Online appendix: You've been shadowbanned: Has Facebook's strategy to suppress rather than remove COVID-19 vaccine misinformation actually slowed the spread? (v1)

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1 Meta News Room and Integrity Timeline

Table 1: Meta's COVID-19 content moderation policy announcements

Date	Source	Link	Summary
Mar-20	Meta News Room	https://about.fb.com/news/2020/03/combating-covid-19-misinformation/	"Aggressive" steps being taken to stop misinformation from spreading. This includes educational pop-ups from WHO, the CDC and regional health authorities when people search for COVID related info; launched COVID-19 Information Centre; removal of COVID-19 misinformation leading to imminent physical harm (i.e. false claims about vaccines, treatments and availability, location and severity of outbreak); for claims not leading to physical harm (conspiracy theories concerning origin of virus) we reduce distribution, remove accounts from recommendations.
Jun-20	Meta News Room	https://about.fb.com/news/2020/04/covid-19-misinfo-update/	To increase disincentives for users to share misinformation, once a piece of COVID related content is rated false by fact-checkers, we reduce its distribution and show warning labels with more context.
Aug-20	Meta News Room	https://about.fb.com/news/2020/08/addressing-movements-and-organizations-tied-to-violence/	QANON is listed as a dangerous organisation and efforts made to restrict them organising on fb such as: removal if they make violent claims, restrictions distributing content from their accounts, downranking accounts and content in the newsfeed and search, limit recommendations, prohibiting the organisations use of ads, and selling products in marketplace, prohibit them using fundraising tools.
Aug-20	Meta News Room	https://about.fb.com/news/2020/06/more-context-for-news-articles-and-other-content/	To help people ascertain the legitimacy of news articles and to combat misinformation, Meta announced they would add a "context button" to news items shared to notify users if the contents are more than 90 days old.
Oct-20	Meta News Room	https://about.fb.com/news/2020/08/addressing-movements-and-organizations-tied-to-violence/	Update to Dangerous Organisations policy: Meta announces that if someone searches Facebook using a term related to Qanon on Facebook, a label will cover the content and they will be redirected to the Global Network on Extremism and Technology (GNET) initiative to combat violent extremism.
Feb-21	Meta News Room	https://about.fb.com/news/2020/04/covid-19-misinfo-update/	Update on the claims that would now be removed after consultation with WHO and fact-checking network: COVID-19 is man made or manufactured; vaccines are not effective in preventing disease; its safer to get the disease than a vaccine; vaccines are toxic, cause harm or autism.

2 Data pipeline and data summary

2.1 Replication notes

To replicate the analysis, you can access the R code in the source file of this document. Raw CrowdTangle data containing identifiable information (i.e. account names and messages) is only available upon request. Yet, de-identified data is made available for direct download and can be used to replicate the data analysis presented in this document.

2.2 Raw CrowdTangle data

Social media data was obtained from CrowdTangle by requesting the historical archive of all Facebook accounts added to two lists (one for Facebook groups and one for Facebook pages) compiled by the research team.

Table 2: Type and number of Facebook accounts monitored throught CrowdTangle

account type	n
Facebook group	2
Facebook page	19

Table 3: Number of postings and time frame of publication

postings	first posting	last posting
38,704	2019-01-01 02:24:36	2021-07-01 14:59:33

2.3 Text analysis of the postings' message to identify vaccination-related content

We classified a social media message as discussing vaccination when the text was matched against this regex string `covid|vaccin|pandemic|plandemic|lockdown|mandatory|coronavirus|virus|jab|mask|CV-19|informed choice|bill gates|vaxeen`.

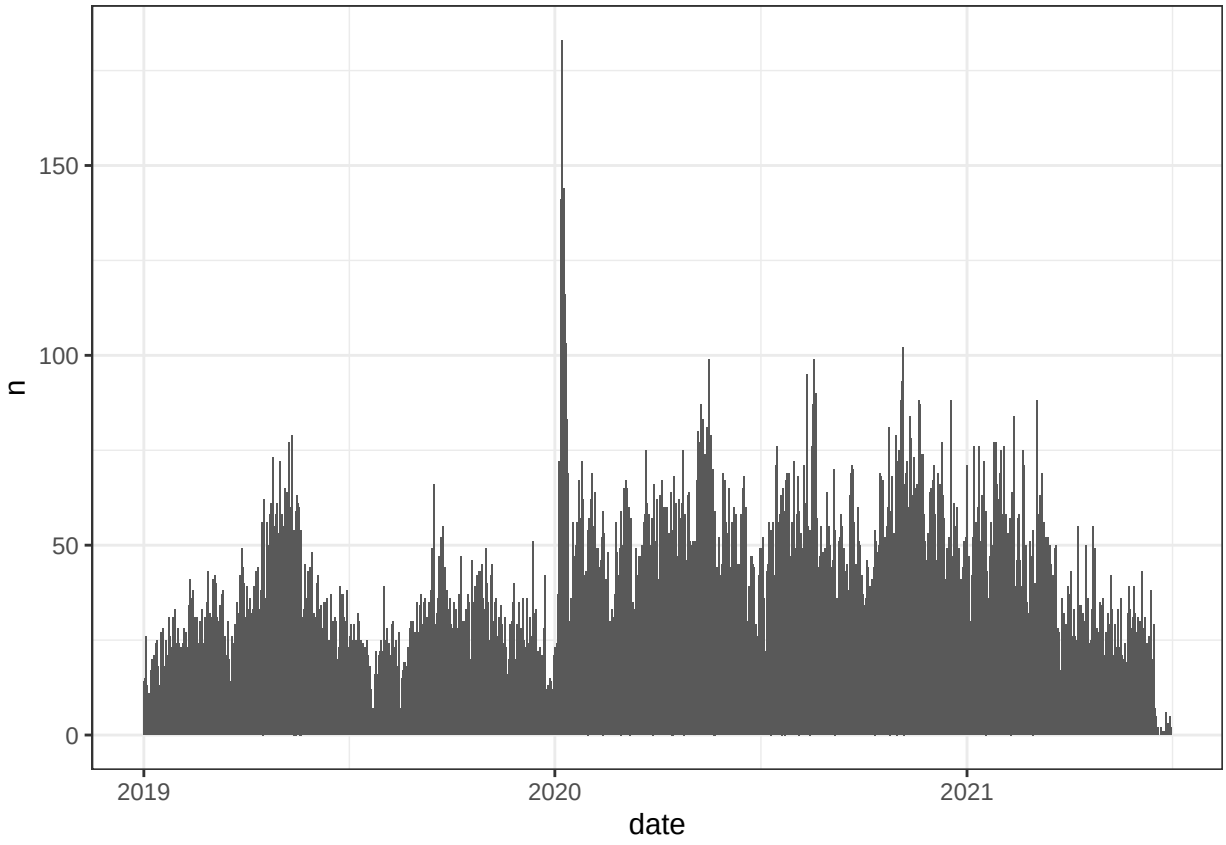

Figure 1: Number of daily postings published by the accounts

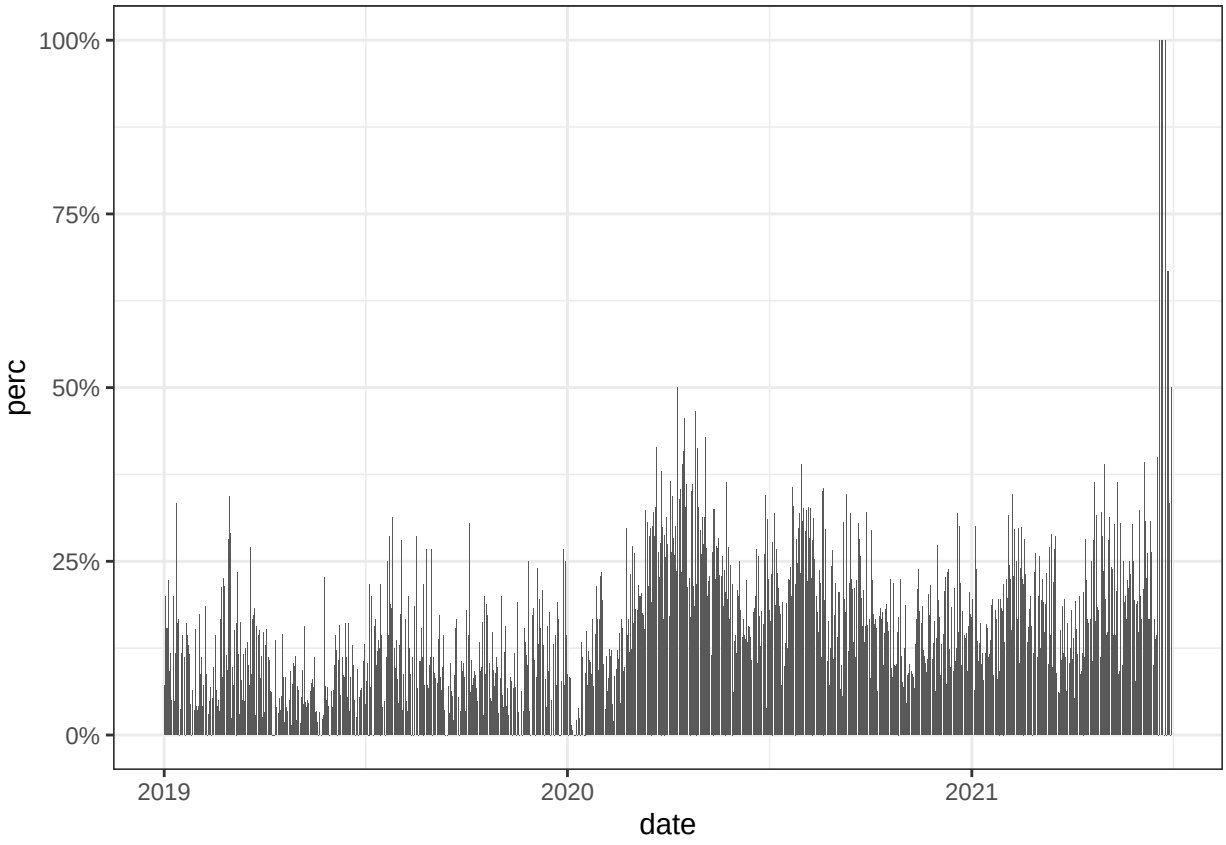

Figure 2: Proportion of daily postings with vaccination-related content

2.4 Data selection based on vaccination-related content

Table 4: Detailed statistics for each monitored Facebook accounts

internal id	Facebook account (de-id)	posts	discussing vaccines/covid	Likes at Posting (max)	Followers at Posting (max)	first post	last post
1	De-identified Facebook page	218	61.47%	2,347	2,529	20 Sep 2020	09 Mar 2021
2	De-identified Facebook page	96	29.17%	7,307	7,709	03 Jan 2019	13 Dec 2020
3	De-identified Facebook page	1,605	0.25%	11,555	11,710	01 Jan 2019	13 Jun 2021
4	De-identified Facebook page	2,333	46.64%	21,702	35,231	01 Jan 2019	29 Jun 2021
5	De-identified Facebook page	4,047	3.43%	28,998	29,678	25 Feb 2019	30 May 2021
6	De-identified Facebook page	1,475	34.85%	29,199	34,552	18 Aug 2020	16 Jun 2021
7	De-identified Facebook page	4,803	17.93%	3,060	3,409	04 Jan 2019	13 Jun 2021
8	De-identified Facebook page	4,009	10.75%	50,149	50,872	03 Jan 2019	13 Jun 2021
9	De-identified Facebook page	3,377	16.55%	8,644	9,006	07 Jan 2019	17 Jun 2021
10	De-identified Facebook page	1,425	6.11%	27,764	31,345	01 Jan 2019	16 Jun 2021
11	De-identified Facebook page	825	41.58%	19,531	25,399	11 Jan 2019	01 Jul 2021
12	De-identified Facebook page	2,744	0.11%	34,027	35,167	01 Jan 2019	17 Jun 2021
13	De-identified Facebook page	59	30.51%	322	339	02 Aug 2019	11 Feb 2021
14	De-identified Facebook page	665	46.62%	18,209	23,528	03 Jan 2019	13 Jun 2021
15	De-identified Facebook group	97	0%	4,764	-Inf	12 Jan 2019	23 Sep 2020
16	De-identified Facebook page	1,355	14.83%	47,858	52,473	01 Jan 2019	17 Jun 2021
17	De-identified Facebook page	2,310	7.97%	7,440	7,639	22 Jan 2019	13 Jun 2021
18	De-identified Facebook group	5,448	14.63%	11,680	-Inf	04 Jan 2020	16 Jun 2021
19	De-identified Facebook page	1,222	15.88%	6,792	7,409	23 Dec 2019	12 Jun 2021
20	De-identified Facebook page	448	55.36%	3,281	3,476	02 Jan 2019	14 Jun 2021
21	De-identified Facebook page	143	27.97%	1,286	1,303	23 Jan 2019	16 Jun 2021

We excluded from the analysis accounts for which the proportion of postings with vaccination-related terms over the total number of postings was 1% or lower.

We also excluded all posts published after 17 June 2021 has we did't collect data for all accounts after that date.

This left 18 accounts with 34,220 postings for the analysis.

2.5 Summary statistics for posts from the 18 selected accounts

Table 5: Summary statistics on postings across accounts

poststing a day (min.)	poststing a day (max.)	poststing a day (mean)	poststing a day (s.d.)	likes at posting (min. of median)	likes at posting (max. of median)
0.1055456	10.29868	2.678633	2.606494	266.5	47,314.5

Table 6: Summary statistics on postings for the entire sample

likes at posting (min. of s.d.)	likes at posting (max. of s.d.)
12.67383	17,163.9

2.6 Performance of tracked pages (2019-2021)

We set an arbitrary benchmarking period from 2020-01-01 to 2020-12-31 so to have a suitable benchmark for all accounts (a few accounts were created in late 2020).

The benchmarking was defined as the average number of shares per post received by each account on postings published between 2020-01-01 and 2020-12-31 after excluding the bottom 2.5% performing posts and the top 2.5% performing posts (in terms of shares).

Table 7: Mean of shares for 95 perc. of postings published in the benchmarking period

internal id	Shares
1	43.261905
2	15.652174
4	24.240453
5	46.663989
6	75.507143
7	1.100418
8	98.659561
9	9.736595
10	141.493356
11	46.808023
13	0.800000
14	10.543176
16	73.496920
17	28.060456
18	3.432776
19	14.362205
20	6.458333
21	3.093750

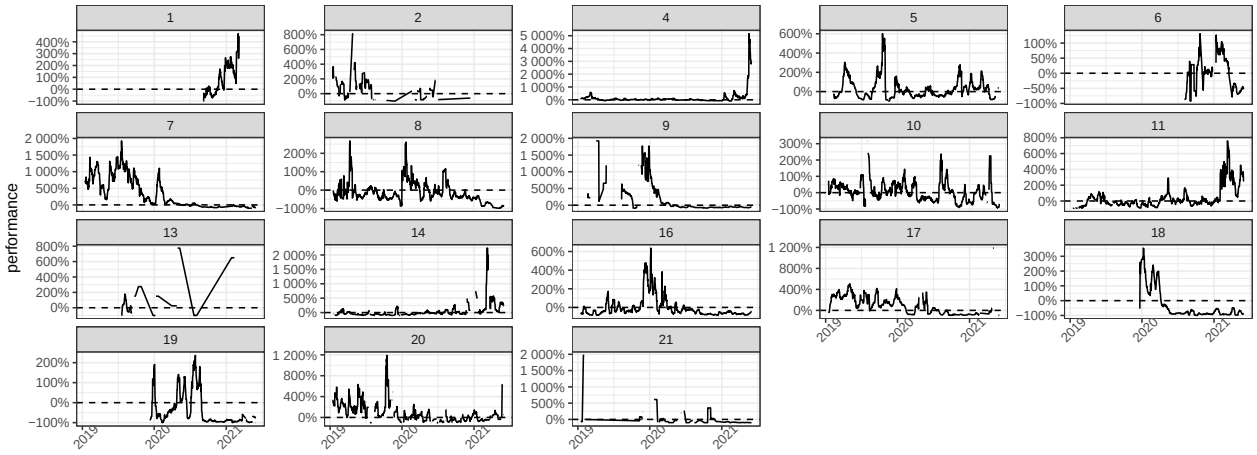

Figure 3: Share performance of each account as proportion of the bechmark period

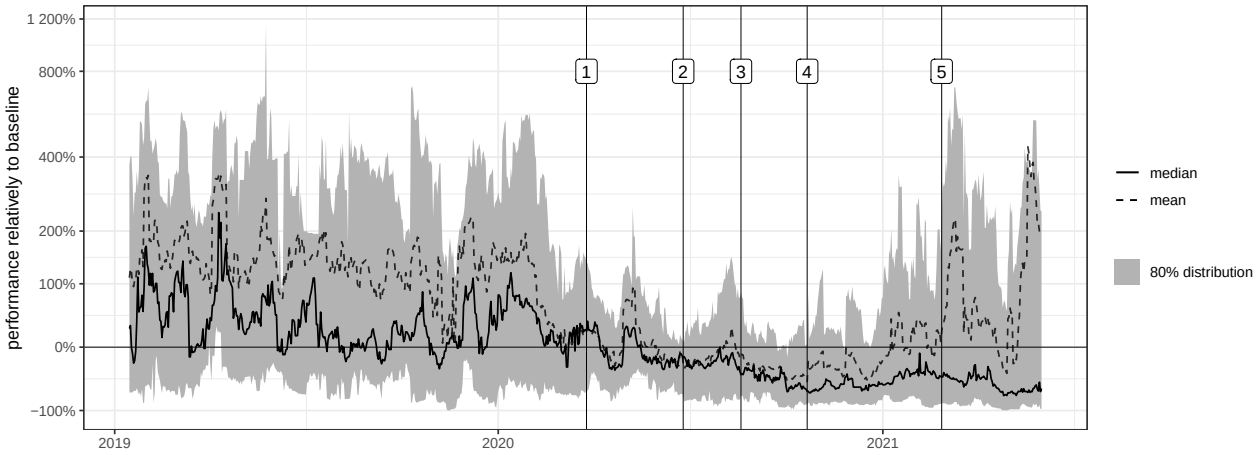

Figure 4: Daily performance in terms of posts' shares of the 18 Facebook accounts between January 2019 and June 2021 as proportion of their average performance in the period January-December 2020

1: Facebook vows more "aggressive action" on COVID & vaccine misinformation; 2: labels added to content to show users the source of information 3: Expands lists of "dangerous organisations and individuals" to include QAnon and other vaccine critical organisations, threatens to shadowban any user or page that supports QAnon related content 4: Building on "dangerous organisations and individuals" policy, users and pages sharing support for QAnon would be labelled and users encountering labelled content redirected to counsellors 5: Facebook claims it will remove groups, pages and accounts that keep offending

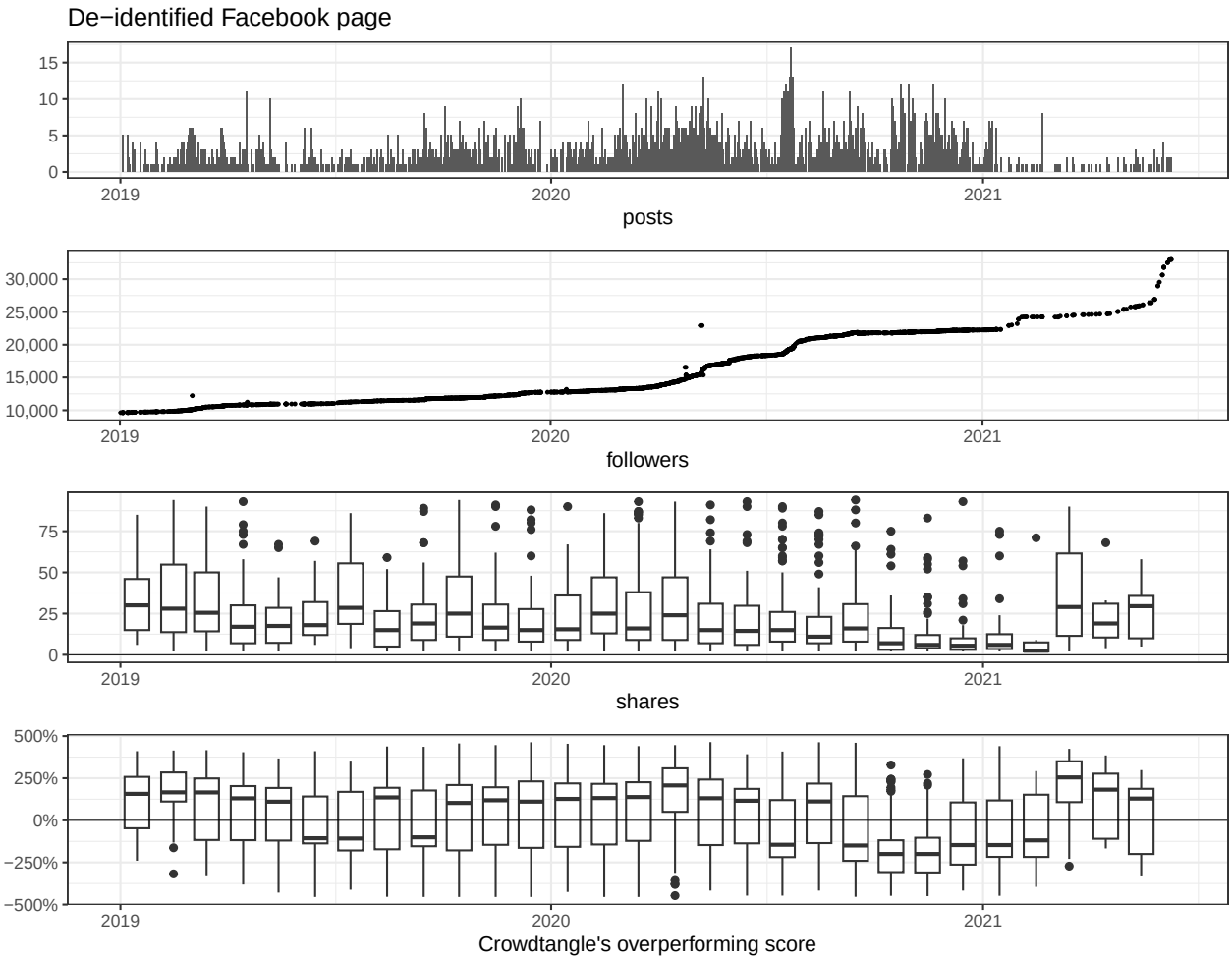

Figure 5: Posting activity and engagement metrics for a de-identified Facebook page

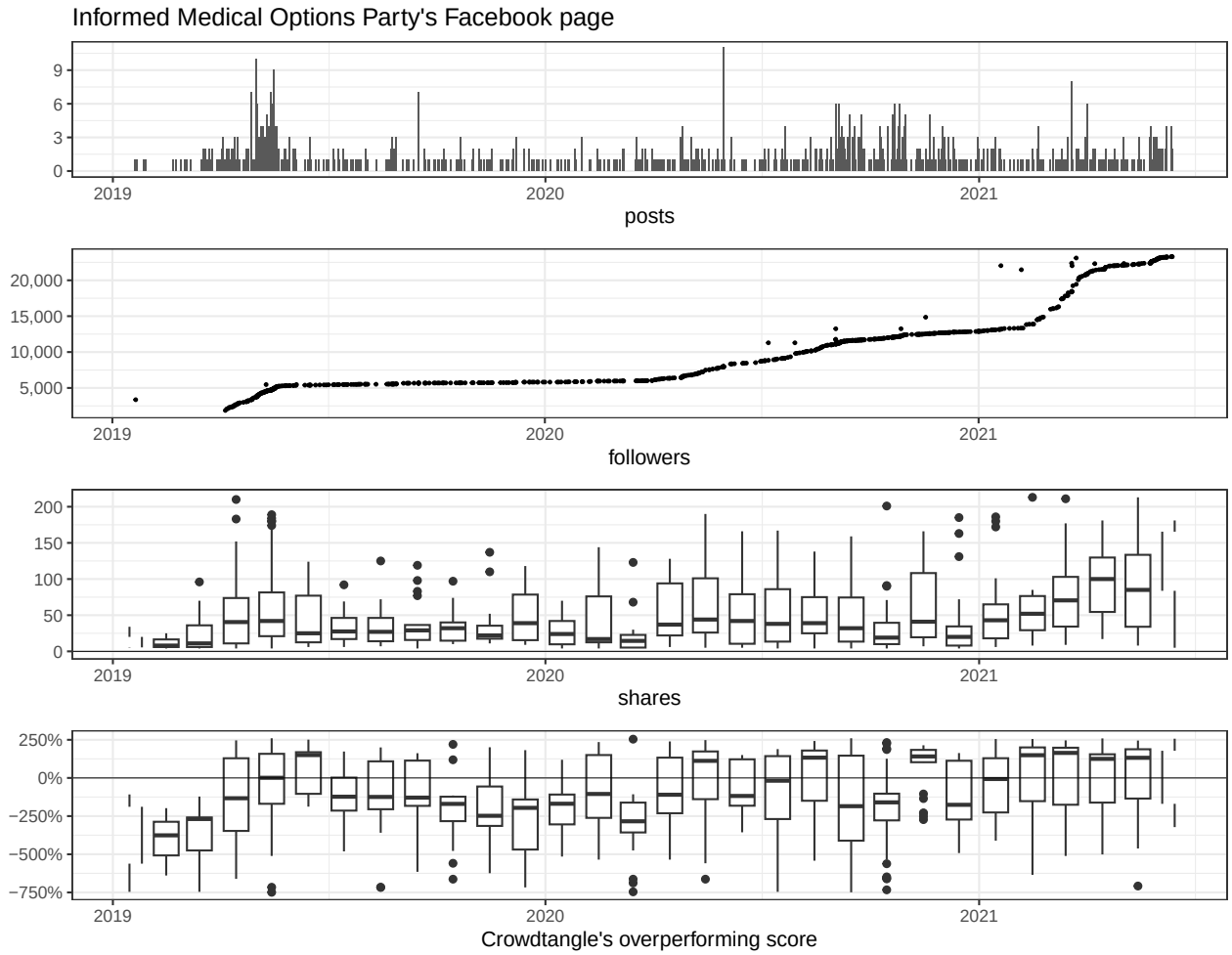

Figure 6: Posting activity and engagement metrics for Informed Medical Options Party's Facebook page

2.7 Topic modelling (with Latent Dirichlet Allocation)

For exploratory purposes, we conducted a LDA for 26 topics for 107 threads, from which we collected 2842 comments. For each thread, we preprocess the texts of posts and comments removing stop words and punctuation, which resulted in a corpus of 2938 documents, 104 posts and 2834 comments. (The missing three posts and eight comments did not contain any residual textual information after the preprocessing).

Table 8: Distribution of documents per each topic (based on highest probability)

topic	n document
1	1004
2	96
3	43
4	87
5	66
6	85
7	103
8	95
9	62
10	117
11	104
12	79
13	62
14	87
15	82
16	80
17	64
18	79
19	92
20	61
21	67
22	42
23	69
24	72
25	62
26	78

Table 9: The 10 terms with the highest tf-idf for each topic are instead showed in the following table.

topic	term	occurrences	tf	idf	tf-idf
1	absolute	7	0.0012767	1.4663371	0.0018720
1	done	18	0.0032829	0.9555114	0.0031368
1	excellent	6	0.0010943	1.8718022	0.0020483
1	issued	4	0.0007295	3.2580965	0.0023769
1	queensland	5	0.0009119	2.1594842	0.0019693
1	scott	6	0.0010943	1.8718022	0.0020483
1	senate	5	0.0009119	2.5649494	0.0023390
1	shared	25	0.0045595	0.6931472	0.0031604
1	signed	75	0.0136786	0.5500463	0.0075239
1	survey	7	0.0012767	1.4663371	0.0018720
2	1million	2	0.0014184	3.2580965	0.0046214
2	action	7	0.0049645	0.7731899	0.0038385
2	bio	2	0.0014184	2.5649494	0.0036382
2	class	5	0.0035461	1.6486586	0.0058463
2	divided	2	0.0014184	2.5649494	0.0036382
2	ireland	2	0.0014184	2.5649494	0.0036382
2	meantime	2	0.0014184	2.5649494	0.0036382

2	oppose	2	0.0014184	3.2580965	0.0046214
2	organising	2	0.0014184	3.2580965	0.0046214
2	peeps	2	0.0014184	2.5649494	0.0036382
2	security	2	0.0014184	2.5649494	0.0036382
2	signatures	8	0.0056738	0.7731899	0.0043869
2	sit	2	0.0014184	2.5649494	0.0036382
3	1hour	1	0.0022676	3.2580965	0.0073880
3	30000	1	0.0022676	3.2580965	0.0073880
3	30s	1	0.0022676	3.2580965	0.0073880
3	anzac	1	0.0022676	3.2580965	0.0073880
3	benign	1	0.0022676	3.2580965	0.0073880
3	box	2	0.0045351	1.6486586	0.0074769
3	brassall	1	0.0022676	3.2580965	0.0073880
3	carnival	1	0.0022676	3.2580965	0.0073880
3	chloe	1	0.0022676	3.2580965	0.0073880
3	clements	1	0.0022676	3.2580965	0.0073880
3	complained	1	0.0022676	3.2580965	0.0073880
3	cyst	1	0.0022676	3.2580965	0.0073880
3	daythe	1	0.0022676	3.2580965	0.0073880
3	declare	1	0.0022676	3.2580965	0.0073880
3	dept	1	0.0022676	3.2580965	0.0073880
3	documentary	1	0.0022676	3.2580965	0.0073880
3	duncan	1	0.0022676	3.2580965	0.0073880
3	enrollements	1	0.0022676	3.2580965	0.0073880
3	evwill	1	0.0022676	3.2580965	0.0073880
3	farce	2	0.0045351	2.5649494	0.0116324
3	faults	1	0.0022676	3.2580965	0.0073880
3	flips	1	0.0022676	3.2580965	0.0073880
3	furini	1	0.0022676	3.2580965	0.0073880
3	geopardy	1	0.0022676	3.2580965	0.0073880
3	grapefruit	1	0.0022676	3.2580965	0.0073880
3	grey	1	0.0022676	3.2580965	0.0073880
3	gyno	1	0.0022676	3.2580965	0.0073880
3	ilonka	1	0.0022676	3.2580965	0.0073880
3	incl	1	0.0022676	3.2580965	0.0073880
3	industry	3	0.0068027	1.1786550	0.0080181
3	inforcet	1	0.0022676	3.2580965	0.0073880
3	inhuman	1	0.0022676	3.2580965	0.0073880
3	insisting	1	0.0022676	3.2580965	0.0073880
3	ishttps	1	0.0022676	3.2580965	0.0073880
3	licienced	1	0.0022676	3.2580965	0.0073880
3	linda	1	0.0022676	3.2580965	0.0073880
3	ling	1	0.0022676	3.2580965	0.0073880
3	logen	1	0.0022676	3.2580965	0.0073880
3	marked	1	0.0022676	3.2580965	0.0073880
3	masters	1	0.0022676	3.2580965	0.0073880
3	maureen	1	0.0022676	3.2580965	0.0073880
3	mckenna	1	0.0022676	3.2580965	0.0073880
3	mcmahon	1	0.0022676	3.2580965	0.0073880
3	melville	1	0.0022676	3.2580965	0.0073880
3	mesures	1	0.0022676	3.2580965	0.0073880
3	mikewill	1	0.0022676	3.2580965	0.0073880
3	mining	1	0.0022676	3.2580965	0.0073880
3	munt	1	0.0022676	3.2580965	0.0073880

3	nutritionist	1	0.0022676	3.2580965	0.0073880
3	ovarian	1	0.0022676	3.2580965	0.0073880
3	ovary	1	0.0022676	3.2580965	0.0073880
3	pets	1	0.0022676	3.2580965	0.0073880
3	pharmacist	1	0.0022676	3.2580965	0.0073880
3	punishment	1	0.0022676	3.2580965	0.0073880
3	recalled	1	0.0022676	3.2580965	0.0073880
3	retract	1	0.0022676	3.2580965	0.0073880
3	revived	1	0.0022676	3.2580965	0.0073880
3	riverlink	1	0.0022676	3.2580965	0.0073880
3	roediger	1	0.0022676	3.2580965	0.0073880
3	ross	1	0.0022676	3.2580965	0.0073880
3	sheepishly	1	0.0022676	3.2580965	0.0073880
3	sized	1	0.0022676	3.2580965	0.0073880
3	stared	1	0.0022676	3.2580965	0.0073880
3	sue	2	0.0045351	1.6486586	0.0074769
3	surgery	1	0.0022676	3.2580965	0.0073880
3	sustaining	1	0.0022676	3.2580965	0.0073880
3	swing	1	0.0022676	3.2580965	0.0073880
3	tinfoil	1	0.0022676	3.2580965	0.0073880
3	toolan	1	0.0022676	3.2580965	0.0073880
3	turley	1	0.0022676	3.2580965	0.0073880
3	tyrrell	1	0.0022676	3.2580965	0.0073880
3	ugh	1	0.0022676	3.2580965	0.0073880
3	vaxer	1	0.0022676	3.2580965	0.0073880
3	walter	1	0.0022676	3.2580965	0.0073880
3	willingness	1	0.0022676	3.2580965	0.0073880
3	yeterday	1	0.0022676	3.2580965	0.0073880
4	2014	2	0.0010667	3.2580965	0.0034753
4	23a	4	0.0021333	1.8718022	0.0039932
4	51	4	0.0021333	1.6486586	0.0035171
4	be	9	0.0048000	0.9555114	0.0045865
4	contained	2	0.0010667	3.2580965	0.0034753
4	excluded	2	0.0010667	3.2580965	0.0034753
4	healthimpactnews	4	0.0021333	2.5649494	0.0054719
4	hodkinson	2	0.0010667	3.2580965	0.0034753
4	inappropriate	2	0.0010667	3.2580965	0.0034753
4	kxu5nf3xtzm	2	0.0010667	3.2580965	0.0034753
4	literally	3	0.0016000	3.2580965	0.0052130
4	merck	2	0.0010667	3.2580965	0.0034753
4	occurs	2	0.0010667	3.2580965	0.0034753
4	practical	2	0.0010667	3.2580965	0.0034753
4	reasonably	2	0.0010667	3.2580965	0.0034753
4	youtu	7	0.0037333	1.3121864	0.0048988
5	behaviour	2	0.0027397	2.1594842	0.0059164
5	brother	2	0.0027397	2.1594842	0.0059164
5	buying	2	0.0027397	2.1594842	0.0059164
5	friends	3	0.0041096	1.3121864	0.0053925
5	furious	2	0.0027397	2.5649494	0.0070273
5	loss	9	0.0123288	1.0608720	0.0130792
5	mum	3	0.0041096	1.8718022	0.0076923
5	passing	2	0.0027397	2.1594842	0.0059164
5	sorry	10	0.0136986	0.9555114	0.0130892
5	staff	3	0.0041096	1.6486586	0.0067753

6	band	2	0.0015823	3.2580965	0.0051552
6	conspiracy	4	0.0031646	2.1594842	0.0068338
6	create	3	0.0023734	1.8718022	0.0044426
6	destroyed	2	0.0015823	3.2580965	0.0051552
6	fabulous	2	0.0015823	2.5649494	0.0040585
6	funds	2	0.0015823	2.5649494	0.0040585
6	injecting	2	0.0015823	2.5649494	0.0040585
6	introduce	2	0.0015823	3.2580965	0.0051552
6	obvious	2	0.0015823	2.5649494	0.0040585
6	theorists	2	0.0015823	2.5649494	0.0040585
7	access	5	0.0033807	1.4663371	0.0049572
7	catherineedwards	3	0.0020284	3.2580965	0.0066087
7	filled	3	0.0020284	2.1594842	0.0043803
7	hcq	3	0.0020284	2.5649494	0.0052027
7	hidden	3	0.0020284	2.5649494	0.0052027
7	htm	2	0.0013523	3.2580965	0.0044058
7	incentive	2	0.0013523	3.2580965	0.0044058
7	private	4	0.0027045	1.6486586	0.0044588
7	representing	2	0.0013523	3.2580965	0.0044058
7	servicesaustralia	3	0.0020284	2.1594842	0.0043803
7	shove	2	0.0013523	3.2580965	0.0044058
8	2030	2	0.0021345	3.2580965	0.0069543
8	fbid	4	0.0042689	2.5649494	0.0109496
8	id	5	0.0053362	1.8718022	0.0099883
8	internet	3	0.0032017	1.8718022	0.0059930
8	l	11	0.0117396	1.0608720	0.0124542
8	perfect	2	0.0021345	2.5649494	0.0054748
8	php	19	0.0202775	1.4663371	0.0297336
8	roberts	6	0.0064034	0.8602013	0.0055082
8	steverotter	2	0.0021345	3.2580965	0.0069543
8	wifi	2	0.0021345	3.2580965	0.0069543
9	banned	3	0.0043353	1.8718022	0.0081147
9	connection	2	0.0028902	1.6486586	0.0047649
9	enemy	2	0.0028902	2.5649494	0.0074131
9	hayes	2	0.0028902	2.1594842	0.0062413
9	letting	2	0.0028902	1.6486586	0.0047649
9	lots	2	0.0028902	1.6486586	0.0047649
9	opened	2	0.0028902	2.1594842	0.0062413
9	page	5	0.0072254	0.9555114	0.0069040
9	street	2	0.0028902	1.8718022	0.0054098
9	took	3	0.0043353	1.1786550	0.0051098
9	where	2	0.0028902	1.6486586	0.0047649
10	born	2	0.0012682	2.5649494	0.0032529
10	eroded	2	0.0012682	3.2580965	0.0041320
10	freedoms	5	0.0031706	1.0608720	0.0033636
10	honesty	2	0.0012682	3.2580965	0.0041320
10	identification	2	0.0012682	3.2580965	0.0041320
10	injuries	3	0.0019023	1.8718022	0.0035608
10	mentally	2	0.0012682	2.5649494	0.0032529
10	praying	3	0.0019023	1.8718022	0.0035608
10	silent	2	0.0012682	2.5649494	0.0032529
10	taxes	2	0.0012682	3.2580965	0.0041320
10	too	4	0.0025365	1.4663371	0.0037193
10	whats	3	0.0019023	3.2580965	0.0061980

11	aph	14	0.0115037	1.1786550	0.0135589
11	confirm	9	0.0073952	1.0608720	0.0078454
11	e	14	0.0115037	0.7731899	0.0088945
11	email	11	0.0090386	0.7731899	0.0069886
11	emails	4	0.0032868	1.6486586	0.0054188
11	en2463	3	0.0024651	2.5649494	0.0063228
11	en2753	10	0.0082169	1.6486586	0.0135469
11	petition	18	0.0147905	0.6190392	0.0091559
11	petitions	14	0.0115037	0.6931472	0.0079738
11	step	4	0.0032868	2.1594842	0.0070977
12	assaults	5	0.0053591	3.2580965	0.0174603
12	attempts	5	0.0053591	2.1594842	0.0115728
12	coerce	6	0.0064309	1.4663371	0.0094298
12	compliance	5	0.0053591	1.8718022	0.0100311
12	exclusive	3	0.0032154	3.2580965	0.0104762
12	personal	5	0.0053591	2.1594842	0.0115728
12	proclamationofpeace	5	0.0053591	3.2580965	0.0174603
12	strategy	5	0.0053591	1.8718022	0.0100311
12	trespass	5	0.0053591	2.5649494	0.0137457
12	unconscionable	5	0.0053591	2.1594842	0.0115728
13	column	2	0.0023229	2.5649494	0.0059581
13	communism	2	0.0023229	2.5649494	0.0059581
13	deserve	2	0.0023229	2.5649494	0.0059581
13	filthy	2	0.0023229	2.5649494	0.0059581
13	garbage	2	0.0023229	2.5649494	0.0059581
13	husbands	2	0.0023229	3.2580965	0.0075682
13	liberal	2	0.0023229	3.2580965	0.0075682
13	protesters	2	0.0023229	2.5649494	0.0059581
13	reported	6	0.0069686	0.7731899	0.0053881
13	strange	3	0.0034843	1.8718022	0.0065220
14	1610en	3	0.0024691	1.8718022	0.0046217
14	educateforprotection	2	0.0016461	3.2580965	0.0053631
14	have	3	0.0024691	1.8718022	0.0046217
14	mum	3	0.0024691	1.8718022	0.0046217
14	pdf	5	0.0041152	1.3121864	0.0053999
14	sorry	7	0.0057613	0.9555114	0.0055050
14	spike	3	0.0024691	1.8718022	0.0046217
14	true	5	0.0041152	1.0608720	0.0043657
14	vaxx	2	0.0016461	3.2580965	0.0053631
14	wow	5	0.0041152	1.0608720	0.0043657
14	yep	3	0.0024691	2.1594842	0.0053321
15	4fdvu43qodfd	2	0.0025284	3.2580965	0.0082379
15	7000	2	0.0025284	2.5649494	0.0064853
15	americasfrontlinedoctors	2	0.0025284	2.5649494	0.0064853
15	killed	2	0.0025284	2.5649494	0.0064853
15	officer	3	0.0037927	1.8718022	0.0070991
15	officers	2	0.0025284	3.2580965	0.0082379
15	revolution	3	0.0037927	3.2580965	0.0123569
15	servicesaustralia	3	0.0037927	2.1594842	0.0081902
15	shift	2	0.0025284	3.2580965	0.0082379
15	vimeo	2	0.0025284	3.2580965	0.0082379
16	amped	2	0.0020141	3.2580965	0.0065621
16	censor	2	0.0020141	3.2580965	0.0065621
16	electric	2	0.0020141	3.2580965	0.0065621

16	energy	2	0.0020141	3.2580965	0.0065621
16	healthfreedom	2	0.0020141	3.2580965	0.0065621
16	informedconsent	2	0.0020141	3.2580965	0.0065621
16	medicalfreedom	2	0.0020141	3.2580965	0.0065621
16	ourbodyourchoice	2	0.0020141	3.2580965	0.0065621
16	passion	2	0.0020141	3.2580965	0.0065621
16	peoplesrevolution	2	0.0020141	3.2580965	0.0065621
16	rollin	2	0.0020141	3.2580965	0.0065621
16	round	2	0.0020141	3.2580965	0.0065621
16	snaps	2	0.0020141	3.2580965	0.0065621
16	vibes	2	0.0020141	3.2580965	0.0065621
16	wanna	2	0.0020141	3.2580965	0.0065621
17	ahead	2	0.0025873	2.1594842	0.0055873
17	appreciate	2	0.0025873	3.2580965	0.0084297
17	house	2	0.0025873	2.1594842	0.0055873
17	ignored	3	0.0038810	1.8718022	0.0072644
17	pressure	3	0.0038810	2.5649494	0.0099545
17	rallies	2	0.0025873	2.1594842	0.0055873
17	refused	2	0.0025873	2.5649494	0.0066364
17	son	3	0.0038810	1.4663371	0.0056908
17	words	4	0.0051746	1.4663371	0.0075878
17	worldwide	3	0.0038810	1.6486586	0.0063984
18	allows	2	0.0022573	1.8718022	0.0042253
18	bloody	4	0.0045147	1.4663371	0.0066200
18	currently	2	0.0022573	1.8718022	0.0042253
18	ican	2	0.0022573	2.5649494	0.0057900
18	kids	3	0.0033860	1.6486586	0.0055824
18	network	2	0.0022573	1.8718022	0.0042253
18	phone	2	0.0022573	2.5649494	0.0057900
18	scroll	2	0.0022573	2.5649494	0.0057900
18	slowly	2	0.0022573	2.5649494	0.0057900
18	strike	3	0.0033860	1.3121864	0.0044431
19	based	4	0.0036866	1.3121864	0.0048376
19	bodies	8	0.0073733	1.4663371	0.0108117
19	ca	3	0.0027650	2.5649494	0.0070920
19	choice	8	0.0073733	0.6931472	0.0051108
19	forced	11	0.0101382	0.6190392	0.0062760
19	how	4	0.0036866	1.6486586	0.0060780
19	left	7	0.0064516	0.9555114	0.0061646
19	petition	11	0.0101382	0.6190392	0.0062760
19	proud	6	0.0055300	1.0608720	0.0058666
19	sneaky	6	0.0055300	2.5649494	0.0141841
20	brain	2	0.0026810	1.6486586	0.0044200
20	brilliant	3	0.0040214	1.6486586	0.0066300
20	bullshit	2	0.0026810	1.6486586	0.0044200
20	comment	2	0.0026810	1.6486586	0.0044200
20	figures	2	0.0026810	1.8718022	0.0050182
20	greg	3	0.0040214	1.6486586	0.0066300
20	honestly	2	0.0026810	3.2580965	0.0087348
20	hours	2	0.0026810	1.6486586	0.0044200
20	hunt	3	0.0040214	1.8718022	0.0075274
20	lawyer	2	0.0026810	1.6486586	0.0044200
20	perfectly	2	0.0026810	1.8718022	0.0050182
20	period	2	0.0026810	2.1594842	0.0057895

20	ready	2	0.0026810	1.8718022	0.0050182
20	women	2	0.0026810	1.6486586	0.0044200
21	110	1	0.0014347	3.2580965	0.0046745
21	310chwl	1	0.0014347	3.2580965	0.0046745
21	3500	1	0.0014347	3.2580965	0.0046745
21	accountability	2	0.0028694	2.1594842	0.0061965
21	aged	9	0.0129125	0.3677248	0.0047482
21	alec	1	0.0014347	3.2580965	0.0046745
21	apporved	1	0.0014347	3.2580965	0.0046745
21	arsenal	1	0.0014347	3.2580965	0.0046745
21	baccinate	1	0.0014347	3.2580965	0.0046745
21	blindsided	1	0.0014347	3.2580965	0.0046745
21	brexit	1	0.0014347	3.2580965	0.0046745
21	brilliantly	1	0.0014347	3.2580965	0.0046745
21	brinsmeadella	1	0.0014347	3.2580965	0.0046745
21	browser	1	0.0014347	3.2580965	0.0046745
21	buck	1	0.0014347	3.2580965	0.0046745
21	burrough	1	0.0014347	3.2580965	0.0046745
21	cal	1	0.0014347	3.2580965	0.0046745
21	calculate	1	0.0014347	3.2580965	0.0046745
21	cbd	1	0.0014347	3.2580965	0.0046745
21	chances	1	0.0014347	3.2580965	0.0046745
21	chaos	1	0.0014347	3.2580965	0.0046745
21	chases	1	0.0014347	3.2580965	0.0046745
21	christians	1	0.0014347	3.2580965	0.0046745
21	christionson	1	0.0014347	3.2580965	0.0046745
21	cite	1	0.0014347	3.2580965	0.0046745
21	continual	1	0.0014347	3.2580965	0.0046745
21	convulsions	1	0.0014347	3.2580965	0.0046745
21	coordinating	1	0.0014347	3.2580965	0.0046745
21	covidvaccinevictims	1	0.0014347	3.2580965	0.0046745
21	crock	1	0.0014347	3.2580965	0.0046745
21	dealings	1	0.0014347	3.2580965	0.0046745
21	depressed	1	0.0014347	3.2580965	0.0046745
21	disclosure	1	0.0014347	3.2580965	0.0046745
21	doutrusturgovaged	1	0.0014347	3.2580965	0.0046745
21	expires	1	0.0014347	3.2580965	0.0046745
21	fingers	1	0.0014347	3.2580965	0.0046745
21	fk	1	0.0014347	3.2580965	0.0046745
21	flue	2	0.0028694	3.2580965	0.0093489
21	gardisal	1	0.0014347	3.2580965	0.0046745
21	gestapo	1	0.0014347	3.2580965	0.0046745
21	glad	2	0.0028694	2.5649494	0.0073600
21	goose	1	0.0014347	3.2580965	0.0046745
21	illigally	1	0.0014347	3.2580965	0.0046745
21	integrated	1	0.0014347	3.2580965	0.0046745
21	investigative	1	0.0014347	3.2580965	0.0046745
21	ivermectin400	1	0.0014347	3.2580965	0.0046745
21	knocking	1	0.0014347	3.2580965	0.0046745
21	leish	1	0.0014347	3.2580965	0.0046745
21	los	1	0.0014347	3.2580965	0.0046745
21	lovell	1	0.0014347	3.2580965	0.0046745
21	luckily	1	0.0014347	3.2580965	0.0046745
21	ly	1	0.0014347	3.2580965	0.0046745

21	macuahuitl	1	0.0014347	3.2580965	0.0046745
21	majella	1	0.0014347	3.2580965	0.0046745
21	massimissa	1	0.0014347	3.2580965	0.0046745
21	mectlintec	1	0.0014347	3.2580965	0.0046745
21	micrograms	1	0.0014347	3.2580965	0.0046745
21	minsters	1	0.0014347	3.2580965	0.0046745
21	monica	1	0.0014347	3.2580965	0.0046745
21	munn	1	0.0014347	3.2580965	0.0046745
21	nadi	1	0.0014347	3.2580965	0.0046745
21	ordered	1	0.0014347	3.2580965	0.0046745
21	payoff	1	0.0014347	3.2580965	0.0046745
21	quicker	1	0.0014347	3.2580965	0.0046745
21	rachael	1	0.0014347	3.2580965	0.0046745
21	reacting	1	0.0014347	3.2580965	0.0046745
21	recover	1	0.0014347	3.2580965	0.0046745
21	reiterates	1	0.0014347	3.2580965	0.0046745
21	republic	1	0.0014347	3.2580965	0.0046745
21	sawyers	1	0.0014347	3.2580965	0.0046745
21	seeds	1	0.0014347	3.2580965	0.0046745
21	shake	1	0.0014347	3.2580965	0.0046745
21	sitting	1	0.0014347	3.2580965	0.0046745
21	sittings	1	0.0014347	3.2580965	0.0046745
21	somewhere	1	0.0014347	3.2580965	0.0046745
21	sonne	1	0.0014347	3.2580965	0.0046745
21	sorry	6	0.0086083	0.9555114	0.0082253
21	sovereign	2	0.0028694	3.2580965	0.0093489
21	specialist	1	0.0014347	3.2580965	0.0046745
21	spiritual	1	0.0014347	3.2580965	0.0046745
21	starkie	1	0.0014347	3.2580965	0.0046745
21	szymaniak	1	0.0014347	3.2580965	0.0046745
21	thatif	1	0.0014347	3.2580965	0.0046745
21	tow	1	0.0014347	3.2580965	0.0046745
21	vaccineshttps	1	0.0014347	3.2580965	0.0046745
21	valued	1	0.0014347	3.2580965	0.0046745
21	wild	1	0.0014347	3.2580965	0.0046745
21	window	1	0.0014347	3.2580965	0.0046745
21	worded	1	0.0014347	3.2580965	0.0046745
21	workers	9	0.0129125	0.3677248	0.0047482
22	accordingly	1	0.0026247	3.2580965	0.0085514
22	adrenals	1	0.0026247	3.2580965	0.0085514
22	aerticle	1	0.0026247	3.2580965	0.0085514
22	agyeman	1	0.0026247	3.2580965	0.0085514
22	announced	2	0.0052493	1.8718022	0.0098257
22	austria	1	0.0026247	3.2580965	0.0085514
22	autism	1	0.0026247	3.2580965	0.0085514
22	aye	1	0.0026247	3.2580965	0.0085514
22	believers	1	0.0026247	3.2580965	0.0085514
22	brie	1	0.0026247	3.2580965	0.0085514
22	brilliant	2	0.0052493	1.6486586	0.0086544
22	cdc	3	0.0078740	1.6486586	0.0129816
22	cemetries	1	0.0026247	3.2580965	0.0085514
22	cfs	1	0.0026247	3.2580965	0.0085514
22	challenges	1	0.0026247	3.2580965	0.0085514
22	chats	1	0.0026247	3.2580965	0.0085514

22	cheryl	1	0.0026247	3.2580965	0.0085514
22	clicking	1	0.0026247	3.2580965	0.0085514
22	concentrate	1	0.0026247	3.2580965	0.0085514
22	concoctions	1	0.0026247	3.2580965	0.0085514
22	couldn	2	0.0052493	2.1594842	0.0113359
22	crown	1	0.0026247	3.2580965	0.0085514
22	culprits	1	0.0026247	3.2580965	0.0085514
22	driveli	1	0.0026247	3.2580965	0.0085514
22	efficient	1	0.0026247	3.2580965	0.0085514
22	explain	3	0.0078740	2.1594842	0.0170038
22	external	1	0.0026247	3.2580965	0.0085514
22	fatigue	1	0.0026247	3.2580965	0.0085514
22	forgot	1	0.0026247	3.2580965	0.0085514
22	graphs	1	0.0026247	3.2580965	0.0085514
22	healthfeedback	1	0.0026247	3.2580965	0.0085514
22	heckenlively	1	0.0026247	3.2580965	0.0085514
22	herd	1	0.0026247	3.2580965	0.0085514
22	hmm	1	0.0026247	3.2580965	0.0085514
22	hyder	1	0.0026247	3.2580965	0.0085514
22	instead	3	0.0078740	1.6486586	0.0129816
22	intrepid	1	0.0026247	3.2580965	0.0085514
22	japanese	1	0.0026247	3.2580965	0.0085514
22	jd	1	0.0026247	3.2580965	0.0085514
22	judy	1	0.0026247	3.2580965	0.0085514
22	juse	1	0.0026247	3.2580965	0.0085514
22	kent	1	0.0026247	3.2580965	0.0085514
22	liver	1	0.0026247	3.2580965	0.0085514
22	management	1	0.0026247	3.2580965	0.0085514
22	mikovits	1	0.0026247	3.2580965	0.0085514
22	mugbook	1	0.0026247	3.2580965	0.0085514
22	olive	1	0.0026247	3.2580965	0.0085514
22	operatives	1	0.0026247	3.2580965	0.0085514
22	owusu	1	0.0026247	3.2580965	0.0085514
22	perry	1	0.0026247	3.2580965	0.0085514
22	pfizervaccine	1	0.0026247	3.2580965	0.0085514
22	pharm	1	0.0026247	3.2580965	0.0085514
22	pharmacokinetic	1	0.0026247	3.2580965	0.0085514
22	phd	1	0.0026247	3.2580965	0.0085514
22	plague	1	0.0026247	3.2580965	0.0085514
22	proceedure	1	0.0026247	3.2580965	0.0085514
22	queues	1	0.0026247	3.2580965	0.0085514
22	radiation	1	0.0026247	3.2580965	0.0085514
22	reaches	1	0.0026247	3.2580965	0.0085514
22	retrovirus	1	0.0026247	3.2580965	0.0085514
22	seeding	1	0.0026247	3.2580965	0.0085514
22	shazzy	1	0.0026247	3.2580965	0.0085514
22	shite	1	0.0026247	3.2580965	0.0085514
22	signed	6	0.0157480	0.5500463	0.0086621
22	solar	1	0.0026247	3.2580965	0.0085514
22	spleen	1	0.0026247	3.2580965	0.0085514
22	srm	1	0.0026247	3.2580965	0.0085514
22	started	2	0.0052493	1.6486586	0.0086544
22	streetloc	2	0.0052493	3.2580965	0.0171029
22	suspended	1	0.0026247	3.2580965	0.0085514

22	syndrome	1	0.0026247	3.2580965	0.0085514
22	temporary	1	0.0026247	3.2580965	0.0085514
22	trish	1	0.0026247	3.2580965	0.0085514
22	unadulterated	1	0.0026247	3.2580965	0.0085514
22	unhappy	1	0.0026247	3.2580965	0.0085514
22	unrelated	1	0.0026247	3.2580965	0.0085514
22	vaccinationhttps	1	0.0026247	3.2580965	0.0085514
22	weasel	1	0.0026247	3.2580965	0.0085514
22	welltv	1	0.0026247	3.2580965	0.0085514
22	withdraw	1	0.0026247	3.2580965	0.0085514
22	withdrawal	1	0.0026247	3.2580965	0.0085514
22	zibook	1	0.0026247	3.2580965	0.0085514
23	blocked	2	0.0026560	1.8718022	0.0049716
23	brighteon	2	0.0026560	2.5649494	0.0068126
23	exercising	2	0.0026560	3.2580965	0.0086536
23	filled	2	0.0026560	2.1594842	0.0057357
23	google	2	0.0026560	1.8718022	0.0049716
23	injected	2	0.0026560	2.1594842	0.0057357
23	luke	2	0.0026560	3.2580965	0.0086536
23	premier	2	0.0026560	2.1594842	0.0057357
23	printed	3	0.0039841	1.6486586	0.0065684
23	ridiculous	2	0.0026560	2.1594842	0.0057357
23	streaming	2	0.0026560	1.8718022	0.0049716
23	watched	2	0.0026560	2.1594842	0.0057357
24	800	2	0.0017406	2.1594842	0.0037589
24	addition	2	0.0017406	2.1594842	0.0037589
24	announcement	2	0.0017406	2.5649494	0.0044647
24	childrenshealthdefense	2	0.0017406	2.1594842	0.0037589
24	injuries	3	0.0026110	1.8718022	0.0048872
24	leadership	2	0.0017406	2.1594842	0.0037589
24	multiple	2	0.0017406	2.1594842	0.0037589
24	mygov	2	0.0017406	2.5649494	0.0044647
24	needed	3	0.0026110	1.6486586	0.0043046
24	parts	2	0.0017406	2.1594842	0.0037589
24	peoples	2	0.0017406	2.1594842	0.0037589
24	principia	3	0.0026110	3.2580965	0.0085068
24	protein	2	0.0017406	2.1594842	0.0037589
24	room	2	0.0017406	3.2580965	0.0056712
24	scientific	3	0.0026110	1.6486586	0.0043046
24	setting	2	0.0017406	2.5649494	0.0044647
24	vaers	3	0.0026110	2.1594842	0.0056383
25	aph	3	0.0054645	1.1786550	0.0064407
25	beginning	3	0.0054645	2.1594842	0.0118005
25	blackmail	2	0.0036430	2.5649494	0.0093441
25	canberra	2	0.0036430	2.1594842	0.0078670
25	en2753	2	0.0036430	1.6486586	0.0060060
25	germs	2	0.0036430	2.5649494	0.0093441
25	odysee	2	0.0036430	1.6486586	0.0060060
25	petitions	5	0.0091075	0.6931472	0.0063128
25	spending	2	0.0036430	1.8718022	0.0068190
25	step	2	0.0036430	2.1594842	0.0078670
26	author	2	0.0020408	3.2580965	0.0066492
26	decades	2	0.0020408	3.2580965	0.0066492
26	friday	3	0.0030612	1.8718022	0.0057300

26	fyi	2	0.0020408	2.5649494	0.0052346
26	mainstream	4	0.0040816	1.6486586	0.0067292
26	neill	2	0.0020408	2.5649494	0.0052346
26	senator	4	0.0040816	1.3121864	0.0053559
26	sharon	2	0.0020408	2.5649494	0.0052346
26	shop	2	0.0020408	3.2580965	0.0066492
26	voluntarily	2	0.0020408	3.2580965	0.0066492