



Coverage of the COVID-19 Pandemic in the Online Versions of Highly Circulated U.S. Daily Newspapers

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Abstract

With the proliferation of news and the abundance of unknowns, COVID-19 information became rife with rumors and infiltrated consumers with confusion and information overload. In situations like this, it is important to provide consumers with credible and reliable information about the pandemic which is affecting their lives and livelihoods. Articles about coronavirus published in online versions of USA Today online, Wall Street Journal online and NYTimes.com between January and March 2020 were identified. Only articles where the search terms appeared in the headline were included as it was considered a more effective approach to understanding the health communication trends for this outbreak. These criteria resulted in 5,285 articles published on this topic during this time. All articles were imported into Dedoose mixed-methods software for thematic analysis. The frequency of each identified theme appearing in reviewed articles was counted, together with excerpts illustrating the specific theme. Overall, the five most common themes appearing in reviewed articles were “financial impact of COVID-19” (11.6%), “stories of affected individuals” (7.0%), “death and death rates” (6.8%), “precaution recommendations for public” (6.2%), and “quarantine” (5.9%). The newspapers did not just report the numbers (number of infections, ventilators, deaths, economic losses) but they also reported the context of the pandemic, such as, impact on economy, efforts to slow the spread of infection, switch to working from home, presence of health disparities, scientific search for reliable COVID-19 tests, and effect on supply chains. News media play a vital role in enhancing understanding of pandemic, but also in shaping public response to public health messages.

Keywords COVID-19 pandemic · Health information seeking · Health communication · Mass media · Community health

Introduction

SARS-CoV-2, the virus that causes COVID-19 was first identified to the media in December, 2019 [1]. The outbreak, originating in China made its way around the world and was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020 [2]. As the coronavirus spread around the globe so did a wealth of information, ranging from factual to false. In this evolving situation, not only are health data changing rapidly and health messages by the authorities updated constantly, but the effects beyond

physical health *per se* are being brought to light frequently. Issues ranging from financial concerns [3] to xenophobia [4] were often being addressed by the media. Suggestions for mitigation were evolving, with specific focus on hand washing and recommendations for mask use [5].

Previous research has established that rumors and myths are shared quickly on social media, blogs, and sensationalized webpages looking for hits/views [6, 7]. With the proliferation of news and the abundance of unknowns, information surrounding the COVID-19 pandemic became rife with rumors and infiltrated consumers with confusion and information overload [8]. The World Health Organization declared this an “infodemic,” where an abundance of information is making it difficult for people to find timely and trustworthy sources [9]. In situations like this, it is important to provide consumers with credible and reliable information about the pandemic which is affecting their lives and livelihoods. News media can play a vital role in enhancing understanding of the pandemic, but also in shaping public

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response to public health messages [10]. Selecting reliable sources of information is critical [11], particularly when we are experiencing a national and global health threat.

On March 28, 2020, the United States Department of Homeland Security (USDHS) identified news publishers as an essential service [12]. This federal recognition underscores the fact that the news media and the delivery and operation of newspapers are a component of the critical infrastructure during this crisis. It also emphasizes that the media coverage about COVID-19 pandemic is more important than ever to keep the public adequately informed. How media frames the pandemic may determine the public response and ultimately determine our local, regional, state, and country's health. An adequate public response to the pandemic depends on an informed community. Newspapers such as the New York Times and Wall Street Journal are committed to investigating the federal and regional responses to this crisis and the related public health and economic issues. USA Today provides additional reporting about practical day-to-day tips and techniques for handling this quickly changing landscape that includes school closures, social distancing, curfews, and working from home. These are the three most widely circulated newspapers in the United States, U.S. [13]. While previous research has examined news coverage of prior pandemics [10, 14–16], to our knowledge, no study to date documented coverage of COVID-19 pandemic in the U.S. newspapers. Therefore, the purpose of this study was to examine the nature and extent of the early coverage of the COVID-19 pandemic in the online versions of the three most widely circulated U.S. daily newspapers: The New York Times, The Wall Street Journal, and USA Today [13].

Methods

The methods for this study were based in part on a prior study focusing on news coverage of the Ebola virus outbreak [14]. Between January and March 2020, articles about coronavirus published in the online versions of these newspapers were identified using the following databases: Factiva, a Dow Jones company; EBSCO's Academic Search Premier, and the New York Times online search engine, <http://www.nytimes.com>.

As this coronavirus emerged in China during the fall of 2019, descriptive terms evolved as researchers and health care workers struggled to identify the virus. Throughout the late fall, terms such as SARS, pneumonia, and ultimately, novel coronavirus or COVID-19 described this new disease. Initially, to understand and capture the widest coverage, we searched within the full text of articles published in those sources for the following terms “coronavirus” or “2019 novel coronavirus” or “2019 novel coronavirus disease” or “2019

novel coronavirus infection” or “2019-nCov” or “2019-nCov disease” or “2019-nCov infection” or “nCov2019” or “nCov19” or “coronavirus disease” or “coronavirus infection” or “COVID-19” or “COVID 2019” or “severe acute respiratory syndrome coronavirus 2” or “SARS 2” or “SARS coronavirus 2.” A total of 7,158 articles on this topic were published during the first three months of 2020.

The research team determined that reviewing only those articles where the search terms appear in the headline would be a more effective approach to understanding the health communication trends for this outbreak. The search was limited using the terms listed above to headlines only in the following sources: USA Today online, Wall Street Journal online and NYTimes.com feed. These searches resulted in 5,285 articles published on this topic during this time.

All articles were imported into Dedoose mixed-methods software for analysis [17]. The research team analyzed all of the articles published in January and February. However, due to volume of the articles published in March, every tenth article was analyzed to inform the development of a codebook. We developed a codebook of a priori codes (e.g., “number of COVID-19 cases”) and codes grounded in the data (e.g., “travel bans”). To ensure intercoder reliability, the first two authors coded the same set of 30 articles (10 from each newspaper). The inter-rater reliability was high ($k=0.74$). Any discrepancies were reconciled with collaborative discussion, and codes were refined until agreement was reached for the final lists of codes representing key themes. Multiple codes were identified within each article. For example, an article could cover travel ban but also document the impact on state economy. For clarity, some subcodes were grouped to a single theme (i.e. “avoid shaking hands”, “cover cough”, “disinfect surfaces” were grouped within “precautions for public”). This study was not reviewed by the Institutional Review Board at William Paterson University as their policy does not seek review of non-human subject research.

Results

Table 1 indicates the source and month of reviewed and coded newspapers' articles. Across three newspapers, the number of articles related to COVID-19 increased 16-fold from January to March. In Table 2, we present results from the content analysis, highlighting major themes related to COVID-19 pandemic and covered by the three most widely circulated U.S. daily newspapers. Multiple themes were identified, grouped in nine overarching topics: “Community Mitigation”, “Economy”, “Epidemiology of COVID-19”, “Governments' responses”, “Law and politics”, “Infodemic and misinformation”, “Preparedness and public health response”, “Symptomatology, treatment and vaccine”, and

Table 1 Characteristics of the sample of reviewed and coded newspapers' articles

Source	January 2020	February 2020	March 2020	Total
New York Times.com	105	340	1170 (117) ^a	1615 (562)
The Wall Street Journal Online	82	365	1502 (150)	1949 (597)
USA Today Online	62	195	1464 (146)	1721 (403)
Total	249	900	4136 (413)	5285 (1562)

^aIn March, every tenth article was coded. The number in parenthesis indicates the number of coded articles

“Various population themes”. We present the frequency of each identified theme appearing in reviewed articles, together with excerpts illustrating the specific theme. Overall, the five most common themes appearing in reviewed articles were “financial impact of COVID-19” (11.6%), “stories of affected individuals” (7.0%), “death and death rates” (6.8%), “precaution recommendations for public” (6.2%), and “quarantine” (5.9%).

We noted that early in the year the majority of coverage was related to outbreaks overseas (i.e. China, Europe). As the outbreak rapidly spread in the U.S., coverage was significantly shifted to the U.S. stories. While in the early days, the newspapers minimized the risk to the U.S. public, as the number of cases in the U.S. increased, the shift towards encouraging public to take precautionary measures was noted. Some articles were also accompanied by images which were graphic, for example showing COVID-19 patients isolated and separated from family members.

Discussion

The news media serves a vital role providing both breaking news stories and analyzing those stories from a variety of perspectives: social, economic, health, political, policy, environmental, etc. Since the beginning of 2020, stories about various aspects of COVID-19 have dominated the news coverage globally but also in the U.S. media. Similar to media coverage in other countries [18, 19], the findings from this study indicate that the coverage from the early days of the COVID-19 outbreak was varied and captured the complexity of issues and concerns raised by the situation. The newspapers did not just report the numbers (number of infections, ventilators, deaths, economic losses) but they also reported the context, such as, impact on economy, efforts to slow the spread of infection, public health preparedness, switch to working from home, presence of health disparities, scientific search for reliable COVID-19 tests, and effect on supply chains.

The financial impact of COVID-19 was discussed frequently and in-depth which is not surprising given the business-focus of the Wall Street Journal, for example. Additionally, a significant number of articles focused on community mitigation strategies, such as precautions that members of

the public can follow to avoid spreading the virus. This may indicate that during a sudden world-changing event causing widespread anxiety about health and economic issues, newspapers assume the added obligation of social responsibility and public service by providing the most accurate, verifiable, and factual reporting. In explaining this epidemic, newspapers often used key public health terms (i.e. epidemic, pandemic, outbreak, quarantine) to describe the events unfolding. While the early reports focused almost exclusively on the epidemiological situation overseas, the volume of articles focusing on the outbreaks and public health measures taken in the U.S. localities increased dramatically as the first cases arrived in the U.S.

In addition, this analysis captures views that have changed over time as more information was garnered, such as, the level of risk being minimized in early days and then emphasized later. Our review also reveals the fluid nature of information during this crisis. News included constantly changing updates (daily statistics of infection rate, death), as well as federal and state policies and recommendations, which may make difficult for the public to fully understand and adhere to the best practices for prevention. In times of isolation and stay-at-home orders, the public increasingly relies on the news media for information for both the data but also for community and health policies and rules.

The limitations of this study include the sampling method, which although was comprehensive, use of given key words may have excluded otherwise pertinent articles. In addition, the use of systematic sampling in March to adjust for the abundance of articles makes it difficult to quantify the rates at which these different topics appeared. Further, the inclusion of only three months in the earlier days of the outbreak does not allow for the most comprehensive picture of how things have changed over time. Nevertheless, this study offers further insight into the nature and scope of information conveyed during this critical time.

Newspapers are charged with maintaining balance during times when the information is changing quickly (masks are/are not essential for the public). The general public also has a lot to balance in terms of how much information they can absorb (especially when the news is consistently not hopeful), but also the level of numeracy needed to understand the graphic presentations of epidemiology is high. There is an additional challenge in interpreting information (some

Table 2 COVID-19 coverage in 3 major US newspapers from January to March 2020: Major themes and examples of themes

Theme	Excerpts (source, date)
Community mitigation (N = 1294)	
Downplaying the risk (N = 113)	“There is no evidence that person-to-person transmission has occurred. The current risk of local transmission remains low,” the statement said. (NYT, Jan 26th)
The risk is imminent (N = 34)	“We have got to assume it is going to get worse and worse and worse.” Dr. Anthony Fauci, the director of the National Institute of Allergy and Infectious Diseases, issued a stark warning to lawmakers that the coronavirus would continue spreading rapidly in the U.S.” (NYT, Mar 11th)
Precaution recommendations for public (N = 424)	“City health officials have said it was only a matter of time before the virus appeared in New York State, though no cases had been confirmed so far. They said residents should take the same precautions they would for the flu, such as washing their hands, but should also continue about their lives.” (NYT, Jan 30th)
Quarantine (N = 405)	“The entire ship had been in lockdown in Civitavecchia for most of the day Thursday as passengers waited for the initial results of tests carried out by a medical team from Rome’s Lazzaro Spallanzani National Institute for Infectious Diseases.” (USA T, Jan 30th)
Inequities (N = 21)	“Native American communities like Chilchibeto, often poor and isolated, have few of the resources or medical personnel to battle a viral pandemic. Compounding the risks, many reservations face housing shortages that leave tribal members living in often crowded conditions. “We are so unprepared,” said Tori Kitcheyan, a council member at the Winnebago Tribe of Nebraska and chairwoman of the National Indian Health Board. (WSJ, March 22nd)
Travel bans, advisories, and route cancellations (N = 297)	“Cruise operators are canceling voyages to and from China as the coronavirus outbreak spreads and governments around the world urge the public not to travel to infected areas. Costa Cruises, a subsidiary of Miami-based cruise and leisure giant Carnival Corp., said it canceled four cruises scheduled from Jan. 25 to Feb. 2. Industry officials said four ships—the Costa Serena, Costa Atlantica, Costa Venezia and Costa neoRomantica—remain docked at Chinese ports. (WSJ, Jan 28th)
Economy (N = 1219)	
Financial impact (N = 797)	“On Monday evening, Apple warned its shareholders about the effects of the new coronavirus outbreak. Production of iPhones has been slowed because of quarantined workers, and the company expects to sell fewer products in China as the country grapples with the problem. Revenue, Apple said, will take a hit, though it wasn’t ready to estimate just how big.” (NYT, Feb 20th)
Event cancellations and closures (N = 388)	“New Jersey Gov. Phil Murphy ordered all day-cares centers, unless they provide childcare to first responders or other essential workers, in the state to close by next Wednesday.” (WSJ, March 25th)
Supply and food chain (N = 16)	“The new coronavirus is dealing another blow to the struggling U.S. agricultural sector, driving down crop and livestock prices and threatening labor shortages for farms. Even as consumers clear food staples from supermarket shelves, Midwestern farmers’ prospects have dimmed. Agricultural futures on the Chicago Board of Trade have been on a slide since Feb. 24, when coronavirus concerns began to weigh on U.S. stock markets. Corn futures have shed nearly 10%, wheat futures have fallen nearly 2%, and soybean futures have dropped over 4%. In U.S. Plains states, prices offered for ranchers’ cattle have dropped over the past two weeks, reflecting selling by investment funds and fears that consumers will eat less beef as they avoid restaurants—and that meatpacking plants could suffer staffing shortages.” (WSJ, March 21st)
Technology, impact on work (N = 18)	“Cisco has expanded Webex’s free capabilities in all countries where the tool is available, a spokesperson said. Microsoft Corp. is making its Teams videoconferencing, chat and collaboration platform available for free over the next six months to help companies handle the uptick in remote work, a spokesperson said. Likewise, Boston-based LogMeIn Inc., which makes remote-working application GoToMeeting, is offering three-months of free services and products to health-care providers, schools and nonprofit organizations, the company said.” (WSJ, March 4th)

Table 2 (continued)

Theme	Excerpts (source, date)
COVID-19 epidemiology (N = 1798)	
Comparisons to previous epidemics (N = 257)	“The coronavirus has killed 259 people and infected nearly 12,000 in China as of late Friday, according to the official National Health Commission in Beijing. The number of infected patients in China alone now exceeds the global total for severe acute respiratory syndrome, or SARS, which killed nearly 800 people after emerging from southern China in 2002 and 2003.” (WSJ, March 14th)
Death/death rates (N = 470)	“The 69-year-old man is believed to be the first person in the Northeast whose death was related to the virus. A New Jersey man who worked at a racetrack just north of New York City died on Tuesday after contracting the coronavirus—the first known fatality in the Northeast linked to the virus.” (NYT, March 10th)
Groups at risk (N = 61)	“Nursing homes are restricting visits, senior centers are offering takeaway food, and nonprofit groups are ensuring seniors can stay connected and informed about the spread of coronavirus in New York City. Across the five boroughs, the city’s nonprofit sector is stepping up efforts to protect the city’s most vulnerable population. The coronavirus outbreak can be especially frightening for older New Yorkers, according to groups that work with seniors.” (WSJ, March 16th)
Number of COVID-19 cases (N = 295)	“The number of coronavirus cases spiked 33% overnight Wednesday, leaping from 45,210 from 60,349 as of 9 a.m. EST on Thursday.” (USA T, Feb 11th)
Outbreaks (N = 31)	“The outbreak near Milan appears to have taken off once a 38-year-old man who hadn’t traveled to China got sick, according to officials. He visited an emergency room several times with respiratory problems over the past week, but no special measures were taken and he was initially sent home with antibiotics because he wasn’t considered to be at risk. Several people at the hospital, including some health workers, caught the virus, as did a number of people who frequented a bar where the 38-year-old had been.” (WSJ, Feb 22nd)
COVID-19 virus, origin and unknowns (N = 63)	“The outbreak may have emerged from a market selling seafood and meat in Wuhan. Researchers theorize that someone bought contaminated meat at the market, ate it, got sick and infected others, creating a ripple effect around the world. However, research in the British medical journal <i>The Lancet</i> suggests the outbreak started earlier than December and casts doubt on the market connection.” (USA T, Feb 7th)
Transmission (N = 315)	“Coronavirus infections are transmitted in the same way as many other respiratory illnesses. The virus seems to spread through droplets in the air from a cough or sneeze. They can land in the mouth or nose of a person nearby—within six feet—or possibly be inhaled into the lungs. Symptoms emerge within two to 14 days and can include fever, cough and shortness of breath.” (NYT, Feb 25th)
Testing and screening (N = 275)	“Public-health labs have received hundreds of CDC test kits in the past few days, and thousands more are expected, said Scott Becker, chief executive of the Association of Public Health Laboratories, which represents about 150 state and local public-health labs. Each kit can perform tests on specimens for hundreds of patients. About 69 public-health labs in the U.S. had on-site testing capacity as of Friday, with more expected over the weekend, up from eight a week ago, Mr. Becker said. He expects the labs will soon have capacity for testing about 10,000 people a day across the U.S.” (WSJ, March 6th)
Tracking, use of technology to track cases (N = 31)	“In South Korea, government agencies are harnessing surveillance-camera footage, smartphone location data and credit card purchase records to help trace the recent movements of coronavirus patients and establish virus transmission chains. In Lombardy, Italy, the authorities are analyzing location data transmitted by citizens’ mobile phones to determine how many people are obeying a government lockdown order and the typical distances they move every day.” (NYT, March 23rd)
Governments’ responses (N = 364)	
Declarations of emergency (N = 78)	“Michigan reports first cases, declares state of emergency. In announcing Michigan’s first two coronavirus cases Tuesday night, Gov. Gretchen Whitmer pledged to harness all of the government’s resources to slow the spread of the virus.” (USA T, March 11th)

Table 2 (continued)

Theme	Excerpts (source, date)
Global governments response (N = 252)	“In Japan, officials were weighing a fairly drastic measure themselves in dealing with the virus. They’re considering whether to quarantine more than 3,000 people on a cruise ship returning to Yokohama after learning a passenger who got off in Hong Kong had tested positive for the virus. A team of quarantine officials and medical staff boarded the ship Monday and did health checks.” (USA T, Feb 3rd)
WHO Response (N = 34)	Although the case count outside of China is relatively small, WHO officials are concerned about a growing number that don’t yet have a clear link to China or to close contact with another infected person, potential signifying the virus’s increased spread. “It’s very worrisome,” said WHO Director-General Tedros Adhanom Ghebreyesus. He said that while containment of the virus is still a possibility, that opportunity is starting to narrow. “This outbreak could go in any direction,” Dr. Tedros said. “We must not look back and regret that we failed to take advantage of the window of opportunity.” (WSJ, Feb 21st)
Law and politics (N = 250)	
Politics (N = 214)	“Opposition politicians are seizing on what they call Mr. Moon’s mishandling of the crisis, by not moving quickly to close the country’s borders to China and not supplying enough surgical masks for citizens. The virus is also intensifying existing pressure from the weak economy, which is being made worse by a sharp decline in trade with China, South Korea’s biggest trading partner. The opposition is vowing to make Mr. Moon’s “incompetence” the top election issue for the April 15 parliamentary polls. And more than one million South Koreans signed an online petition calling for his impeachment.” (NYT, Feb 27th)
Laws (N = 36)	“The Trump administration is asking Congress to approve roughly \$1.8 billion to fight the novel coronavirus as the disease spreads across the globe and seeking the flexibility to spend as much as \$2.5 billion. The requested money would go toward developing a vaccine and stockpiling protective gear, among other efforts, with the option of the administration using the money in 2021, according to a senior administration official. The Democratic-controlled House and GOP-led Senate will need to approve a spending package, likely after making their own changes, before the administration can spend the emergency money.” (WSJ, Feb 25th)
Infodemic and discrimination (N = 489)	
Discrimination, xenophobia (N = 51)	“Some businesses have sought to exclude Chinese people, particularly in places known to host Chinese tourists. A hotel in Da Nang in Vietnam turned back guests from China who had reserved a room a month earlier and canceled other reservations from across China. Its director said in a Facebook post that he was worried about Chinese travelers infecting his staff or other guests. A shop outside Tokyo put a “No entry for Chinese” sign up last week. (WSJ, Feb 2nd)
Misinformation, pranks, scams (N = 140)	“Everybody’s tense,” Adama says. She organizes several social media chat groups where she continues to combat trolls and fake news. One user shares a story alleging that millions of people have died from the virus. Another says the virus can be cured with one bowl of boiled garlic water. “This is like a movie and a nightmare – like someone’s taken one of these scripts and is using it to cause chaos,” Adama says. “You don’t know who to believe. ” (USA T, Feb 12th)
Panic and fear (N = 298)	“Residents crammed into the only large supermarket to stock up. Those worried about fevers crowded the local, government-run clinic, and many were sent back to their high-rise homes, sometimes spreading the virus. The nearest major public hospital assigned to take patients was 10 miles away, making it more difficult to get treatment, especially without a car.” (NYT, Feb 28th)
Preparedness and public health response (N = 416)	
Capacity to respond and preparedness (N = 135)	“New York officials said they are continuing their efforts to increase hospital capacity and secure more ventilators that are needed for Covid-19 patients experiencing respiratory distress as a result of the disease. The state has 4,000 ventilators and is getting another 4,000 from the federal government, Mr. Cuomo said. It has purchased another 7,000. The machines are being kept in stockpiles and will be available to hospitals. The governor predicted a peak of 33,000 ICU beds—with ventilators—would be needed in approximately 21 days.”(WSJ, March 25th)

Table 2 (continued)

Theme	Excerpts (source, date)
Overwhelmed health system (N = 36)	“Swamped hospitals are filling hallways with beds or setting up inflatable shelters to serve as wards. There are reports of some patients with little chance of survival being left to their fate so that others with more hope can be treated. A photo of a hospital nurse who collapsed from exhaustion, her mask still on, has become a symbol of an overwhelmed system” (NYT, March 12th)
Public health response (N = 69)	“Public-health officials in the U.S. are striving to keep tabs on thousands of Americans who have quarantined themselves at home after returning from mainland China to curtail the new coronavirus, adding to an epidemic response that is straining already-stretched local departments. More than 5,400 people had been asked to self-quarantine in California alone as of Feb. 14, according to the California Department of Public Health.” (WSJ, Feb 19th)
Unpreparedness and shortage of supplies (N = 176)	“There were not enough masks, disinfectant or sanitation workers. Patients suspected of having the virus were confined to their homes, allowing the pathogen to spread. When people were eventually moved to isolation sites, residents initially found that promised care was missing.” (NYT, Feb 28th)
Symptomatology, treatment, and vaccine (N = 327)	
Symptoms (N = 206)	“Common coronavirus symptoms include fever, cough, shortness of breath and breathing difficulties. Experts are unsure of whether the virus is able to transmit before symptoms appear or after. If it worsens it can cause pneumonia, severe acute respiratory syndrome, kidney failure or even death.” (USA Today, Feb 4th)
Treatment (N = 45)	“The man, who was 69 and lived in Little Ferry, a small Bergen County town about 15 miles northwest of Manhattan, had gone to his doctor last week complaining of a fever and a cough, the state’s health commissioner, Judith Persichilli, said. The man, identified by a close friend and an official at Yonkers Raceway as John Brennan, was treated with antibiotics and Tamiflu, an antiviral medication given to alleviate flu symptoms” (NYT, March 10th)
Vaccine (N = 76)	“The National Institutes of Health, the FDA and vaccine makers are working hard to expedite the development of a vaccine. Once a plausible vaccine candidate is identified, the early phases of safety testing could take several weeks. But the vaccine could be ready for broader distribution soon after that as safety and efficacy tests continue. Public-health officials need a plan to roll out the first doses to people at high risk of catching the virus. Supply will be limited at first. (WSJ, Feb, 20th)
Various population issues (N = 705)	
Americans living abroad/evacuations (N = 65)	“Americans evacuated from Hubei province in China arrived in California on government-arranged planes on Wednesday morning, and were greeted with applause by waiting medical personnel. They received health screenings, were warned to stay six feet away from the other families and were asked not to let children share toys. Eventually, bleary-eyed from an 11-hour flight, they fell asleep in their new temporary homes on military bases.” (NYT, Feb 5th)
Education and academia (N = 22)	“A handful of institutions, including the Massachusetts Institute of Technology, Middlebury College in Vermont, and Wellesley College in Massachusetts, say their online courses will be graded more leniently, or not at all. Already strapped for cash, many colleges are wrestling with whether to offer refunds, both for tuition and room and board costs, to students who view their semester as cut short.” (USA Today, March 20th).
Food and supplies shortages (N = 44)	“After rumors circulated that China had forced toilet paper manufacturers to make face masks, toilet paper this week disappeared from supermarket shelves. Local shoppers snatched them as they were delivered to shelves, and filled their carts with big packages of rolls.” (NYT, Feb 7th)
Lockdowns (n = 92)	“Millions of people in the San Francisco Bay Area were ordered to remain at home for three weeks and restrictions on bars and restaurants were expanded beyond New York City and Los Angeles to Minnesota and Kentucky. In addition, Germany unveiled broad restrictions on travel and public life, while France ordered a nationwide quarantine.” (WSJ, March 17th)

Table 2 (continued)

Theme	Excerpts (source, date)
Stories of affected individuals. (N=482)	“Thai taxi driver got stuck in traffic because that’s what often happens in Bangkok. To pass the time, the woman took out her phone and, leaning forward, pointed out some tourist sites she might want to visit. Then she sneezed, the spray showering the cabby’s face. “I thought, she’s pretty but she doesn’t have any manners,” said Thongsuk Thongrat, the taxi driver. About a week later, Mr. Thongsuk, 50, tested positive for the coronavirus that has been spreading across the globe from China and has infected at least 41 people in Thailand. His positive diagnosis highlights the risks posed to drivers and others who often come into contact with foreign visitors. (NYT, Feb 28th)

NYT New York Times, USA TODAY Today, WSJ Wall Street Journal

of which can be complex) and how it impacts them, their family, their work, everyday activities, etc.

The news has a mission to report what is going on in a way that is informative and accurate and present information in ways that their readers can absorb—particularly during times of health crisis. Providing information in a variety of formats—photos, charts, first-person accounts, news analysis, and news—allows readers to interact with this content in a variety of ways and also helps the news to strike that balance. The public should acknowledge that select news-outlets will frequently be sharing and updating consumers with the best-known information at the time, especially during a pandemic. Consequently, news organizations should acknowledge that this may contribute to readers’ anxiety, doubtfulness, and unfortunately the concept of “fake news.”

In conclusion, the COVID-19 pandemic has dominated newspaper coverage in 2020. Our article contributes to better understanding of how the U.S. media covered the early phase of the COVID-19 pandemic. Three most widely circulated newspapers in the U.S. covered the pandemic from multiple angles. Media plays a significant role in informing public and serves as a crucial link between public health authorities and public. The significant coverage of pandemic has implications on how the public perceive severity and impact of the public health crisis and can significantly influence public behaviors.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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