The shape of the coronavirus news story

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KEY FINDINGS

1. U.S. news coverage about the novel coronavirus developed in three distinct waves during the first 100 days of 2020: as a distant problem about a mysterious disease in China, as a virus that had reached the U.S., and lastly, as a news tsunami in the fields of business, health, politics, sports, and entertainment.


3. The magnitude of the coronavirus coverage is attributable to the far-reaching impact of Covid-19 on Americans and their hunger for updates and answers. As news outlets responded to the demand for news and the coverage evolved, stories spread across a vast and varied news landscape and were, in turn, amplified and re-circulated on social media platforms and by other news outlets.

Introduction

The first month of 2020 was dominated by news about the U.S. Senate’s impeachment trial of President Donald Trump, bushfires in Australia, and the death of basketball great Kobe Bryant. Buried deeper in the news flow were reports of a mysterious flu spreading through China, turning urban landscapes into strangely empty places. To the Americans who followed this story, this threat seemed safely distant.

For many news consumers, the constant coverage proved both overwhelming and difficult to follow.

But by the end of March, Covid-19 had struck New York City and wreaked havoc across the country.\(^1\) Stories about outbreaks flooded social media and news sites as shelter-in-place orders brought the U.S. to a halt. The pandemic consumed our attention as we struggled to make sense of a story that was both global and immediately personal. For many news consumers, the constant coverage proved both overwhelming and difficult to follow.\(^2\)
In this two-part series from Project Information Literacy (PIL), we explore U.S. media coverage of the Covid-19 outbreak during the first 100 days of 2020. In the first report, we examine the shape and flow of coronavirus coverage across time and digital spaces by using a large sample of stories from a range of news sources; in the second, we analyze how a sample of photos from 12 news outlets visually represented the story.

The purpose of this special series is to examine how mainstream news outlets responded to a rapidly changing story as it exploded into the largest global health crisis in a century. The coronavirus story has continued to unfold as newsrooms are shrinking, and news organizations across the country have announced pay cuts, furloughs and layoffs, making it more difficult for journalists and photojournalists to cover the story, and for the public to access reliable information that it needs.

Ultimately, our series is about reclaiming information agency: The ability to exert some control over the torrent of news about Covid-19 in order to remain critically informed at a time when one’s life may depend on it. We present empirical findings for examining how news stories and visuals shape our understanding of the world, and how media messages – the written word and visual storytelling – influence what we see and learn, what we think, and who we are. Learning resources accompany these reports as ways to build news and visual literacy competencies.

The shape of news

The mainstream news coverage of Covid-19 followed a pattern similar to that of many major international stories. It began with a few short items about a faraway problem, gained momentum as the economic and public health effects began to hit home, and eventually eclipsed all other news. The news story about what medical officials first called a “novel coronavirus” has continued to loom larger than other disaster stories.

At the time of publishing this report (mid-September 2020), at least 188 of the 195 countries on earth have reported Covid-19 cases, and more than three-quarters of a million people have died. Covid-19 has had an impact on virtually every sector of society and aspect of daily life. And yet, the first stories about the coronavirus were just a few news briefs about a new pneumonia spreading through the commercial hub of Wuhan, China.

How did the coronavirus outbreak become one of the biggest stories of all time? To answer this question, we explored the shape of news by looking at the peaks and valleys of mainstream coverage of Covid-19 over time. We drew on a large sample of widely read news sources in the contemporary online media sphere, and focused on the frequency of coronavirus news stories within a finite time frame.

Our analysis employed a three-step research process to examine how mainstream Covid-19 news coverage developed and spread. In the first step, we drew on 125,696 news stories from 66 mainstream and digital-only news outlets, available from Media Cloud, an open-source platform for large-scale media analyses at the MIT Center for Civic Media.

From this large dataset, we identified the shape of U.S. news coverage about the coronavirus outbreak by graphically plotting the number of stories against a time period between January 1 and April 9, 2020. We used the image

"How did the coronavirus outbreak become one of the biggest stories of all time?"

September 15, 2020
of waves to describe the ebbs and flows of this media coverage (not the spread of Covid-19 infection, which has also been described as coming in waves). Figure 1 shows the shape of the three waves of coronavirus coverage.

Figure 1: U.S. news Covid-19 coverage in three waves during the first 100 days of 2020. N = 125,696 news stories published online by 66 U.S. news outlets from January 1, 2020 to April 9, 2020. Data source: Media Cloud Explorer, accessed: June 26, 2020. Note: The blue line shows a mean value with a 95% confidence interval; the dotted line indicates weekends when fewer stories typically run. The average daily published stories per news outlet is counting only those outlets that published at least one story on that date. News sites may have changed the headlines, bylines, and dates of stories since we conducted our analysis and some stories may no longer be available.

As Figure 1 indicates, the first wave in January marked a slowly emerging story from China about a highly contagious virus of unknown origin spreading in Wuhan and elsewhere in Asia. The second wave in February included the spread of the pathogen as infections were tracked around the globe and in the U.S. The third wave in March ushered in a 24/7 news onslaught as the worldwide Covid-19 pandemic was declared.

By looking at the overall patterns of coronavirus coverage during this finite time frame, we can see how the mainstream media managed our attention as a society. This approach is a useful lens for critically evaluating Covid-19 news to see what is covered, what is not, and what topics and voices are amplified, and which widely read news publications are reporting the story as it unfolds.
Outlets producing the most stories

In the second step of our analysis, we identified 12 U.S. news outlets that published the most coronavirus articles across the 100 days of the study time frame (Figure 2). These news websites stood out as producing a large majority of news (60%) out of the 66 news outlets in our first analysis. The heat map in Figure 2 shows the absolute magnitude of daily coverage from each of these top news outlets. The darker the color, the greater the number of stories published by that news outlet that day.

While some of the stories in Figure 2 came from newer digital-only sources, such as Business Insider and HuffPost, other stories came from more established outlets like The New York Times, The Washington Post, and local metropolitan dailies, such as the Los Angeles Times and San Francisco Chronicle. Digging into these results, we found Business Insider published twice as many coronavirus stories as The New York Times during the first 100 days of 2020. Taken together, these stories came from across the political spectrum, favored by news consumers considering themselves liberal (The New York Times, CNN, and HuffPost), conservative (Fox News and New York Post), and centrist (The Wall Street Journal and USA Today).
Narrative timeline of the coverage

As the final step in our analysis, we explored how news built and gained momentum within the three waves. We drew on the total sample of 74,737 news stories produced by the top 12 news outlets to examine these spikes, and the news stories behind them.

We used results from this qualitative analysis as a basis for developing a narrative timeline, showing how the coronavirus story developed, and how the media framed coverage story by story. Links (indicated by double underlines) connect to selected articles that illustrate broader trends. Interspersed in this analysis are also examples of stories amplified and re-circulated by news outlets, reporters, and public officials on social media platforms, such as Twitter.

>> Wave 1: An unknown virus spreads from Wuhan, January 1 - January 31

In the early days of 2020, a trickle of articles reported a mysterious pneumonia in Wuhan, the capital of China’s Hubei province. Chinese officials released few details about the novel coronavirus to the press, and there were more questions than answers about the highly contagious pathogen. Several questions persisted, often becoming the topic of news coverage: Is the novel coronavirus a strain of Severe Acute Respiratory Syndrome (SARS) that spread through Asia in 2003, or something else? Does it spread by human-to-human contact, or from animals to humans? Had the virus come from Wuhan’s outdoor market where fish, rodents, and snakes were sold?

A breakthrough came on January 11 when scientists in Shanghai published the complete genome of the novel coronavirus. As China reported its first known death from coronavirus, researchers elsewhere in Asia confirmed that people outside of China had contracted the same disease. Within a week, more new cases were diagnosed in South Korea, Japan, and Thailand. The coronavirus story gained traction in the U.S. once details were reported in nationwide news outlets, such as The New York Times, The Washington Post, Fox News, and CNN. During these early weeks, there was far more news coverage about the race for the Democratic presidential nomination than the novel coronavirus.

Coronavirus hits home

Our news graph took its first dramatic bend upward with reports of the first known U.S. case of Covid-19 on January 20. Several days later, when reporters asked the U.S. president about the mystery virus, Trump said, “We have it totally under control; it’s one person coming from China.” This statement set a pattern of the administration downplaying the magnitude of the spreading public health crisis in the U.S., while promising a
national strategy that never emerged for fighting the disease. As global concern mounted, news outlets reported that Chinese authorities put Wuhan under an unprecedented lockdown on January 23.

A turning point in the coronavirus story came the following week: Tech companies temporarily shut down their offices in Hong Kong, Taiwan, and China, while China exceeded 7,700 confirmed cases. Other countries, including the U.S., took precautions by isolating and monitoring the few coronavirus patients they had and screening all airline travelers arriving from China. On January 30, the World Health Organization (WHO) declared the fast-spreading virus a global emergency.

>> Wave 2: Cases multiply worldwide as concerns grow in the U.S., February 1 - March 10

In early February, news coverage of the virus took on a new theme of travel: Japanese authorities quarantined 3,600 passengers – 20 of whom were Americans – aboard Carnival Corporation’s cruise ship, Diamond Princess, in the waters off Yokohama. More than 60 people with infections on board made it one of the largest coronavirus outbreaks outside of China. What had initially been framed as a travel story quickly turned into a breaking news story about the passengers’ plight, and then as a business story about the fate of the cruise line industry. Within a few months, 32 cruise ships were quarantined, detaining thousands of passengers.

A different story contributed to another news spike in the first week in February: Dr. Li Wenliang, a 34-year-old ophthalmologist in Wuhan who warned of the potential catastrophic spread of a mysterious SARS-like virus in December 2019, died from the coronavirus. The New York Times was one of the first U.S. news sites to cover Dr. Li Wenliang’s death, including that Chinese authorities had reprimanded the doctor, alleging he had spread rumors on the popular Chinese social media platform, Weibo. The Times story, like those from other news outlets, focused on Dr. Li’s bravery, the angry response from Chinese citizens, and the backlash against online censorship in China while calling for freedom of speech on social media. All at once, the coronavirus story took on an urgent political, health, and social justice angle that set social media ablaze. Individuals shared their reactions to Dr. Li’s death on Twitter, while mainstream news outlets used social media platforms to amplify their news coverage (Figure 3).

Thereafter, the coronavirus story began to pick up speed, and another sharp uptick in news coverage in our graph came on February 11 when the WHO named the disease caused by the novel coronavirus: Covid-19. The name was deliberately chosen to avoid stigmatizing any geographic place, animal, or group of people. Nonetheless, the press reported on racist incidents related to Covid-19 around the world. In China, people from Wuhan became targets of discrimination. Chinese restaurants and small businesses in the U.S., Canada, Australia, and the U.K. were boycotted. On campuses, Asian-American and Chinese students experienced racial hostility from fellow students on social media and in classes.

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First U.S. nursing home a target in the U.S.

By the end of February, the press began making bleak forecasts about the inevitable spread of Covid-19 in the U.S. and its impact on the country’s already overburdened healthcare system. At the same time, on February 29, a patient at a nursing home in Kirkland, Washington became the first Covid-19 death reported in the U.S. The fatal contagion put staff and elderly residents of the facility at great risk, the number of confirmed cases mounted, and the news ignited social media. This early story from the Greater Seattle area was a harbinger of things to come; within months, half of all fatalities from Covid-19 in the U.S were from staff and residents at nursing homes.15

Mourning the untimely death of the Wuhan whistleblower. (Tweet: Los Angeles Times, @2020, used with permission)

Worsening fears confirmed as coronavirus strikes first nursing home. (Tweet: Alison Grande, @2020, used with permission)

New York Governor Andrew Cuomo and FEMA make plans for a 1,000-bed field hospital in New York City.

Figure 3: Tweets from the first 100 days. Based on major coverage published online by the top 12 news outlets from January 1, 2020 to April 9, 2020. Data source: Twitter advanced searches, June 24 - July 29, 2020.

The first week of March saw two of the largest spikes to date in U.S. coverage. Grim statistics filled the news as the virus spread beyond Asia, swept through Italy, France, and Spain, and was reported in Latin America and the Middle East. As more than 20 states reported confirmed cases, domestic news focused on preventive measures such as the cancellations of concerts and national conferences.

In the U.S., the first colleges closed their campuses as nursing homes began to restrict access to visitors. Public officials, including Dr. Anthony Fauci, the White House’s coronavirus expert, urged social distancing to stave off the highly contagious virus. A spate of “how to” features started appearing on U.S. news sites, ranging from...
handwashing to disinfecting home surfaces aimed at helping people protect themselves and their families from the virus.

>> Wave 3: Reaching Pandemic Proportions, March 11 - April 9, 2020

By the second week of March, U.S. news outlets were exhaustively covering the Covid–19 story. In fact, it was difficult to find any news that did not mention the coronavirus, as the severity of the pandemic reached more than 100 countries and hit a milestone of 1,000 cases in the U.S. On March 11, the WHO declared Covid–19 a global pandemic. Late that night, news websites circulated the U.S. president’s announcement that travelers from continental Europe would not be permitted to enter the country.

The following day — March 12 — became the biggest news day to date for the coronavirus story. Sports enthusiasts reeled at news that the NCAA cancelled its spring championship, while the NBA suspended its basketball season after Utah Jazz center Rudy Gobert tested positive for Covid–19. In entertainment news, actors Tom Hanks, and his wife, Rita Wilson reported they had tested positive for Covid–19 in Australia, among more than 125,000 cases reported around the world.

Financial worries heightened as stocks plummeted on the market’s worst day since 1987 amid fears of a halted national economy and rising unemployment. U.S. students abroad were called home and required to self-quarantine on their return. This one day in early March marked the important transition in the Covid–19 coverage from single front page stories to a tsunami of news reported from many perspectives, including public health, sports, entertainment, business, and the economy.

By mid–March, states in the U.S. began debating whether or not to issue shelter–in–place orders, France imposed a nationwide lockdown, and the European Union banned travellers from outside its borders. At this time, our news graph (Figure 1) had its greatest inflection on March 17 with the highest daily count of coronavirus stories published in the first 100 days of 2020.

Headlines proliferated as the White House recommended home schooling, limiting gatherings to 10 or fewer people, and avoiding restaurants, bars, and discretionary travel. Stories of growing worldwide panic were paired with continuous coverage of the dire shortage of testing kits, ventilators and personal protective equipment (PPE) in hospitals in small towns and large cities. Numerous reports detailed the increase in cases of Covid–19 across the country and in the growing hotspot of New York City.

Across the U.S., there were more than 6,300 known cases by mid–March, up fivefold from the prior week. In New York alone, more than 1,500 people had tested positive for Covid–19. The following week, on March 20, Mayor Bill De Blasio declared that New York City had become the U.S. epicenter of Covid–19, and warned the outbreak would get worse as supplies dwindled. With the number of coronavirus cases in New York State doubling every three days, Governor Andrew Cuomo was often in the news. An outspoken critic of the federal government’s slow response to the outbreak, Cuomo led efforts to secure ventilators, tests, and PPE, and to set up makeshift field hospitals that were desperately needed in a city besieged by Covid–19.
Another spike of Covid-19 coverage came on March 24 and March 25, partly due to the first hopeful news in months: The U.S. House of Representatives and the Senate were debating the largest emergency bill in history — $2.2 trillion — to provide economic relief for workers, corporations, and small businesses. But this bright spot was short-lived. Japan's Prime Minister Shinzo Abe announced the Tokyo Olympics had been postponed for a year, there was increasing coverage about the impact of school closures on students' lives. Despite these grave circumstances, pressure started to build about reopening the U.S. businesses and schools.

By early April, a grim milestone was passed: the known Covid-19 cases worldwide reached 1 million. In the U.S., 10 million Americans were out of work, and 6.6 million had applied for unemployment in the last week of March alone. Much of the U.S. waited for something to hope for as the number of deaths nationwide exceeded 10,000. News reports documented researchers' around-the-clock efforts to develop a vaccine as the first 100 days came to an end on April 9th.

Conclusion

The rapid spread of Covid-19 has left few lives untouched. In the U.S, the lack of testing, months of sheltering in place, skyrocketing unemployment, overflowing hospitals, and untimely deaths have cast a pall over the country. No one will know for certain how many people have contracted and died from the virus, since federal governmental efforts to collect public health data have been practically nonexistent.

The magnitude of the U.S. coronavirus news coverage is due, in large part, to the far-reaching impact of the Covid-19 outbreak on American lives. But news consumers' voracious appetite for updates and answers, and the media’s response to that demand, also contributed to its enormity.

As it gained momentum, the coronavirus story spread through every news section from business and politics to health, sports, and even entertainment as celebrities were stricken and film productions stopped. This ever-expanding story occurred as the news industry struggled to maintain the flow of reliable, authoritative content amidst the pressures of a rapidly developing story, with shrinking newsrooms, declining revenues, online access limitations, and the clicks of many readers impatient for updates.

As our heat map indicated, there was a mix of news outlets producing the most news about Covid-19 within the time frame we studied. National and local publishers, such as The New York Times and The Washington Post and The Seattle Times, and newer digital-only outlets, like Business Insider and HuffPost, contributed to a large share of the Covid-19 news, based on the results of our analysis. These data revealed a rising prominence among certain digital-only outlets circulating coronavirus stories: Business Insider outpaced The New York Times in its coverage by two-to-one during the first 100 days of 2020.

Drawing on our qualitative analysis, we found certain stories from these top news outlets (and others) were often amplified and re-circulated across news sites and on social media by a network of diverse voices in this vast news ecosystem. Among these voices were readers of news; no longer passive consumers but now active agents in the flow of news and information through Twitter feeds, digests, news sites, and algorithms.

In this report, we have used a sample of news articles about the coronavirus to illustrate how the pandemic coverage developed and spread. But in the broader sense, we have also explored how news is experienced in the 21st
century as it is distributed, re-circulated, and amplified across complexly interwoven digital spaces, even as mass layoffs, mergers, and closures challenge the traditional news industry to report the news. Examining the shape of news with a given timeframe informs our understanding of how media outlets define certain narratives, and makes us more aware of which stories catch the eye of readers and spread through social media.

At a time when trust in news is deeply polarized and the WHO warns of an “infodemic” of misinformation, journalism plays a vital, though often misunderstood, role in a nation’s grasp of events. Applying a critical lens to understanding the news ecosystem helps develop our information agency and makes us more discerning news consumers who, as the Center for News Literacy puts it, have the power to “change individual lives and the life of the country.”


Opportunities for further learning

In addition to this report, we have prepared a Project Information Literacy (PIL) project landing page with these related resources:

Report 2 of this two-part series on the First 100 Days of Covid-19 news coverage explores the visual representation of the coronavirus story. This report includes findings from an analysis of visual messaging in a sample of Covid-19 news photos published by the top 12 news outlets, and a narrative about the intended emotional responses from a smaller subset of these photos. Applying this critical lens shows how visual storytelling shapes our understanding of events.

Learning resources for this report include discussion prompts and activity-based exercises suitable for virtual or in-person learning. The exercises serve as a way for students to reclaim information agency by stepping back from the endless stream of Covid-19 news and information to critically evaluate how accurate and reliable news coverage evolves and how it informs our understanding of events.

PIL’s Covid–19 misinformation resource list has high-quality materials from researchers and journalists about the spread of false claims and “fake news” of the coronavirus pandemic on social media. This is a topic that raises compelling questions beyond the scope of our series on the development and representation of the story from mainstream news outlets.
Endnotes


5. Excluded from our analysis is the high volume of misinformation, memes, and false narratives, since they are inferior, poorer quality sources beyond the scope of this series. We acknowledge the importance of misinformation as far as promoting news literacy and have provided an additional document, “PIL’s Covid-19 misinformation resource list,” as part of our series. See Methods for further details about the scope of our analysis and details of the research design.


9. In Figure 1, the largest news spike in Wave 1 occurred on January 15 when 131 stories ran about the first confirmed cases of coronavirus in Thailand and Japan.

10. Two news sources from Media Cloud’s collection of “U.S. mainstream media” – Fox News and CNN – were added to incorporate news websites published by outlets otherwise known for their television broadcasts.
11. We acknowledge that this result reflects the quantity of news stories published and not the depth or quality of coronavirus coverage from Business Insider or The New York Times.


16. “What is news literacy?” Center for News Literacy, Stony Brook University, School of Journalism, https://www.centerfornewsliteracy.org/what-is-news-literacy/

Timeline citations

The following stories, drawn from our analysis of news from the top 12 providers, are linked throughout the Narrative timeline of the coverage section of this report. This list provides full details for each article in the same order as the links in the text. All links were verified in August 2020; some stories have been updated since our analysis so dates and titles may have changed.


22. Brittany Chang, (March 25, 2020), “32 cruise ships around the world have been affected by the coronavirus so far, leaving passengers infected, dead, or stranded — see the full list,” *Business Insider*, https://www.businessinsider.com/cruises-that-have-been-affected-by-coronavirus-2020-3


28. “Dr. Li Wenliang appeared on social media, warning of a deadly virus long before Chinese authorities disclosed its full threat” (February 6, 2020). [Tweet, used with permission], https://twitter.com/latimes/status/1225610132698095616


37. Alison Grande (February 29, 2020), “We went to Life Care Center of Kirkland and found these signs outside,” [Tweet, used with permission], https://twitter.com/AlisonKIRO7/status/1233862773014028288?s=20


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Covid-19: The first 100 days of U.S. news coverage
https://projectinfolit.org/publications/covid-19-the-first-100-days


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