COVID-19 has quickly evolved into the greatest public health challenge of a generation. People are increasingly turning to social media to understand the virus, receive updates, and learn what can be done to stay safe.

Mark Dredze, an associate professor of computer science at the Johns Hopkins Whiting School of Engineering, researches the applications of artificial intelligence and natural language processing to inform how social media is used to respond to major public health events. His past work has used insights from social media data to examine issues related to vaccine refusal, substance abuse and overdose, the Zika virus, and the spread of influenza.

Dredze's team recently launched a website, Social Media for Public Health, which aims to combat misinformation, support messaging from public health organizations, and track information about the ongoing coronavirus pandemic.

He joined Johns Hopkins MPH/MBA candidate Samuel Volkin for a brief discussion on the use of social media as a source of information during a pandemic. The conversation has been edited for length and clarity.

What role has social media played in the COVID-19 pandemic?

This outbreak is well beyond anything we've ever seen in terms of the activity on social media. In previous disaster responses such as Hurricane Sandy, social media was used to inform the public about which areas had power, which pharmacies were open, and where there was flooding. Very local information was shared actively on social media.

Many of the same efforts are happening now, but on a much larger scale. The COVID-19 pandemic is at a scale that we have never seen in the age of social media. And it's critical to use social media to understand what kind of information is being shared and what people believe in order to ensure effective policy. The Centers for Disease Control and Prevention adapts its messaging based on information people share on social media. For example, the agency noticed a spike in the number of people talking about a drug that was believed to help prevent or treat COVID-19. In response, the CDC created messaging warning the public of the dangers in using these unapproved drugs.

Are there other examples where social media has been helpful during the COVID-19 pandemic?

The use of social media will evolve with this outbreak. There is currently a lot of good information on social distancing and self-quarantine. As things progress, social media will be used by governments as well as public health authorities and medical experts to tell people everything from where to get tested and what you should do if you're getting tested, all the way to...
rolling out a vaccine and ensuring that people have confidence in the vaccine and believe it is safe and effective. Responding to COVID-19 is a long-haul operation. Even though it has started as a sprint, it is really a marathon.

Social media is already being used by citizens to reinforce collective action by applying social pressure to self-quarantine and abide by government guidelines. People are also sharing a lot of useful information that you won't find on the news, like what grocery stores are open and well stocked, which have toilet paper, and which are rationing what people can buy.

Have there been downsides of social media use during the last few weeks?

Social media is a double-edged sword. The problem is that, just as social media has been really effective at sharing positive messages, it is conducive to people sharing rumors and misinformation that can spread easily.

Someone recently sent me a tweet showing a picture of tanks in San Diego. The post claimed that the U.S. Army and the National Guard had deployed to enforce quarantine. It's not true. There are no tanks in San Diego. There is another post circulating that Homeland Security is preparing to mobilize the National Guard to enforce quarantine and trap everyone in their homes so people should run out and buy everything they need. People are believing these rumors. That is a big problem.

How can we tell the difference between misinformation and accurate information on social media?

It is important to break down which type of misinformation we’re talking about. At one end of the spectrum are people just being uninformed and sharing incorrect information that they think is correct and helpful. This misinformation may not be such a big deal, but it is not evidence-based.

Toward the other end of the spectrum are people sharing actively harmful misinformation that is reinforced by their preexisting beliefs. For example, the claim that the government is using COVID-19 as an excuse to vaccinate people and support big pharma. These types of rumors are actively harmful.

On the far end is extreme disinformation. Disinformation is when people purposely share information that they know is false in an effort to scare people. Whoever made that image of tanks in San Diego doesn't actually think that there are tanks in San Diego. They came up with that image in order to start a dangerous rumor.

Can you recommend a "rule of thumb" for people to know whether to trust what they see and read online?

If you see something on social media and you want to take action based on it, it is important to first check whether a trusted source, such as a local newspaper, has reported that information. Be skeptical and consult a trusted authority. Go to the websites of the CDC or local public health authorities, and check if it's something they recommend. If it's something medically related, consult with your doctor.

What are some credible sources you would point the public to?

The CDC is the leading authority for public health in the United States, and the federal government has created an informative COVID-19 website. Internationally, it's the World Health Organization. State and local governments are doing their best to disseminate information as well.

Trusted news outlets are doing a good job, and many—including The Washington Post and The New York Times—are making their coverage of the COVID-19 pandemic free to the public. I’m also proud that Johns Hopkins is taking a leading role in providing valuable information. Hopkins has top public health experts the public can rely on for trustworthy guidance, and the institution has a long tradition of sharing knowledge with the world.

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