%
Botswana	1,047	7,533	13.90%
Iceland	1,154	7,484	15.42%
Maldives	894	7,270	12.30%
Algeria	684	7,213	9.48%
Ecuador	750	6,955	10.78%
Albania	1,062	6,710	15.83%
Zimbabwe	831	6,644	12.51%
Mongolia	1,223	6,572	18.61%
Tanzania	832	6,163	13.50%
Luxembourg	787	5,949	13.23%
Somalia	793	5,741	13.81%
Costa Rica	630	5,046	12.49%

Bosnia and Herzegovina	672	4,891	13.74%
Rwanda	732	4,849	15.10%
Bhutan	654	4,603	14.21%
Afghanistan	567	4,481	12.65%
Panama	541	4,462	12.12%
Sudan	628	4,377	14.35%
Palestine	645	4,272	15.10%
Cameroon	381	3,979	9.58%
Dominican Republic	562	3,907	14.38%
Namibia	567	3,818	14.85%
Kosovo	611	3,816	16.01%
Venezuela	318	3,630	8.76%
Brunei	491	3,552	13.82%
Fiji	598	3,526	16.96%
Kazakhstan	325	3,332	9.75%
The Bahamas	435	3,151	13.81%
Moldova	356	2,810	12.67%
Guyana	342	2,730	12.53%
Yemen	337	2,667	12.64%
Papua New Guinea	352	2,621	13.43%

Malawi	382	2,588	14.76%
Azerbaijan	406	2,576	15.76%
Libya	363	2,575	14.10%
Guam	359	2,552	14.07%
Belize	418	2,538	16.47%
Jersey	400	2,531	15.80%
Uruguay	297	2,462	12.06%
Barbados	285	2,374	12.01%
Guatemala	315	2,342	13.45%
Armenia	241	1,953	12.34%
Honduras	298	1,946	15.31%
Bolivia	209	1,794	11.65%
Mozambique	279	1,720	16.22%
Democratic Republic of the Congo	141	1,692	8.33%
Laos	260	1,686	15.42%
Guernsey	269	1,676	16.05%
Belarus	206	1,633	12.61%
Montenegro	216	1,628	13.27%
Saint Lucia	253	1,524	16.60%
Uzbekistan	197	1,521	12.95%

Macao	154	1,508	10.21%
Syria	207	1,482	13.97%
Angola	246	1,458	16.87%
Suriname	202	1,418	14.25%
Seychelles	198	1,378	14.37%
Grenada	198	1,311	15.10%
Senegal	112	1,306	8.58%
Haiti	120	1,280	9.38%
El Salvador	145	1,280	11.33%
Cote d'Ivoire	116	1,274	9.11%
Lesotho	188	1,272	14.78%
Curacao	216	1,253	17.24%
Eswatini	192	1,231	15.60%
Cayman Islands	195	1,218	16.01%
Sierra Leone	203	1,212	16.75%
Cuba	152	1,173	12.96%
Bermuda	169	1,158	14.59%
Paraguay	108	1,134	9.52%
Nicaragua	151	1,080	13.98%
Aruba	168	994	16.90%
The Gambia	149	969	15.38%

Liberia	121	959	12.62%
U.S. Virgin Islands	121	936	12.93%
Solomon Islands	179	925	19.35%
Madagascar	88	858	10.26%
Gibraltar	141	852	16.55%
Benin	56	782	7.16%
Vanuatu	172	685	25.11%
Faroe Islands	91	674	13.50%
Northern Mariana Islands	88	671	13.11%
Antigua and Barbuda	102	648	15.74%
Saint Kitts and Nevis	124	605	20.50%
Burkina Faso	44	603	7.30%
Kyrgyzstan	66	581	11.36%
Eritrea	81	487	16.63%
British Virgin Islands	48	466	10.30%
Mali	39	457	8.53%
Dominica	83	454	18.28%
Samoa	43	425	10.12%

Turks and Caicos Islands	70	420	16.67%
Sint Maarten	67	419	15.99%
Greenland	41	402	10.20%
Saint Vincent and the Grenadines	62	399	15.54%
Kiribati	106	394	26.90%
Timor-Leste	88	363	24.24%
Federated States of Micronesia	79	349	22.64%
Republic of the Congo	22	348	6.32%
Turkmenistan	45	347	12.97%
Togo	28	346	8.09%
Guinea	29	332	8.73%
Monaco	37	331	11.18%
Djibouti	32	330	9.70%
Gabon	24	305	7.87%
Burundi	30	299	10.03%
Cape Verde	65	299	21.74%
Palau	53	297	17.85%
Tajikistan	56	283	19.79%

Chad	30	266	11.28%
Reunion	13	260	5.00%
Mauritania	22	259	8.49%
Tonga	53	253	20.95%
American Samoa	39	234	16.67%
Andorra	24	217	11.06%
New Caledonia	19	212	8.96%
Marshall Islands	44	207	21.26%
French Polynesia	17	201	8.46%
Niger	21	198	10.61%
Anguilla	31	183	16.94%
Liechtenstein	21	165	12.73%
Western Sahara	13	156	8.33%
Equatorial Guinea	27	152	17.76%
Caribbean Netherlands	30	129	23.26%
Guadeloupe	7	127	5.51%
Martinique	9	118	7.63%
Guinea-Bissau	12	98	12.24%

Nauru	15	95	15.79%
French Guiana	6	93	6.45%
Central African Republic	6	92	6.52%
Vatican City	3	84	3.57%
Saint Helena, Ascension and Tristan da Cunha	12	50	24.00%
Cook Islands	1	46	2.17%
San Marino	6	37	16.22%
Comoros	5	36	13.89%
Falkland Islands (Islas Malvinas)	4	32	12.50%
Montserrat	5	29	17.24%
Svalbard and Jan Mayen	6	21	28.57%
Tuvalu	8	21	38.10%
Antarctica	0	20	0.00%
Mayotte	1	17	5.88%
Sao Tome and Principe	3	17	17.65%
British Indian Ocean Territory	2	8	25.00%

Saint Pierre and Miquelon	0	6	0.00%
North Korea	2	6	33.33%
Niue	0	5	0.00%
Wallis and Futuna	0	4	0.00%
Pitcairn Islands	0	3	0.00%
Tokelau	0	2	0.00%
Cocos (Keeling) Islands	0	1	0.00%