A County-Level COVID-19 Response

Chloe Bryant and Emily Terada

Accurate COVID-19 information has seemed contradictory and inconvenient to find since the beginning of the pandemic in March of 2020. There are many sources that could be blamed for this, including the newspapers, Facebook, or the government itself at federal or even county levels. But where does the average user stand in their ability to access and understand accurate, relevant information relating to COVID-19? We explored twelve county websites picked from six states across the country—Washington, New York, Nevada, Kansas, Louisiana, and Ohio-to see how effective and accessible information at the county-level response differs between Democrat and Republican-leaning states, when those counties acted, and how the information compares regarding lockdowns, vaccines, and quality-of-life documents (such as unemployment forms and aid) during the pandemic. For a birds-eye view of this government information problem, we have chosen to highlight five of these sites to provide a brief look at our findings, which includes observations on population size, political leanings, and information availability and accessibility.

hroughout the pandemic, news and updates have not necessarily come from organizations such as the WHO or the CDC. Instead, news has come from a variety of sources besides health-related organizations, including NBC News, Reuters, and History Link. One such source is The New York Times, who provided a risk-assessment guide to each county in the United States.¹ Rather than government websites putting out new information (other than the CDC), the pandemic's current state has seemingly been determined by the media's or academia's interpretation of it. Humanities and Social Sciences Communications article "News media coverage of COVID-19 public health and policy information," written by Mach et al., describes this phenomenon and how news media has an important role in communicating public health information, stating that "News coverage communicates risks to readers and shapes public perceptions through the amount, content, and tone of reporting. . . . Low-quality scientific reporting of pandemics may overstate or understate disease risks or the efficacy of protective measures for different individuals or fail to communicate the nature of the evidence."²

As a result, the pandemic has been an ongoing story and information issue for nearly two years, with the media influencing much of the public narrative. For the purposes of this brief look at the information available to the public as of November 2021, we constructed a short narrative timeline highlighting three major milestones and three events that have caused some of the largest information issues for citizens in the pandemicnamely, assessing personal risk and the safety of COVID-19 vaccines. While further strains of the virus have been identified (such as Omicron) and cases have continued to rise, we chose to remain focused on the first 20 months of the pandemic, through the end of November 2021. As a result, these events and milestones include the first U.S. case of COVID-19, originally identified on January 20, 2020, in Snohomish County, Washington, and the first stay-at-home order issued by the governor of California on March 19, 2020.³ Soon afterwards, 5 million total cases were identified in the U.S. as of August 8, 2020.⁴ Finally, on December 14, 2020, the first vaccine for COVID-19 was given in the United States, but the pandemic continued onwards, with Delta becoming the prominent strain in July of 2021, and 45 million U.S. cases being identified as of October of 2021.⁵ All of these developments were provided by news sources; however, this is where we expected government sites to step in and provide information about the local county conditions and how people can protect themselves.

Methodology

To explore how government sites have handled the pandemic and flow of information, we used a random state generator website to select a state, before checking for the political leaning of the state, re-generating if we had already reached our maximum

State	Name	Political Leaning	Link To Site(s)	Primary Quali- ties of Site(s)	First Way- back Date	% of Popula- tion Over 18	Population	% White Alone
ОН	Franklin County	D	https://franklin countyohio.gov	Information front-and- center, designed for and aimed at concerned citizens, CDC based	March 13, 2020	76.6%	1, 290, 360	66.3%
WA	King County	D	https://kingcounty .gov/depts/health /covid-19.aspx	Clear website headings, easy to navigate with accompanying icons for user understanding	April 27, 2020	79.6%	2, 195, 502	64.0%
WA	Grays Harbor County	R	https://www .healthygh.org /directory/covid19	Helpful graphics, accessible language on FAQs	May 11, 2020	79.5%	72, 779	87.7%
LA	Orleans Parish	D	https://ready.nola .gov/incident /coronavirus /safe-reopening/	COVID-19 guidelines are found in bullet point form, text is organized but is an overwhelming amount of information	March 10, 2020	79.9%	390, 845	33.9%
KS	Douglas County	D	https://coronavirus -response-dgco .hub.arcgis.com/	Large font size for readability, information is fairly easy-to-follow, main COVID-19 information is located on the same webpage which requires too much scrolling for the user's sake	March 24, 2020	81.5%	120, 290	82.4%
NV	Clark County	D	https://www.clark countynv.gov /top_services /covid19/index.php	Drop-down tabs on the left side can be slightly tricky for the user, clearly presented information	Dec. 3, 2020	76.6%	2, 182, 004	60.2%

Table 1. Ranked county sites according to COVID-19 information availability and accessibility

requirement for a certain political leaning. Two of the states— Washington and New York—were chosen prior to using a state generator, since they were both early epicenters of the pandemic in the United States, and we were curious as to how their information compared to states that had later outbreaks. Ultimately, we chose to highlight six states. Three of them—Washington, New York, and Nevada—leaned Democrat in the 2020 Presidential elections, while the other three, Ohio, Kansas, and Louisiana, ultimately voted Republican, according to Politico data.⁶ From there, we selected one county that voted Democrat and one that voted Republican within each state.

We were interested in whether political affiliation affected the quality of information present on a page due to the political polarization that has occurred regarding public health,⁷ and so an even spread of political leanings in our data was important to offer a look at how various local governments have handled the pandemic, not just heavily affected states or wealthy counties.

Tables 1 and 2 are a ranked list of those sites, with the first date that COVID information appeared according to the Wayback Machine, as well as the reason(s) for ranking, the political leaning, total population, percentage over 18, and percent white alone according to census data.⁸ Table 1 consists of the sites that we consider to have passed our standard, while Table 2 are those that we do not think offer a good user experience or enough easily accessible data on COVID-19.

As part of our methodology and research, any site information prior to November 16, 2021, was pulled from the Wayback Machine and may be accessed via that method. We primarily utilized Wayback Machine to compare when county websites started adding COVID-19 information, with a special focus on which counties were early adopters of COVID-specific sites or pages and which ones waited until later in the pandemic to begin providing information to their residents. Furthermore, census data was used to offer another perspective on COVID-19 data and research availability and whether areas with higher BIPOC representation had information similar to that of areas with a high white-alone population. This was an important part of our exploration, since data shows that BIPOC populations are at higher risk for COVID complications and have been disproportionately affected by the pandemic.⁹

Accessibility Standards and By-County Data

For the purposes of this project, website accessibility is defined on these characteristics: ease of finding COVID-19 information

State	Name	Political Leaning	Link To Site(s)	Primary Quali- ties of Site(s)	First Way- back Date	Percentage of Popula- tion Over 18	Total Population	Percent White Alone
NY	Lewis County	R	https://www .lewiscounty.org /vaccinate lewiscounty	Nice informational videos, information is there but hard to follow the 'flow' of the website	Nov. 20, 2021 (No 2020 Dates)	76.9%	26, 572	96.8%
NY	Monroe County	D	https://www .monroecounty .gov/	COVID-19 information is located in red-colored boxes on the homepage, the small font size makes it tricky to navigate	Feb. 29, 2020	79.0%	743, 341	76.0%
NV	Humboldt County	R	https://www .humboldtcounty nv.gov/AlertCenter .aspx?AID=Hum boldt-County-Coro navirus-COVID19 -Late-53	Very little visual appeal with a list of links, information is hard to find	April 11, 2021	72.9%	16, 828	86.4%
ОН	Holmes County	R	https://www .holmeshealth.org/	Hard to find information on the website with information buried at the end of the page	March 13, 2020	68.3%	43, 901	98.4%
KS	Pawnee County	R	https://www .pawneecountykan sas.com/158 /ealth-Department	The information buried at the end of the page and links to PDFs are not intuitive for use	April 3, 2020	81.5%	6, 629	89.6%
LA	St. Mary Parish	R	https://www .stmaryparishla .gov/	Could not find any COVID-19 information on the website, completed site search, and still no results	Oct. 16, 2020	75.8%	50, 968	58.9%

Table 2. Ranked county sites according to COVID-19 information availability and accessibility, continued

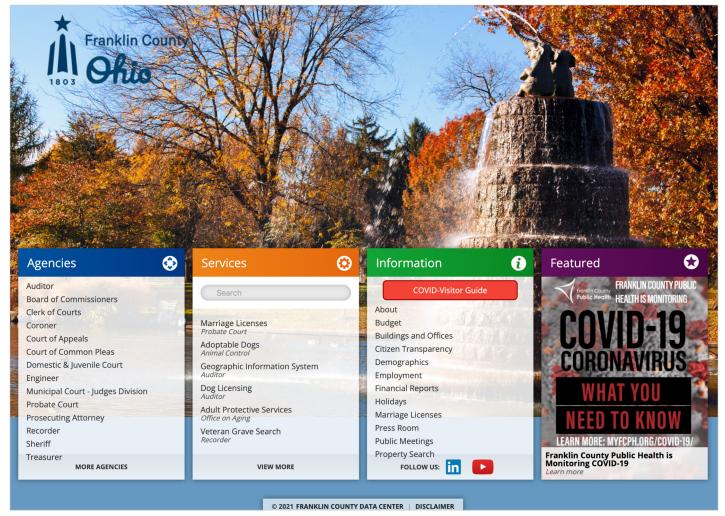
through obvious website links, clear sense of website organization, and use of non-scientific language to explain complex scientific information. Another accessibility check included using accessibilitychecker.org to determine what areas of improvement could be made in accordance with ADA standards. We imagined how an average user might approach when researching each of the county websites, and determined the website's quality based on how easy it was to find COVID-19 information. Websites that have information front-and-center and use non-scientific language allow for a larger percentage of the population to have access to valuable health information and COVID-19 guidelines.

To show the range of pandemic responses we found, we have chosen to elaborate on five of these counties due to their geographical and political diversity—Franklin County, Ohio; Orleans Parish, Louisiana; Monroe County, New York; Grays Harbor County, Washington; and Pawnee County, Kansas. Some of this information was surprising. For example, despite having a decently large population, St. Mary Parish does not provide any COVID-19 information, and so was placed last on our rankings (table 2), while similarly sized Grays Harbor County has reasonably good information (table 1). It is not surprising, however, that King County has some of the best information available, ranking in at number 2 on our list, likely due to the presence of the University of Washington and being a major epicenter of the U.S.'s part in the pandemic in 2020.

Finally, while we acknowledge CDC data as being relevant to the current state of the pandemic and the authority of the organization on public health, we also recognize that trust in the CDC's recommendations has eroded during the course of the pandemic, with only 52 percent having a "great deal of trust" in the organization, and many others considering the advice to be "arbitrary."¹⁰ As a result, while linking to the CDC's site was considered a point in favor of these sites, we want to acknowledge that for many individuals, the CDC would not be acknowledged as a trustworthy source of scientific information, regardless of its credibility, and this would potentially cause mistrust in the county site's recommendations as well, making it an insufficient source for public health guidance.

Franklin County, Ohio

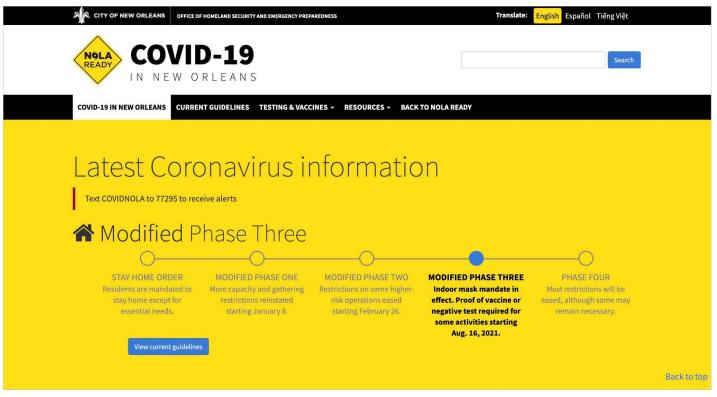
Home to Columbus, the capital of Ohio, Franklin County has chosen to delegate most of the dissemination of COVID



Despite the visitor's guide having visual accessibility issues, Franklin County, Ohio's website was assessed to have clear, non-scientific language and large, readable fonts with valuable COVID-19 information.

health and safety information to Franklin County Public Health. However, at the time of this study, Franklin County had COVID information pinned to its front page where visitors could see it and easily access it as one of their featured images,¹¹ as seen in image 1 (a screenshot of the landing page for Franklin County). The COVID-Visitor Guide, also on this page, takes searchers to a page discussing general building policies and the boards and groups providing the guidelines, which then further links to a page from the Board of Commissioners listing hours and building-specific policies for individual government departments in the county. Many of these entries also have areaspecific information, such as the "Children's Services," whose site still provides further information about childcare during the pandemic, illness, and testing.¹² However, using the accessibility checker site, the Covid-Visitor Guide page has a score of 31 percent for background and foreground not having sufficient contrast ratio and because users with visual impairments may experience difficulty using the zoom feature on the webpage.¹³

Clicking the COVID-19 "Featured" image takes a searcher to the Franklin County Public Health site, where there are guidelines for places such as schools and nursing homes, including clear FAQ's regarding vaccines and vaccination, resources such as downloadable flyers for businesses in Franklin County or bulletins and flowcharts for people to determine who they need to contact in case of a positive test, and a page containing all recent relevant CDC information.¹⁴ One seasonal promotion was for "Test-Giving," an initiative encouraging people to take an at-home test before going to Thanksgiving dinners with family and friends.¹⁵ Providing free at-home test kits, up to 6 per person, on the Monday before Thanksgiving, the promotion's details had a clear location and hours for pickup, along with a short FAQ regarding the differences between various test types. The main .gov site was providing links to the Public Health site as early as March 13, 2020, while the Public Health site went from a single page about COVID in March 2020 to a full site by April 2020, which was then given the different



Orleans Parish, Louisiana's website's background and foreground colors aren't fit for screen readers, but it does provide many resources related to COVID-19, including translations to Spanish and Vietnamese.

URL of vax2normal.org in March of 2021.¹⁶ Overall, this site has clear, non-scientific language and large, readable fonts, and can be translated into multiple languages via what appears to be Google Translate, despite the visitor's guide having accessibility issues.

Orleans Parish, Louisiana

During this study, the main city website for New Orleanswhich covers both Orleans Parish and New Orleans, Louisiana-contained the latest information on COVID-19 guidelines and a timeline of which regulations phase the parish was in in a bright yellow banner link to NOLA Ready, the City of New Orleans emergency response website.¹⁷ The website is easy to navigate for non-disabled individuals, with brightly colored, bolded headers and center-page links and provides a COVID-19 Resource Events Calendar for those looking for specific resources related to COVID-19, such as "Drive-Thru Testing" and "Community Vaccine Events." However, Orleans Parish's emergency response website has a 44% rating for accessibility, with its main issues being that the background and foreground colors do not have a sufficient contrast ratio and site images do not have alternative text, which presents challenges to users with screen readers.¹⁸ As seen in image 2 (a screenshot of NOLA's site), the website features a modern web design with large text links present at the top of the webpage and non-scientific, every-day language for users to understand the many resources available to them, with COVID-19 related information being displayed as early as March 10, 2020.¹⁹ In the middle of the homepage is "COVID-19 in New Orleans by the numbers," which links to an external website of data on new cases, infection rate, positive test rate, LA COVID hospitalizations, and the vaccination rate for New Orleans.²⁰ The website can also be translated to Spanish and Vietnamese so that users are able to find the information they need. The guidelines webpage has attached government documents for COVID-19 guidelines and has distilled the requirements under the headings: "Masks required," "Vaccines required," and "Gathering guidelines" for users' ease, along with a section on "Vaccination status," which provides links for digital vaccination cards and tips on keeping a vaccine card safe from potential damage.²¹

Monroe County, New York

Monroe County's site has COVID-19 information front and center, with the county providing COVID-19 specific pages from February 2020 onwards.²² While the site had web design reminiscent of the 1990's as of November 2021, making it out-of-touch with modern standards of accessibility and navigability, it has since been updated to reflect more modern aesthetics and needs. However, even at the time of researching this project, it could be translated into many languages with an on-site



Much like Grays Harbor County, Washington, there is no COVID-19-related information on Pawnee County, Kansas' homepage, or clear idea of where the information might be found,

Google Translate tool. Furthermore, COVID information has always been placed front and center on the page for maximum visibility. The information is written and provided in such a way that most non-disabled individuals would be able to use, understand, and access it, despite being sparse when originally looking at this site.²³ When it comes to accessibility, Monroe County's new site received a 75 percent rating, with one critical issue to the website's accessibility being that the background and foreground colors do not have a sufficient contrast ratio; however, this is a significant improvement from their original site, which only received a 46 percent rating, with the additional issues of images not having alt text and links not having discernable names.²⁴ This may present challenges to those with visual impairments who may want to access information on the county website. The COVID-19 Resources page included daily case counts and accessibility information for those who are deaf or hard of hearing, including ASL versions of CDC health guidance and instructions for getting an ASL-trained contact tracer.²⁵ There was no scientific information linked to beyond the CDC, such as vaccine safety or COVID transmission studies, but there is information for actions such as getting paid quarantine orders, applying for government assistance, or getting vaccinated. Furthermore, there do not appear to be any resources related to reopening guidelines or current countylevel health guidance, with the bulk of the response being at the city level. Rochester, the main city within the county, has several pages and sites dedicated to the COVID-19 response, including jumpstartingroc.com and cityofrochester.gov/coronavirus/, but these sites were not linked to on the county site, and required a separate Google search to find.

Grays Harbor County, Washington

While the main site for this county is clean and modern, there are unfortunately no direct links to any COVID-19 information, and information seekers must either do a site search or go to the Departments drop-down menu and find the Public Health and Social Services item for info.²⁶ However, upon accessing the Public Health and Social Services site—healthygh.org—the top

items are information on COVID-19 and COVID-19 vaccines in both English and Spanish.²⁷ These links take those searching for information to FAQ's, Zoom presentations, and/or flyers on the specific topic. These FAQ's (and associated flyers) are written in accessible language and have sections specifically for different groups of people or individual concerns, such as "Taking care of your whole self," which redirects to mental health resources, "Parents and caregivers," which provides tips for helping kids cope with changes such as school closures and lack of social activity, or "Business resources," which provides forms such as workplace safety reports and small business resources from StartUp Washington.²⁸ The county's website received a 75 percent for accessibility with its main accessibility issues being the background and foreground colors not having a sufficient contrast ratio and website links not having discernible names which may present challenges to those who use screen readers.²⁹

The site that houses COVID-19 information is cleanly designed and is easy to navigate despite the mild difficulty in finding it, and healthygh.org started providing COVID information as early as March 13, 2020, though it has grown in usefulness over time.³⁰ Ultimately, Grays Harbor did not pin information to its main home page, but its public health site is one of the better ones for finding relevant, reliable information as a citizen looking for support during the pandemic.

Pawnee County, Kansas

Much like Grays Harbor, there is no COVID-19-related information on Pawnee County's homepage or clear idea of where the information might be found, as seen in image 3 (a screenshot of Pawnee County's homepage), thus requiring users to complete a site search to find relevant information.³¹ Upon searching "COVID-19," the user can find relevant health information on COVID-19 in the format of PDF links. The first result, "HCC COVID 19 Resource Sheet," is a PDF that contains many of the main public health websites for COVID-19 resources, including the Pawnee County Health Department. However, once a user is on that site, information is buried at the bottom of the webpage, making it difficult to navigate and not accessible enough for user needs.³² Pawnee County's Health Department received a 48% from the accessibility checker site with the major issues being not enough contrast ratio between foreground and background colors and website links not having a discernible name, which may affect individuals using screen readers to navigate the website.³³ One major feature of the health department's webpage is an embedded PDF with community health resources and contact information. Some headings include: "Family Medical Care" and "Social Service Organizations," to reach community needs. One major detraction from this PDF is that the pages have been scanned, so it is not possible for a user to simply click on the website links listed. A user would not be able to find COVID-19 information from the website's homepage, therefore leaving a potential knowledge gap amongst residents on appropriate COVID-19 measures. Furthermore, as of this study, the Pawnee County Health Department had last updated its website on August 17, 2021, potentially providing out-of-date information as a result.³⁴

Early on in the pandemic the COVID-19 public health information was more prominent and findable on the website, and appeared as early as April 3, 2020 according to the Wayback Machine, but by November 2021 the "Community Health Needs Assessment" and Flu Season information had more site presence than the COVID-19 information.³⁵ One PDF that is labeled as "Reduce_the_Spread," is not as intuitive to the user and we would strongly suggest a more visual and accessible way of displaying the PDF information, such as embedding the PDF so users could click-through the information.

Conclusion

Overall, the story that we have found from these government sites is that throughout the pandemic, the earliest responses and clearest information have generally come from Democrat-leaning counties, in spite of geographic location or state politics, with a few exceptions, such as Grays Harbor County, which is both a Republican-leaning and has the lowest population of the passing sites. This was especially interesting, as we found that larger populations seem to have a minor correlation to better quality of information, with Monroe County as an exception. This may be due to either larger cities being located in Democratic counties, and thus having a more diverse population and larger voice in the state's overall politics, or having better overall funding due to increased tax revenue.

Another outlier that we found was New Orleans County, with both its lower population compared to other high-ranking sites and far higher BIPOC population compared to the other counties (33.9 percent white-alone vs 60 percent or greater). We believe that this is due to the number of public health and other emergencies that New Orleans has faced in the past two decades, including Hurricane Katrina, which has given them grounds to invest in their emergency response site that other places in the U.S. have not had.

While this is a small sample, considering that the U.S. has over 3000 counties across 50 states, it shows an unsettling pattern of public health being under-prioritized in Republican counties, regardless of population size. Whether this is due to those counties looking to Democratic ones for their guidance or due to the increased politicization of public health causing

Republican counties to ignore the pandemic and their citizens' information needs is unknown. There are also other factors that we were unable to explore during the course of this project due to time constraints, including public health budgets in our selected counties, especially during the 2019–2021 period, the average age of a county or if there is a significant retirementage population in an area (as those 65 and older are considered higher risk), the availability of affordable phone data plans or internet connections that do not require being in public spaces, and the percentage of families and individuals living below the national poverty line.

Future studies on this subject should consider one or more of these factors when evaluating sites, since all would contribute to the accessibility of COVID-19 information for the general population and what information should, ideally, be provided by the county. In the end, COVID-19—and now the new concerns regarding monkeypox—poses a constant need for correct, timely information to protect our families and communities, and when government sites do not provide information on life during a pandemic to their citizens, confusion and panic are likely to follow.

Chloe Bryant (chloe@chloesbryant.com) and **Emily Terada** (eterada22@gmail.com) are students at the Information School at the University of Washington. This paper was written for LIS 526 Government Information, Professor Cassandra Hartnett.

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