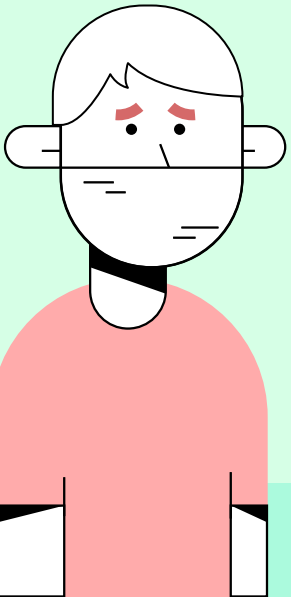
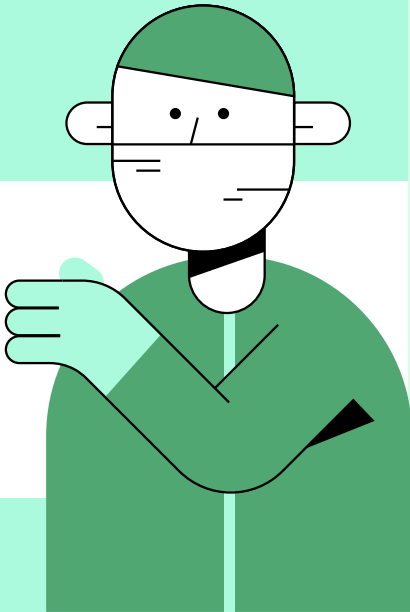
The State of Medicine

Exploring r/medicine in 2020

By Jacky Lu



Disclaimer: views expressed in this presentation are solely my own and I don't mean to speak for the medical community



What is r/medicine?

Description:

"/r/medicine is a virtual lounge for physicians and other medical professionals ..."

Why?

1) Real-time firsthand accounts

What are the issues facing the healthcare community?

Why?

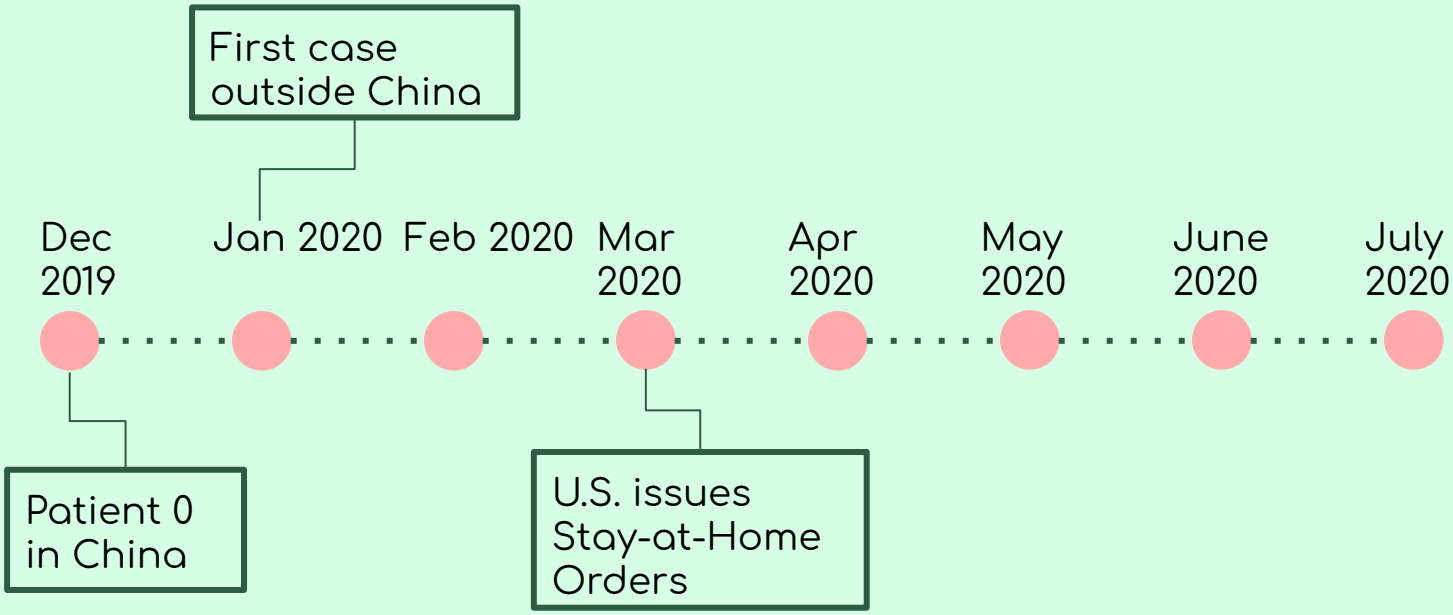
1) Real-time firsthand accounts

What are the issues facing the healthcare community?

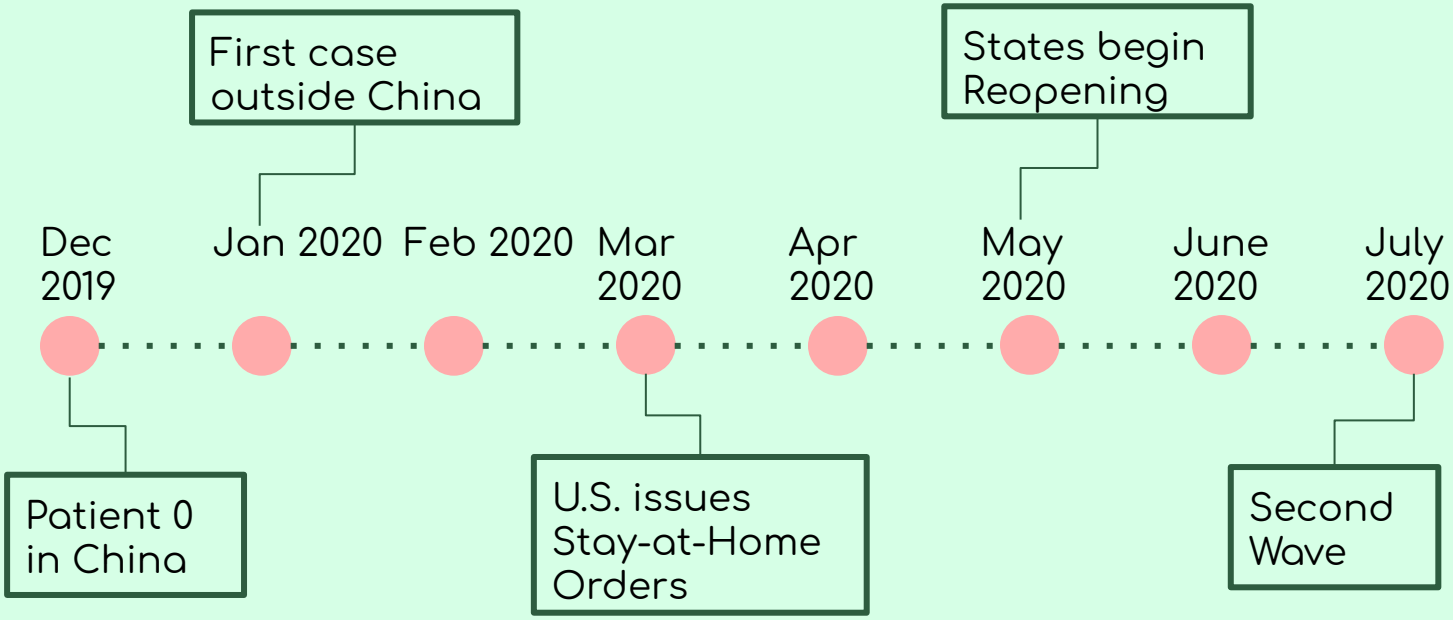
2) Identify potential areas to address

Do doctors need more PPE?
Are hospitals lacking equipment?

Coronavirus Pandemic Timeline



Coronavirus Pandemic Timeline



Data processing Workflow

Scrape Data from Reddit

PRAW

pushshift.io

Store in PostgreSQL database

PostgreSQL

Data processing Workflow

Scrape Data from Reddit

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Text Cleaning

NLTK

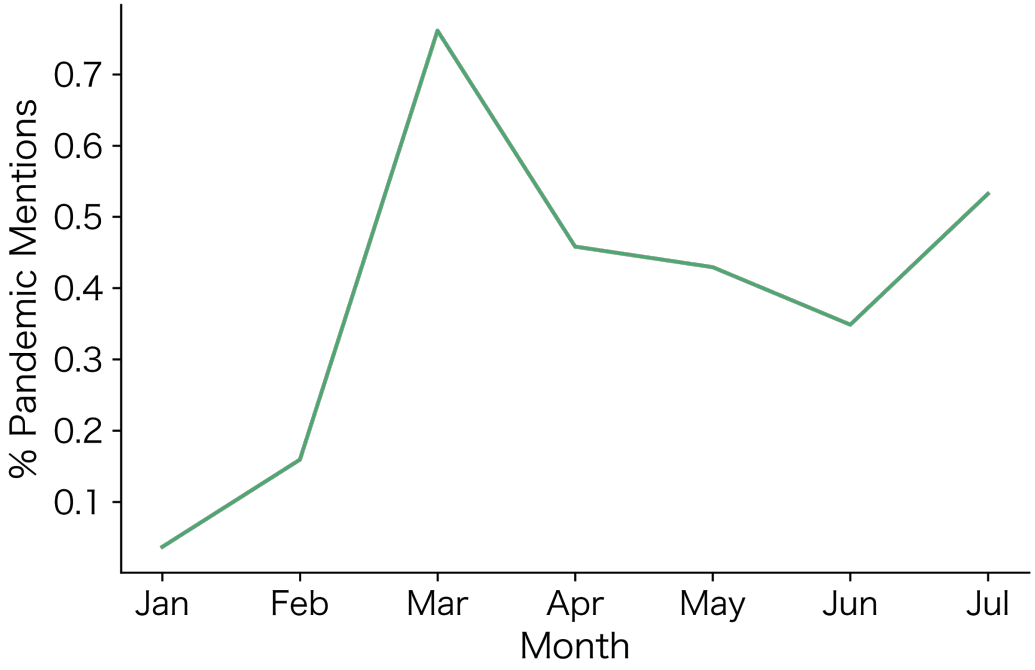
Store in PostgreSQL database

PostgreSQL

Part of Speech Filter

spaCy

Mentions of the Pandemic



Pandemic related words: coronavirus, covid, pandemic

Top 5 Nouns Used to be Work-Related

	1st	2nd	3rd	4th	5th
Jan	work	health	hours	doctor	week
Feb	health	residency	doctor	work	post
Mar	covid	masks	cases	respirators	room
Apr	covid	test	days	room	work
May	covid	health	school	student	pain
June	covid	work	health	anyone	life
July	covid	anyone	school	work	data

Covid Nouns Dominated, then Subsided

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Topic Modeling - LDA

Topics

1. Workplace
2. School & Training
3. Coronavirus Precautions
4. Healthcare System
5. Coronavirus Treatment
6. Medical Studies

Topic Modeling - LDA

Topics	Representative Key Words
1. Workplace	patients hospital time hours care work life job thanks family
2. School & Training	physician training school MD residency student residents program studies
3. Coronavirus Precautions	patients risk SARS coronavirus clinic masks advice children testing
4. Healthcare System	healthcare system providers medicare insurance therapy trial surgeon
5. Coronavirus Treatment	infection cov dose blood serum cell concentration treatment case lab
6. Medical Studies	evidence results regeneration spine immunity autism glucose lawsuits

Topic Modeling - pyLDA Visualization

Topics

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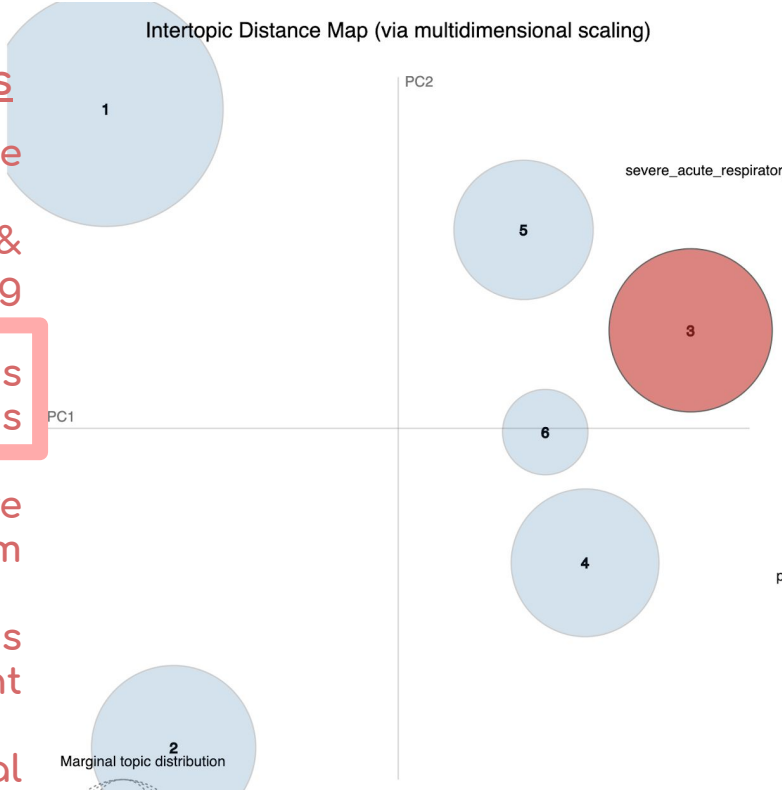
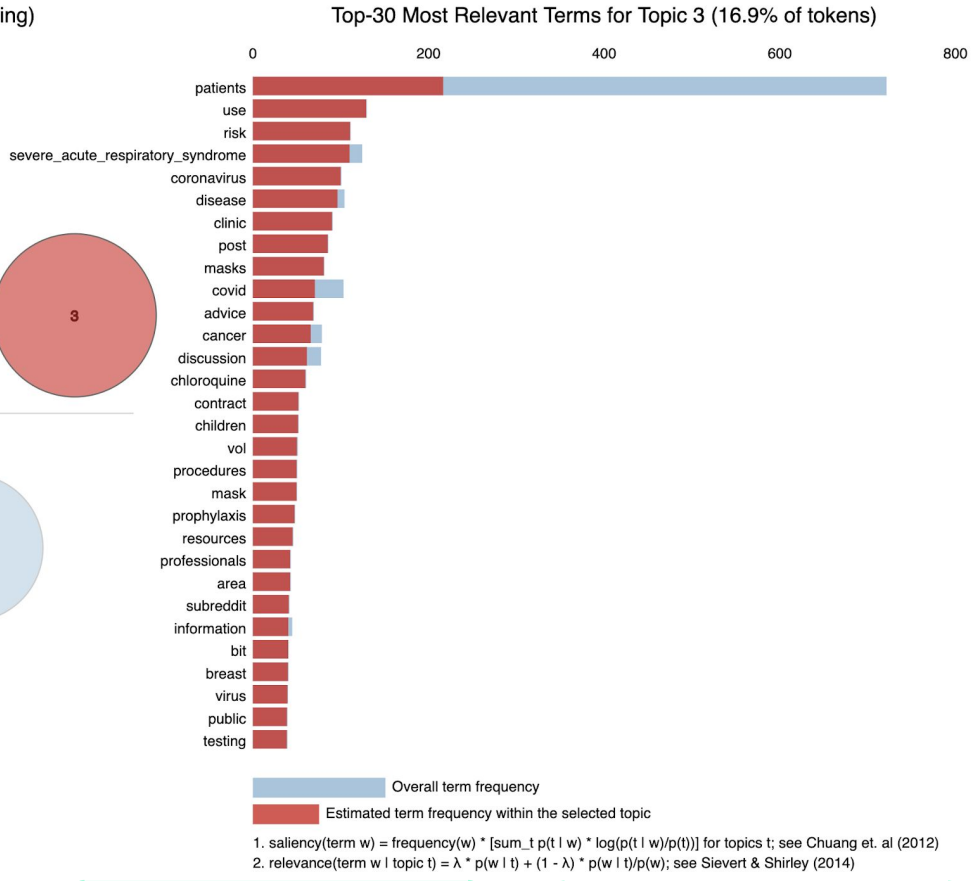
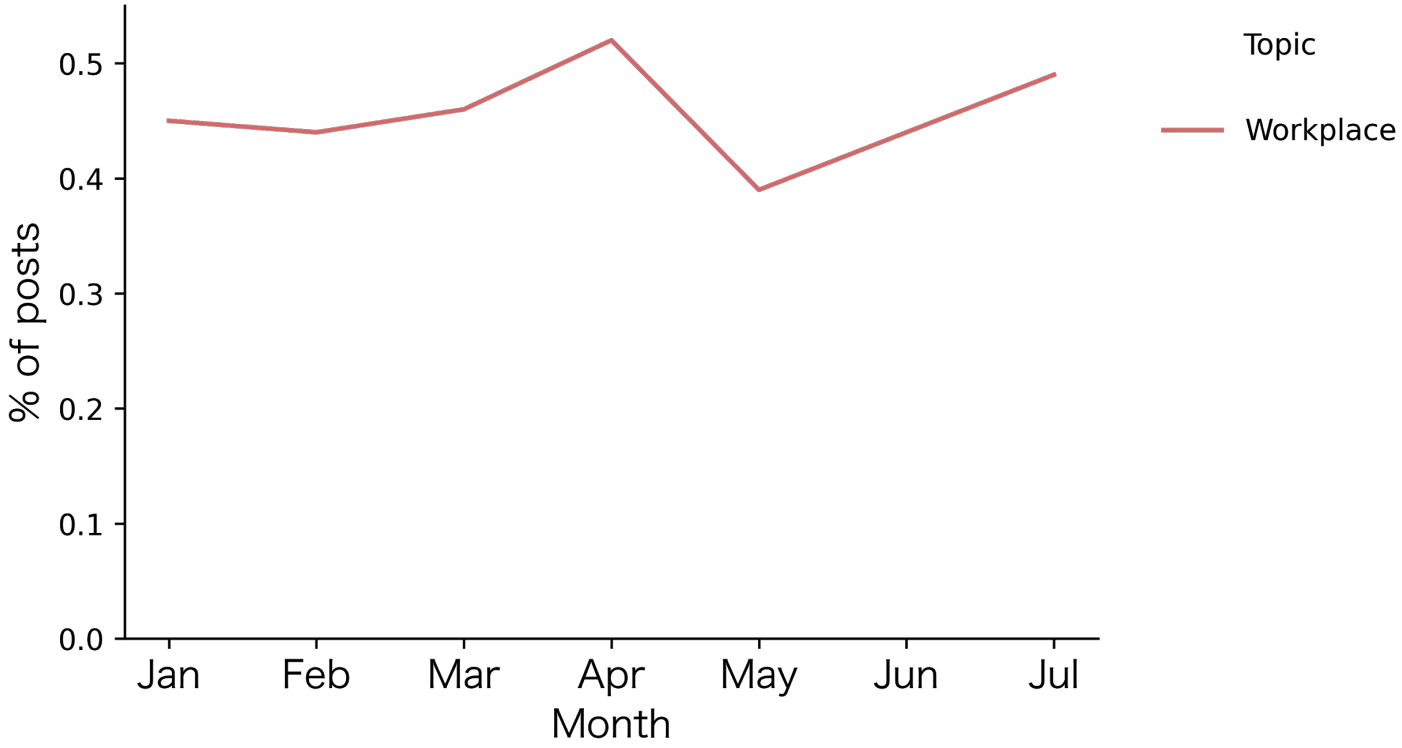
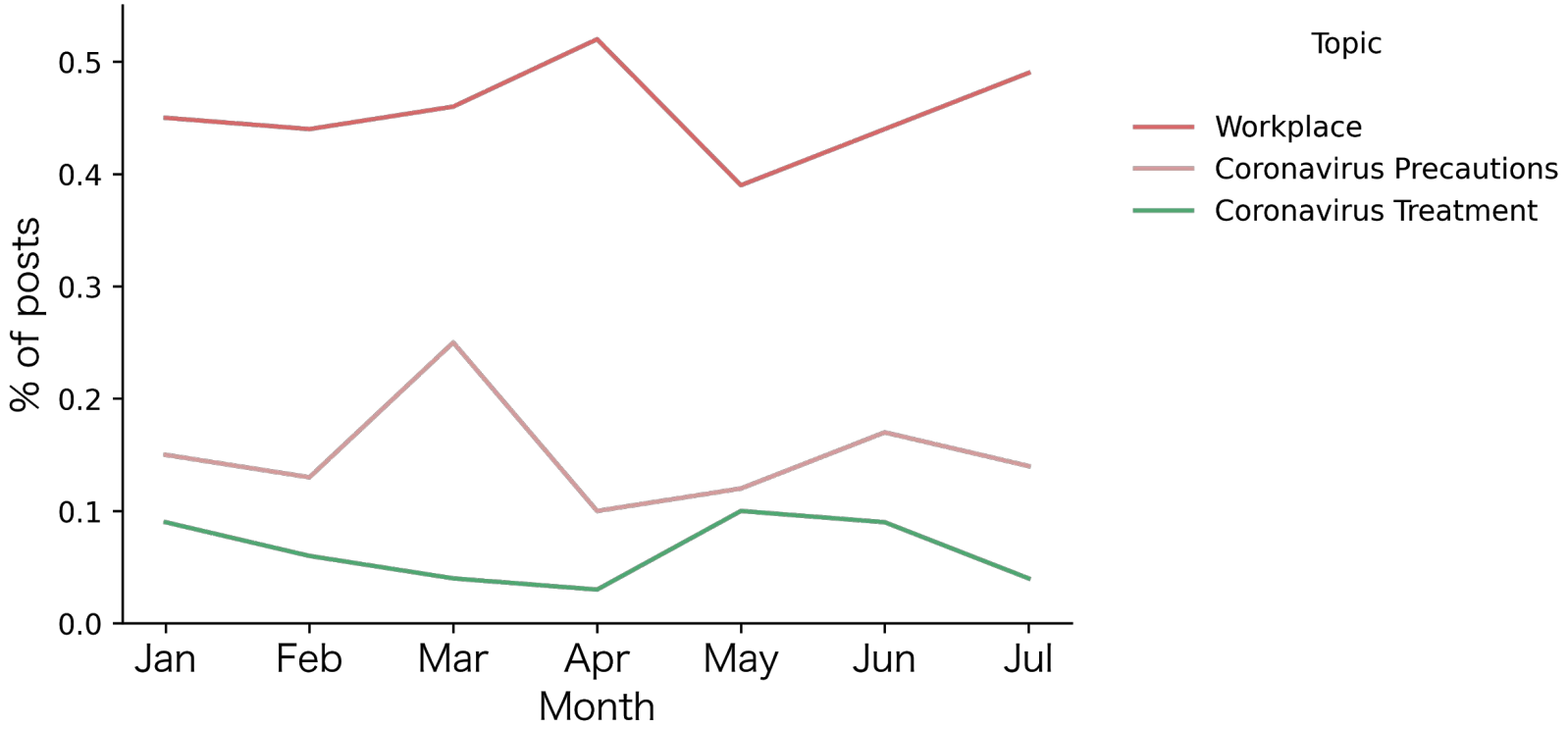




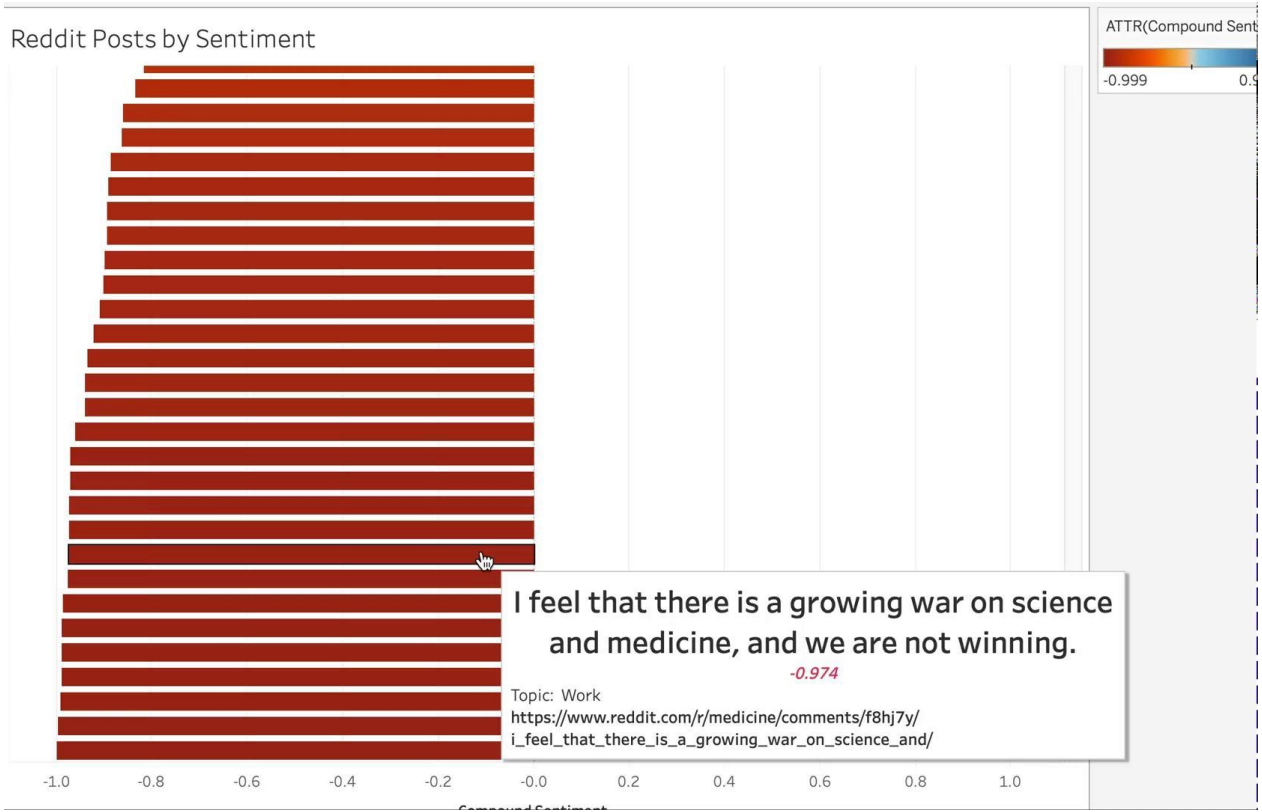
“Workplace” Topic is Dominant



“Coronavirus Precautions” Topic Spikes in March

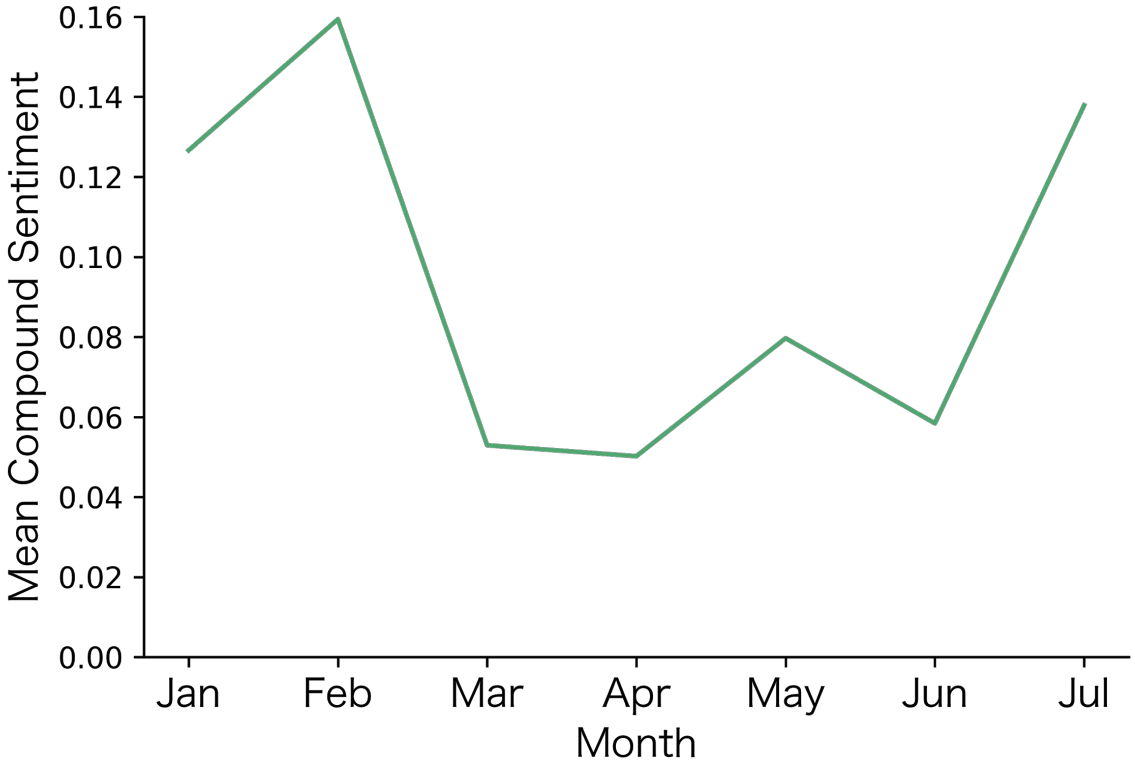


Sentiment Dashboard



VADER Sentiment

Sentiment Over Time



Conclusions

COVID-19 has
shifted the conversation

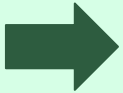
Future Work

Explore posts that don't mention COVID-19

What is being overlooked?

Conclusions

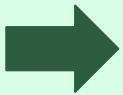
COVID-19 has shifted the conversation



Explore posts that don't mention COVID-19

What is being overlooked?

Lower sentiment during the pandemic



Explore posts with negative sentiment

What are some common issues?

Future Work

THANKS!

Any questions?

Let's stay in touch:
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https://github.com/jackywlu

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Appendix

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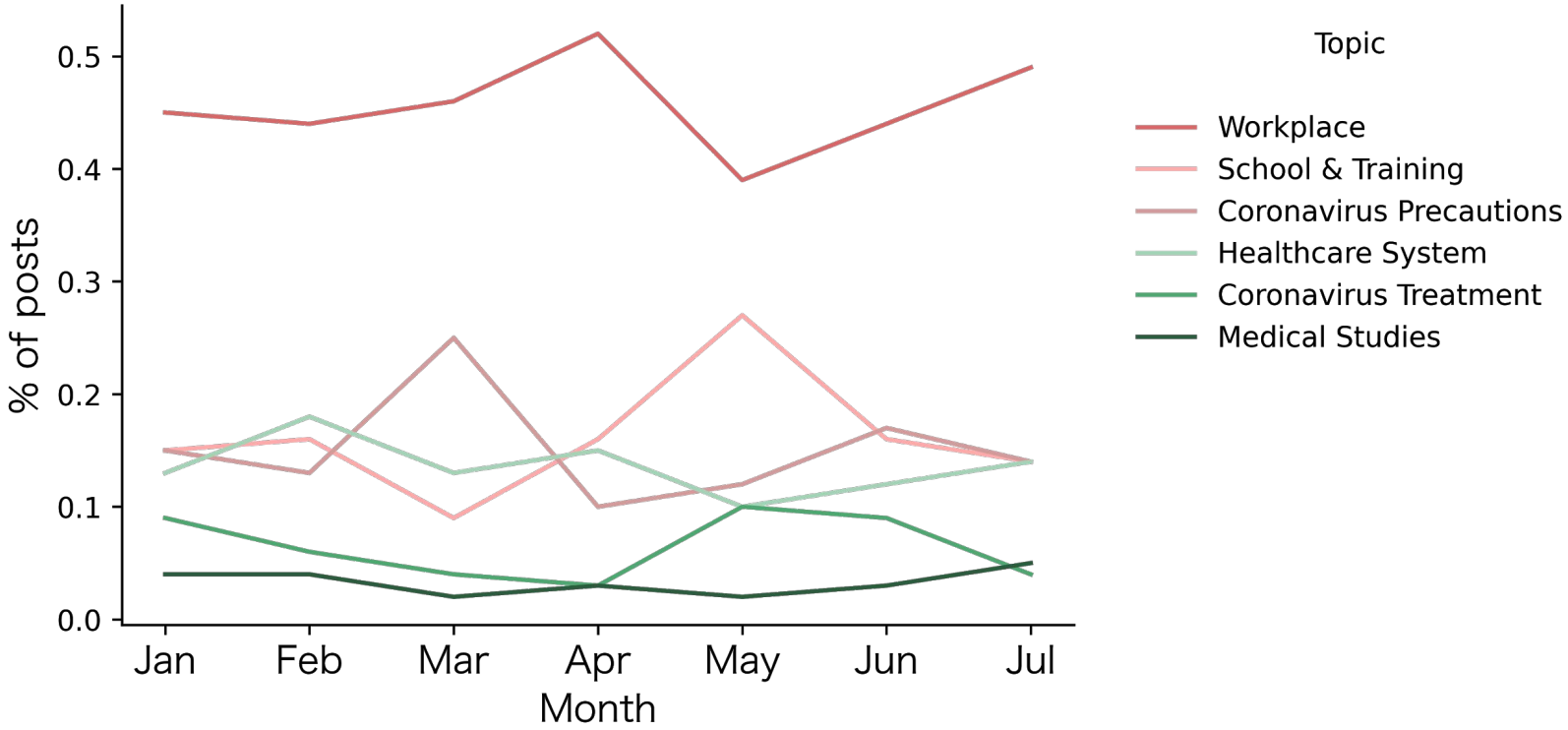
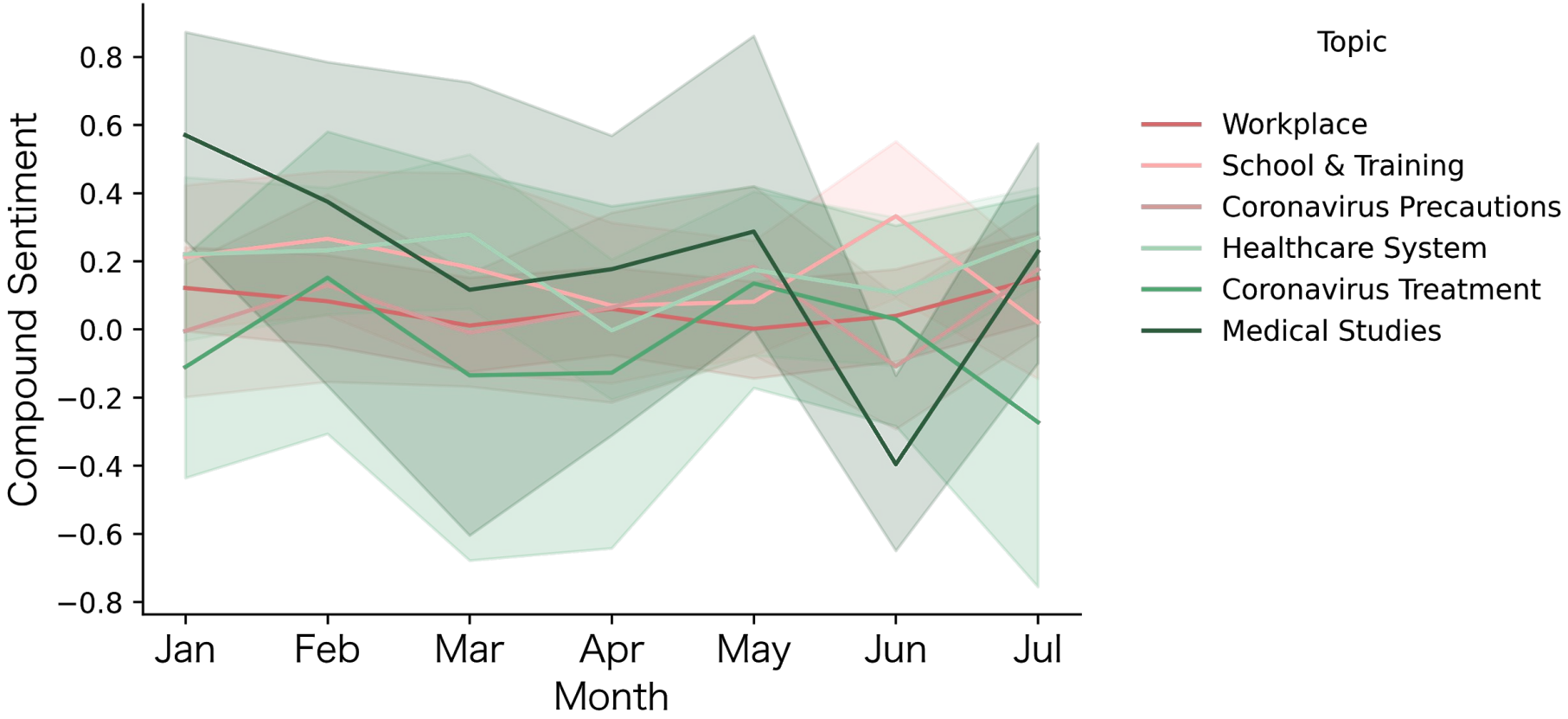
Full Topic Distribution



Sentiment by Topic Distribution