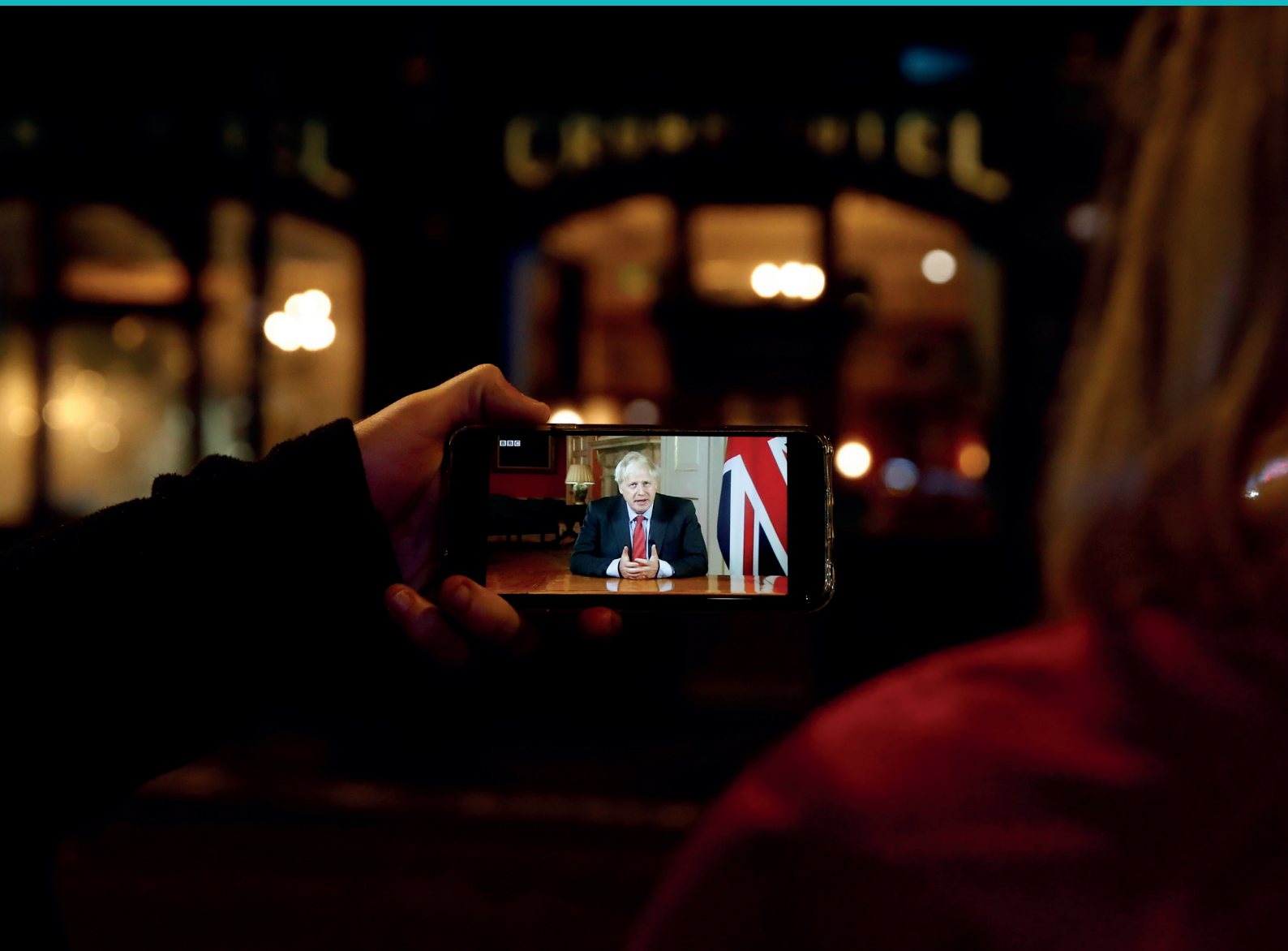# An Ongoing Infodemic: How People in Eight Countries Access and Rate News and Information about Coronavirus a Year into the Pandemic

Rasmus Kleis Nielsen, Anne Schulz, and Richard Fletcher

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and Richard Fletcher

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Acknowledgements

Executive Summary

In this report, we use survey data collected in April 2021 to document and understand how people in eight countries (Argentina, Brazil, Germany, Japan, South Korea, Spain, the UK, and the US) accessed news and information about COVID-19 more than a year into the global pandemic. We examine how they rate the trustworthiness of the different sources and platforms they rely on, how much misinformation they say they encounter, and how they see vaccines. For six of the countries (where we have comparable data from April 2020), we track changes over the last year.

We find that

- In almost all countries, news organisations are the single most widely used source of information about coronavirus. Furthermore, news organisations have become even more central to how people stay informed about coronavirus in the last year because, while overall reach has declined compared to earlier in the pandemic, the reach of other sources has declined more.
- While important and widely used, news organisations in most countries reach significantly fewer of the younger 18–24-yea -olds, and in most countries reach significantly fewer people with low or medium levels of educati n than those with a university degree, underlining challenges around information inequality.
- Some of the 'rally around the flag effect seen earlier in the crisis is dissipating, but not equally so for all institutions. Trust in news organisations has declined by an average of eight percentage points (pp), but trust in national government has declined by an average of 13pp.
- In most countries covered, national health authorities, global health authorities, and scientists, doctors, or other health experts, remain highly and broadly trusted, though this trust has declined somewhat too, especially in Argentina and the United States.
- The trust gap between coronavirus information from news organisations and information on different kinds of platforms remains pronounced. On average, the gap between news organisations and social media is 21pp, between news and video sites 22pp, and between news and messaging applications 28pp. The gap is six points on average between news and search engines, but in Japan the gap is not statistically significant and in Argentina and Brazil search engines are trusted more for news and information about COVID-19.
- In terms of sources of false or misleading information about COVID-19, public concern is centred on political actors first and foremost On average, 35% of respondents across the eight countries say they think they have seen a lot or a great deal of false or misleading information from individual politicians.
- In terms of platforms, public concern over false or misleading information about COVID-19 is centred on social media. On average, 30% say they think they have seen 'a lot' or 'a great deal' of false or misleading information about coronavirus on social media.
- Encouragingly, belief in misinformation about coronavirus vaccines is very low across all countries. In most, more than 90% of those that we have surveyed do not believe any of the five false claims we included in the surve , even if they may have come across them.
- Looking more closely at belief in vaccine misinformation, and controlling for other factors, we find that using news organisations as a source for news and information about

coronavirus is significantly associated with lower belief in va cine misinformation in all eight countries covered.

- In contrast, relying on messaging applications for information about coronavirus is significantly associated with higher misinformation belief in even countries. Reliance on social media and relying on video sites are both associated with higher misinformation belief in five countries (but lower belief in one in the case of social media).
- Overall, a little over half of our survey respondents say that the news media have helped them understand the pandemic, and most say they are confident in their knowledge of vaccine efficac , how they work, and their safety – a confidence well aligned with the generally low belief in vaccine misinformation we document here.

Introduction

News and media have played an important role in the coronavirus pandemic, helping people understand the disease as well as reporting on how governments and other institutions have responded to it. They have provided information about how we can all protect ourselves, our loved ones, and our communities, and given people ways to read their own private experience of the pandemic through the lens of the many public issues it has raised or accentuated.

At their best, news reporters have provided accurate, up-to-date, accessible information and investigated the handling of the pandemic, commentators have helped interpret our experiences, and different kinds of media have provided access to credible information, a sense of community and commonality, and an understanding of the differential and unequal impact of coronavirus.

Journalism has a special role here, despite its imperfections (there have also been examples of alarmism, uncritical stenography, superficial reporting various stereotypes, and unfounded speculation). As we showed in our study of the early months of the pandemic (Nielsen et al. 2020), on balance, news has often helped people understand the crisis better, and more so and for more people than most other sources of information about coronavirus. In this report, we find that those who follow the news are also less likely to   elieve in vaccine misinformation. This is a powerful illustration of how journalism can help people navigate the pandemic.

People access information from many other sources beyond news media – governments, health organisations, scientists, doctors, and other experts, or just friends and family – and they rely on various platforms for information about coronavirus, such as search engines, social media, and messaging apps. But there have been very real problems with mis- and disinformation, especially online and on platforms, and problematic and misleading narratives, arguably most consequentially when from prominent politicians.

As we will show, in many countries, relying on some digital platforms – social media, video sites, and especially messaging apps – for information is significantly associated with greater belief in vaccine misinformation. And of all these different sources and platforms, only relying on experts is, like relying on news organisations, consistently associated with knowing more about the coronavirus in most countries we covered last year (Nielsen et al. 2020). So news media play an especially important role in helping the broad public stay informed about the crisis and how it is handled.

This is important because the situation is confusing, and ignorance or lack of understanding is a danger to public health and individuals alike. From early 2020, the World Health Organization Director-General Tedros Adhanom Ghebreyesus warned that the sheer amount of information available puts us in a situation where 'we're not just fighting an epidemic; w 're fighting an infodemic'.[1] The neologism 'infodemic' is a useful catch-all term for the vast volume of news and information around COVID-19, and the ambiguity, uncertainty, and sometimes low-quality misleading character – or outright false nature – of some of it. Though the term is

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[1]   https://www.who.int/dg/speeches/detail/munich-security-conference

not an established concept in social science research and has had almost no use in academic research prior to 2020, we use it here because it helps draw attention to the important role of information and misinformation during the pandemic, and it has been used for this purpose in thousands of studies across different fields (In fact, so many that at least one academic article talks of an 'infodemic' of publications: Gazendam et al 2020.)

Our focus in this report is on news, media, and other sources of information. We use survey data collected in April 2021 to document and analyse how people in eight countries (Argentina, Brazil, Germany, Japan, South Korea, Spain, the UK, and the US) accessed news and information about COVID-19 more than a year into the global pandemic, how they rate the trustworthiness of the different sources and platforms they rely on, how much misinformation they say they encounter, and how they see vaccines. For six of the countries – all but Brazil and Japan – we have comparable survey data from April 2020 and are thus able to track changes over the last year.

Our data collection started on 16 April 2021 and took place during a week in which, in some countries, there might have been a sense that the worst was over. The number of daily-news-confirmed cases was low in Japan South Korea, and the UK, and especially in the UK and the US, the number of people who had received their vaccine dose was high and rising.

But the pandemic was far from over. The week of 19 April was the worst in the crisis so far in terms of infections, with more people around the world diagnosed with the coronavirus than in any other week since the virus emerged. And several countries covered here (Argentina, Brazil, Germany, and Spain) were facing new COVID-19 waves and slow vaccine rollouts.

When our most recent survey went into the field on 16 April the website Our World in Data reported that Argentina had seen 1,307.29 cumulative confirmed C VID-19 deaths per million people, Brazil 1,734.80, Germany 953.57, Japan 75.52, South Korea 34.99, Spain 1,646.48, the UK 1,877.74, and the US 1,710.64.[2]

The numbers provide a stark, quantitative indication of the grim toll the pandemic has taken in the last year, as well as the marked differences from country to country. (As of 31 March 2020, when our first si -country survey went into the field Our World in Data reports that Argentina had seen 0.60 deaths per million, Germany 9.25, South Korea 3.16, Spain 181.03, the UK 36.19, and the US 16.22.)[3]

This comparative study thus includes both some of the hardest-hit countries so far (Argentina, Brazil, Spain, the UK, and the US) and countries with far fewer deaths and a low number of confirmed cases so far (Japan and South orea), plus one country – Germany – that for a considerable time did better than many, but is currently struggling at the time of writing. All of the countries of course, and to different degrees, also face the added risk of new variants, as well as the profound and unequal social, psychological, and economic impact of the prolonged pandemic.

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[2] Cumulative confirmed C VID-19 deaths per million people. Note that limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19. From https://ourworldindata.org/covid-deaths
[3] As data has been updated, these figures are in most cases higher than ere reported at the time. From https://ourworldindata. org/covid-deaths

1. Methodology

The report is based on a YouGov survey commissioned by the Reuters Institute for the Study of Journalism at the University of Oxford. Our purpose is to understand how people access and rate news and information about COVID-19 from different sources. Research was conducted by YouGov using an online questionnaire fielded 16–27 April 2021 ac oss Brazil, Germany, Japan, South Korea, Spain, the UK, and the US. Due to a scripting error necessitating a re-poll, data collection in Argentina took place in late April and early May.

Samples in each country were assembled using nationally representative quotas for age, gender, and region. The data were also weighted to targets based on census/industry-accepted data for the same variables. We used the same approach in our study of six countries last year (Nielsen et al. 2020) and used the data from that study to track changes over time here.

Table 1. Nationally representative sample sizes (2020–21)

Country	2020	2021
UK	2,216	2,258
US	1,273	1,314
Germany	2,003	2,130
Spain	1,018	1,117
South Korea	1,009	1,018
Argentina	1,003	1,006
Japan	–	1,005
Brazil	–	1,009

We should note that online samples will tend to under-represent the consumption habits of people who are not online (typically older, less affluent and with limited formal education), and because people opt in to online survey panels, they tend to over-represent people who are more socially and politically engaged. According to Internet World Stats, internet penetration in the eight countries surveyed ranges from 71% in Brazil to around 95% in Germany, Japan, South Korea, the UK, and the US.

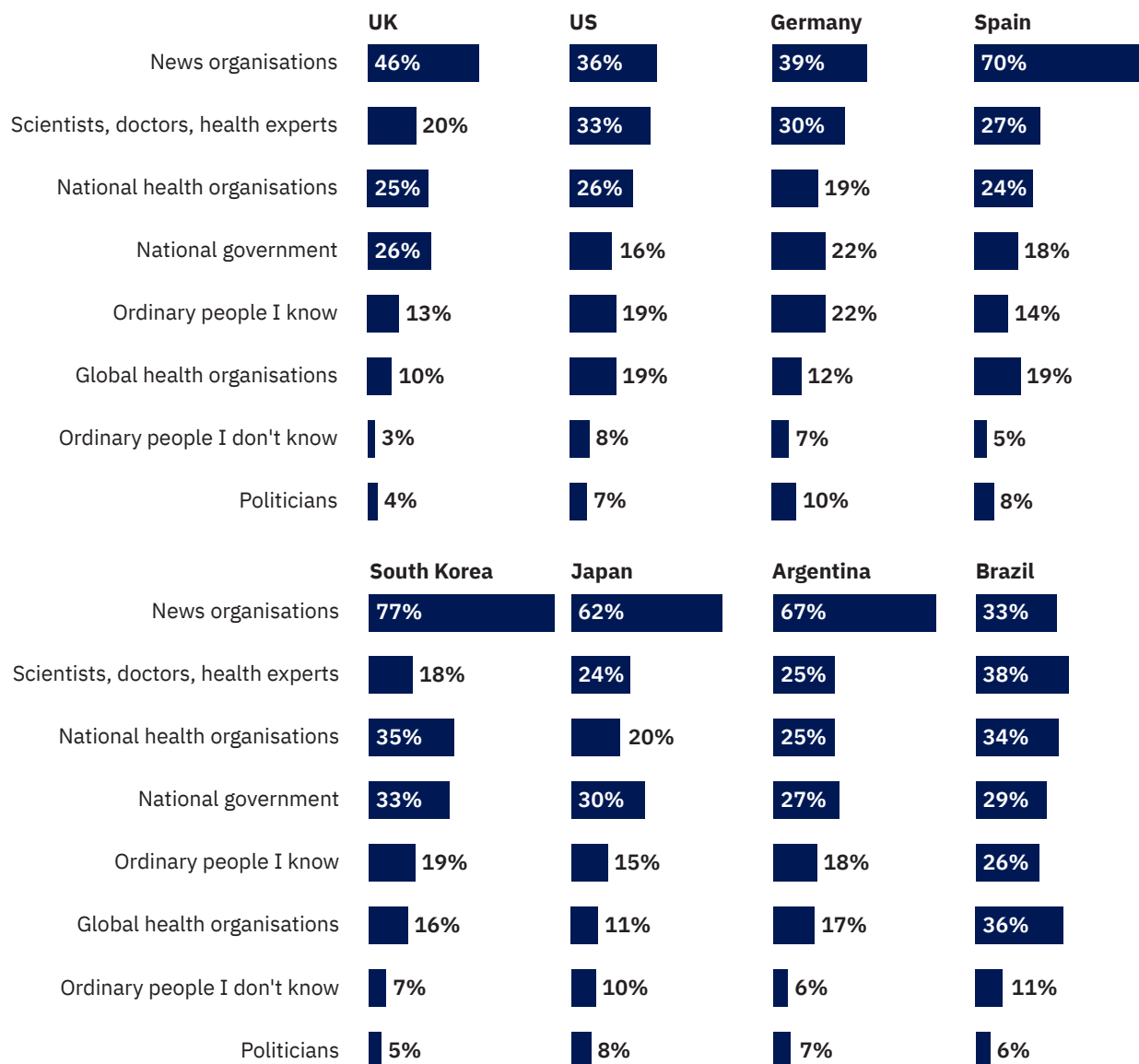It is also important to note that online surveys rely on recall, which is often imperfect or subject to biases. Furthermore, questions around misinformation provide only information on people's perception of the problem, not an objective measure of how much false information they have (perhaps unwittingly) engaged with. We have tried to mitigate these risks through careful questionnaire design and testing.

2. Sources of information

In almost all countries, news organisations are the single most widely used source of information about coronavirus, illustrating the important role they play in the pandemic.

Significant numbers still say they rely on their national gove nment, individual politicians, or national health organisations, global health organisations, and scientists, doctors, or other health experts. But as Figure 1 shows, their reach does not usually match that of news organisations, and given the generally limited reach of these sources' own channels (e.g. websites), those who rely on them for information almost certainly get this, at least in part, either via news organisations or via digital platforms such as social media (whether from their pages/profiles dedicated information centres, or ads).

Figure 1. Proportion that used each as a source of COVID-19 news and information in the last week

	UK	US	Germany	Spain
News organisations	46%	36%	39%	70%
Scientists, doctors, health experts	20%	33%	30%	27%
National health organisations	25%	26%	19%	24%
National government	26%	16%	22%	18%
Ordinary people I know	13%	19%	22%	14%
Global health organisations	10%	19%	12%	19%
Ordinary people I don't know	3%	8%	7%	5%
Politicians	4%	7%	10%	8%

|	South Korea	Japan	Argentina	Brazil
News organisations	77%	62%	67%	33%
Scientists, doctors, health experts	18%	24%	25%	38%
National health organisations	35%	20%	25%	34%
National government	33%	30%	27%	29%
Ordinary people I know	19%	15%	18%	26%
Global health organisations	16%	11%	17%	36%
Ordinary people I don't know	7%	10%	6%	11%
Politicians	5%	8%	7%	6%

Q7. Which, if any, of the following have you used in the last week as a source of news or information about coronavirus (COVID-19)? *Base: Total sample in each country.*

Looking at the countries where we have data from both April 2020 and April 2021, the percentage of people who say they have relied on news organisations is down in all countries – except South Korea, where the coronavirus situation more generally has been relatively stable – as an element of fatigue has set in and the crisis, while still extremely serious, has in periods perhaps seemed less urgent and uncertain. However, in several countries, reliance on other widely used sources, like the national government or health organisations, has declined more than news use, as shown in Figure 2, illustrating the particularly important role journalism continues to play in helping people navigate the pandemic. In this sense, news organisations have become even more central to how people stay informed about coronavirus as other sources have waned in importance.

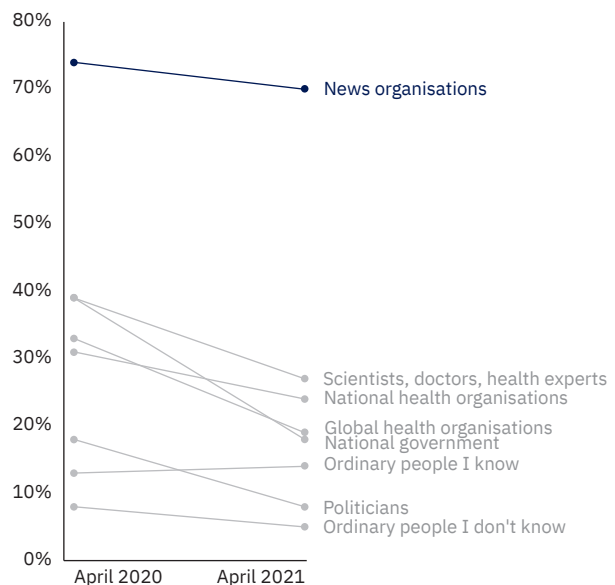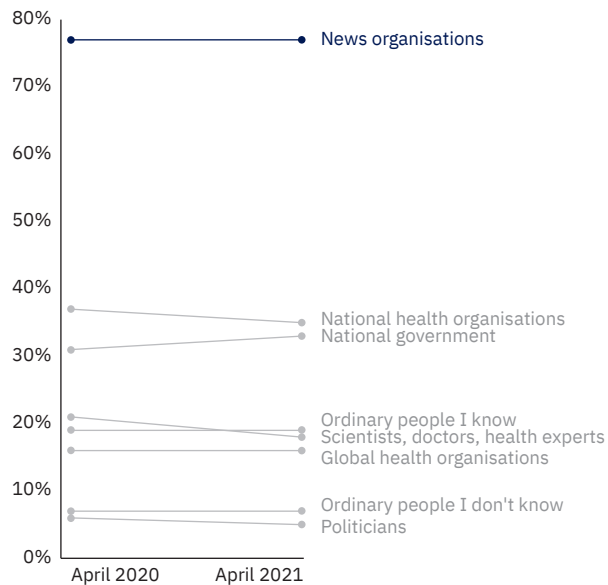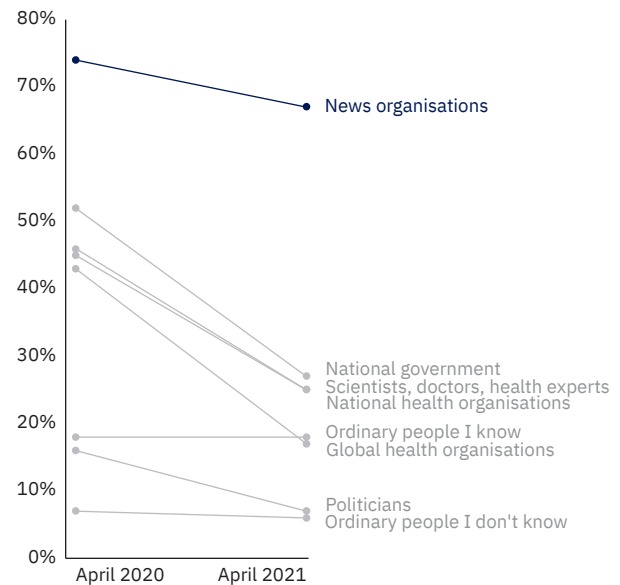**Figure 2. Proportion that used each for COVID-19 news in the last week (2020–21)**
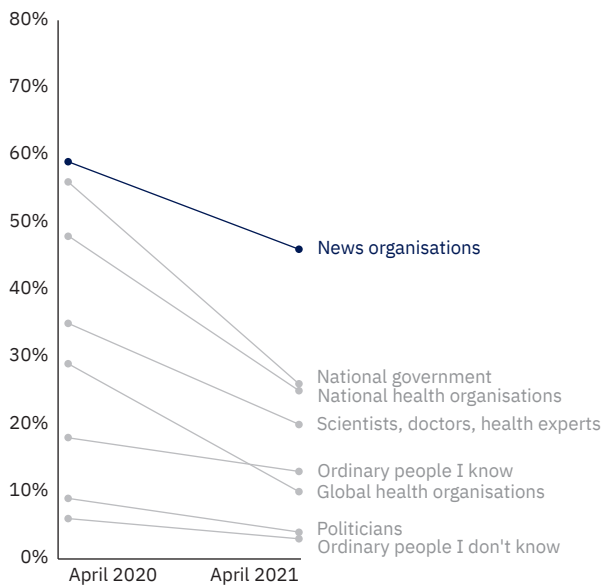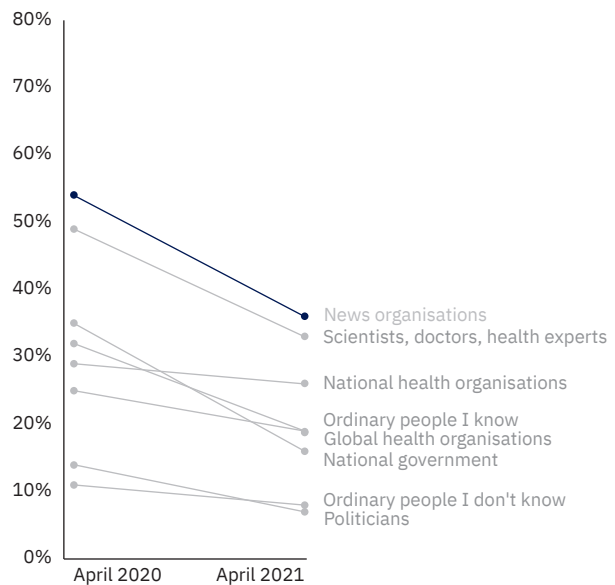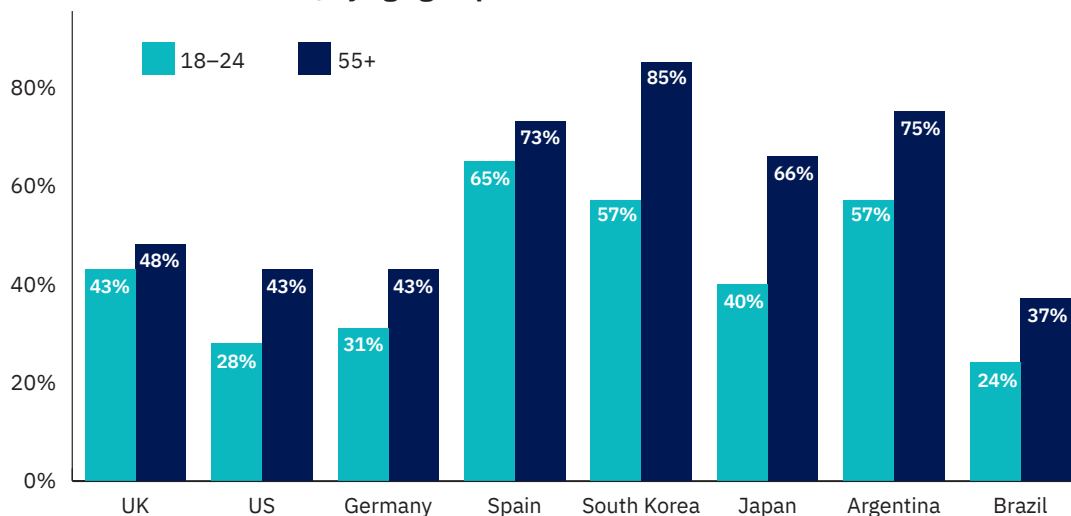
South Korea

Argentina

Q7. Which, if any, of the following have you used in the last week as a source of news or information about coronavirus (COVID-19)? *Base: Total sample in each country (2020–21). Note: see website for precise figures.*

While they are the single most widely used source of news and information about COVID-19, news organisations still have far from universal reach. In most countries, they reach between half and three-quarters of our respondents (just one-third in Brazil). The demographic and social profile of who they reach is clea . In all countries, news organisations reach significantly fewer people among the younger 18–24-year-olds than older groups (Figure 3), and in most countries they reach significantly fewer people with low or edium levels of education than those with a university degree (Figure 4). Inequalities in news use around the pandemic seem aligned with pre-existing inequalities around factors such as age and education (Fletcher et al 2020). Given the way in which relying on news is associated with higher knowledge about coronavirus and about vaccines, the risk is that this will also exacerbate information inequality.

Figure 3. Proportion that used news organisations as a source of news and information about COVID-19 in the last week, by age group

Q7. Which, if any, of the following have you used in the last week as a source of news or information about coronavirus (COVID-19)? *Base: 18–24/55+: UK = 205/953; US = 182/481; Germany = 184/881; Spain = 95/401; South Korea = 106/317; Japan = 80/467; Argentina = 151/292; Brazil = 157/254.*

Figure 4. Proportion that used news organisations as a source of news and information about COVID-19 in the last week, by education
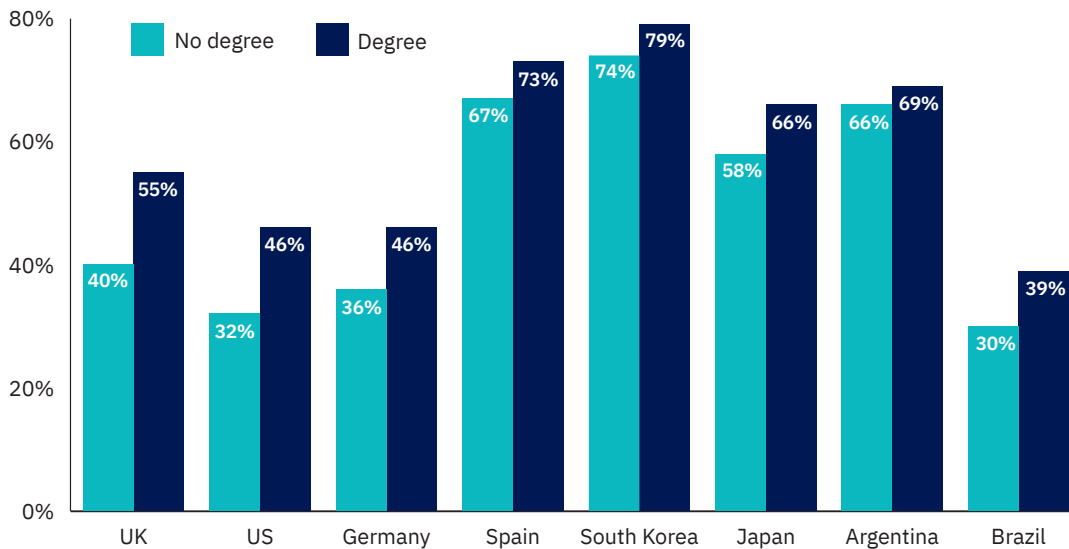
Q7. Which, if any, of the following have you used in the last week as a source of news or information about coronavirus (COVID-19)? **education.** What is your highest level of education? If you are currently in full-time education please put your highest qualification to date. *Base: No degree/degree: UK = 1,373/885; US = 919/395; Germany = 1,533/597; Spain = 650/467; South Korea = 360/658; Japan = 499/506; Argentina = 786/220; Brazil = 661/348.*

Of even more concern, in the six countries where we have data from both 2020 and 2021, is that the number of people who say they have not used *any* of the eight different kinds of sources of information about COVID-19 included in our survey has grown from, on average, about one in ten in 2020 to about one in five in 2021 In most of the countries covered, the percentage of people who say they have not used any of the sources of information included in our survey is once again significantly higher among those with low levels of education, further underlining how information inequality is aligned with other forms of structural inequality.

3. The role of platforms

Many aspects of the pandemic have illustrated how, for good or ill, our lives are often intertwined with the products and services offered by various platform companies. If anything, the crisis seems to have accelerated the shift to a more digital, mobile, and platform-dominated media environment, while also further demonstrating associated problems. Several platform companies have invested in COVID-19 information centres, dedicated knowledge panels, and have featured information from health authorities in various ways. They have also seen often very serious problems with misinformation, active anti-vax groups, and sometimes radical lockdown protestors and organised harassment of journalists and experts working on COVID-19.

The platforms most widely used as a source of news or information about coronavirus varies by country, though in almost all Facebook, Google Search, YouTube, Twitter, and WhatsApp have wide reach (South Korea, where Naver, Daum, and Kakao Talk loom large is the main exception: see Table 2).

Table 2. Proportion that used selected platforms for news and information about COVID-19 in the last week

UK		US		Germany		Spain	
Google Search	26%	Google Search	27%	Google Search	34%	Google Search	52%
Facebook	21%	Facebook	27%	Facebook	21%	Facebook	32%
Twitter	16%	YouTube	20%	YouTube	19%	WhatsApp	26%
YouTube	12%	Twitter	13%	WhatsApp	18%	Twitter	22%
WhatsApp	11%	Instagram	10%	Instagram	9%	Instagram	18%

South Korea		Japan		Argentina		Brazil	
Naver	67%	Google Search	48%	Google Search	49%	Google Search	54%
YouTube	47%	Twitter	27%	Facebook	43%	YouTube	45%
Kakao Talk	31%	Line	27%	WhatsApp	35%	Facebook	44%
Daum	31%	YouTube	24%	YouTube	28%	WhatsApp	41%
Google Search	28%	Facebook	11%	Instagram	24%	Instagram	39%

Q8. Which, if any, of the following have you used in the last week as a source of news or information about coronavirus (COVID-19)? *Base: Total sample in each country.*

In combination, social media, video sites, and messaging application platforms are about as widely used as news organisations to get news about coronavirus, coming in second in terms of reach in three countries, and first in four others (Brazil Germany, South Korea, and the US).

It is well understood that younger people are far more likely to rely on various digital platforms, especially social media, for news and information (Newman et al. 2020). But other aspects of the sociodemographic profile of social media as a so rce of news and information about COVID-19 are interesting too, even if less clear-cut than the age profile Whereas news organisations are consistently more widely used by those with higher levels of education, social media are equally used across levels of education (Japan, the UK, and Argentina) or more widely
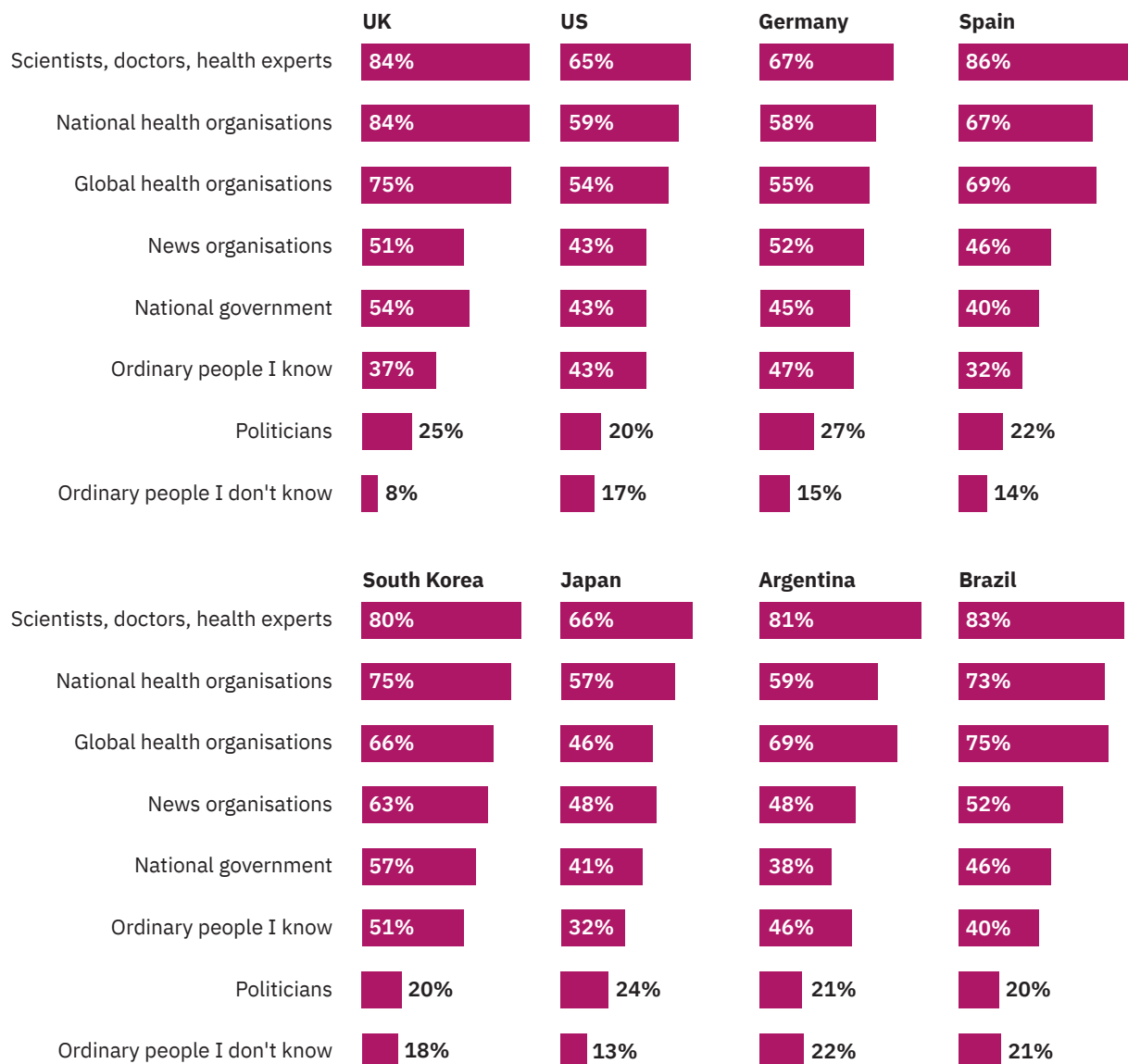
used by those with low levels of education (Germany and the US), underlining how different ways of accessing information appeal to different groups. Given the association between relying on social media and knowing less about vaccines, this is a potentially concerning pattern.

4. Trust in different sources and platforms

Beyond what sources and platforms people rely on for news, it is important to map what sources they trust, as trust is one of the factors likely to influence what inform tion people will not simply access, but also heed, and perhaps act on (Tsfati and Cohen 2012).

Across the eight countries covered, about half of respondents rate news organisations as a relatively trustworthy source of COVID-19 information (Figure 5); figures are a bit lower in the U (43%) and higher in South Korea (63%). Trust in news organisations for news about coronavirus is generally higher than people's trust in news overall, which may reflect something about ho news organisations approach it as a topic. Only in the UK and South Korea do more than half of respondents rate their government a relatively trustworthy source of COVID-19 information.

Figure 5. Proportion that trust each for news and information about COVID-19

	UK	US	Germany	Spain
Scientists, doctors, health experts	84%	65%	67%	86%
National health organisations	84%	59%	58%	67%
Global health organisations	75%	54%	55%	69%
News organisations	51%	43%	52%	46%
National government	54%	43%	45%	40%
Ordinary people I know	37%	43%	47%	32%
Politicians	25%	20%	27%	22%
Ordinary people I don't know	8%	17%	15%	14%

|	South Korea	Japan	Argentina	Brazil
Scientists, doctors, health experts	80%	66%	81%	83%
National health organisations	75%	57%	59%	73%
Global health organisations	66%	46%	69%	75%
News organisations	63%	48%	48%	52%
National government	57%	41%	38%	46%
Ordinary people I know	51%	32%	46%	40%
Politicians	20%	24%	21%	20%
Ordinary people I don't know	18%	13%	22%	21%

Q10. How trustworthy would you say news and information about coronavirus (COVID-19) from the following is? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'. *Base: Total sample in each country. Note: Trusts = 6–10.*

Looking exclusively at the six countries where we have data from both 2020 and 2021, it is clear that some of the 'rally around the flag effect seen earlier in the crisis is dissipating, as trust in both news organisations and national governments has fallen in the last 12 months. The effect, however, is not the same for every institution. On average, trust in news organisations has declined by eight percentage points, whereas trust in government has declined by 13 percentage points. Many institutions – including news organisations – are challenged by the drawn-out crisis and subject to increasing political controversy, which often erodes confidence However, at least in terms of trust as a source of COVID-19 information, news organisations in our sample of countries have weathered the storm better than governments.

Trust in national health authorities, global health authorities, scientists, doctors, and other health experts has also declined in many countries, but it is important to recognise that this is, first a decline from a generally much higher level, and second, a smaller decline than seen for national governments. Health organisations, scientists, and experts have, to put it simply, had a good crisis in terms of public trust, at least as a source of COVID-19 information.

Respondents' trust in other people as sources of COVID-19 information, which we measure with two questions – one about 'ordinary people that I know personally', the other about 'ordinary people that I do not know personally' – has seen little change (Figure 6).

Figure 6. Proportion that trust each for news about COVID-19 (2020–21)
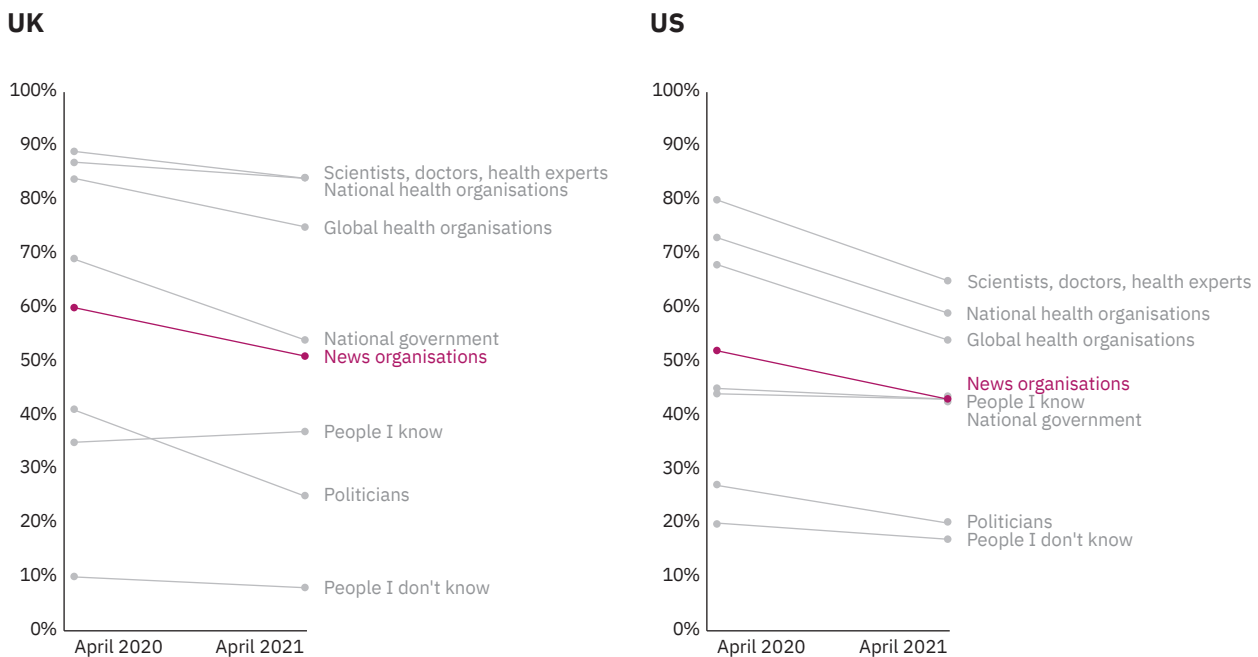
Germany
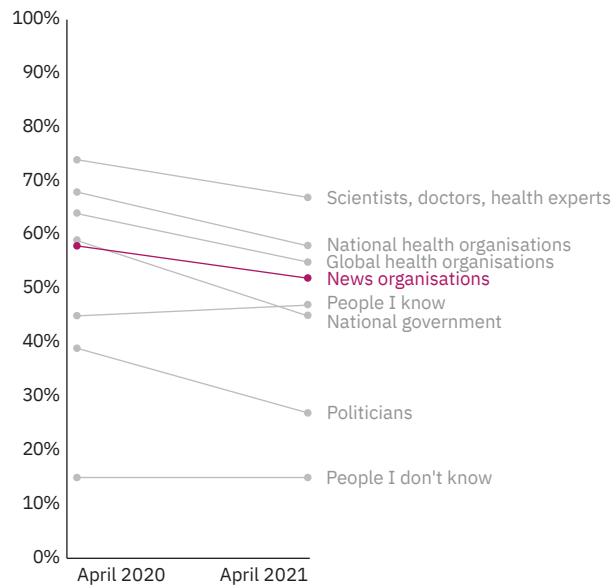
Spain
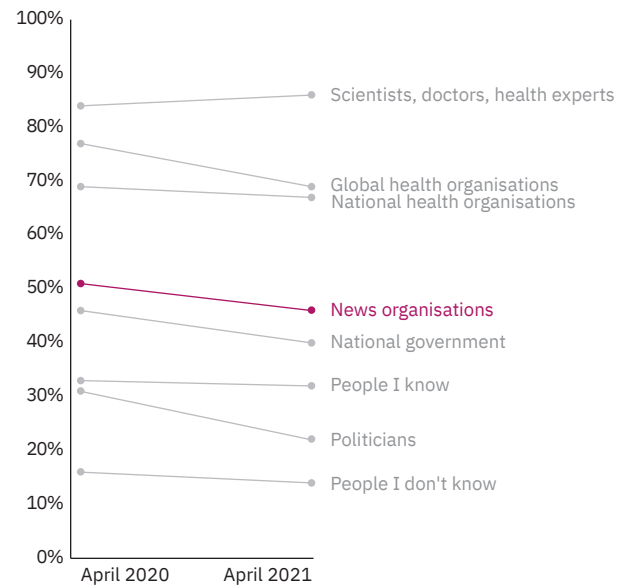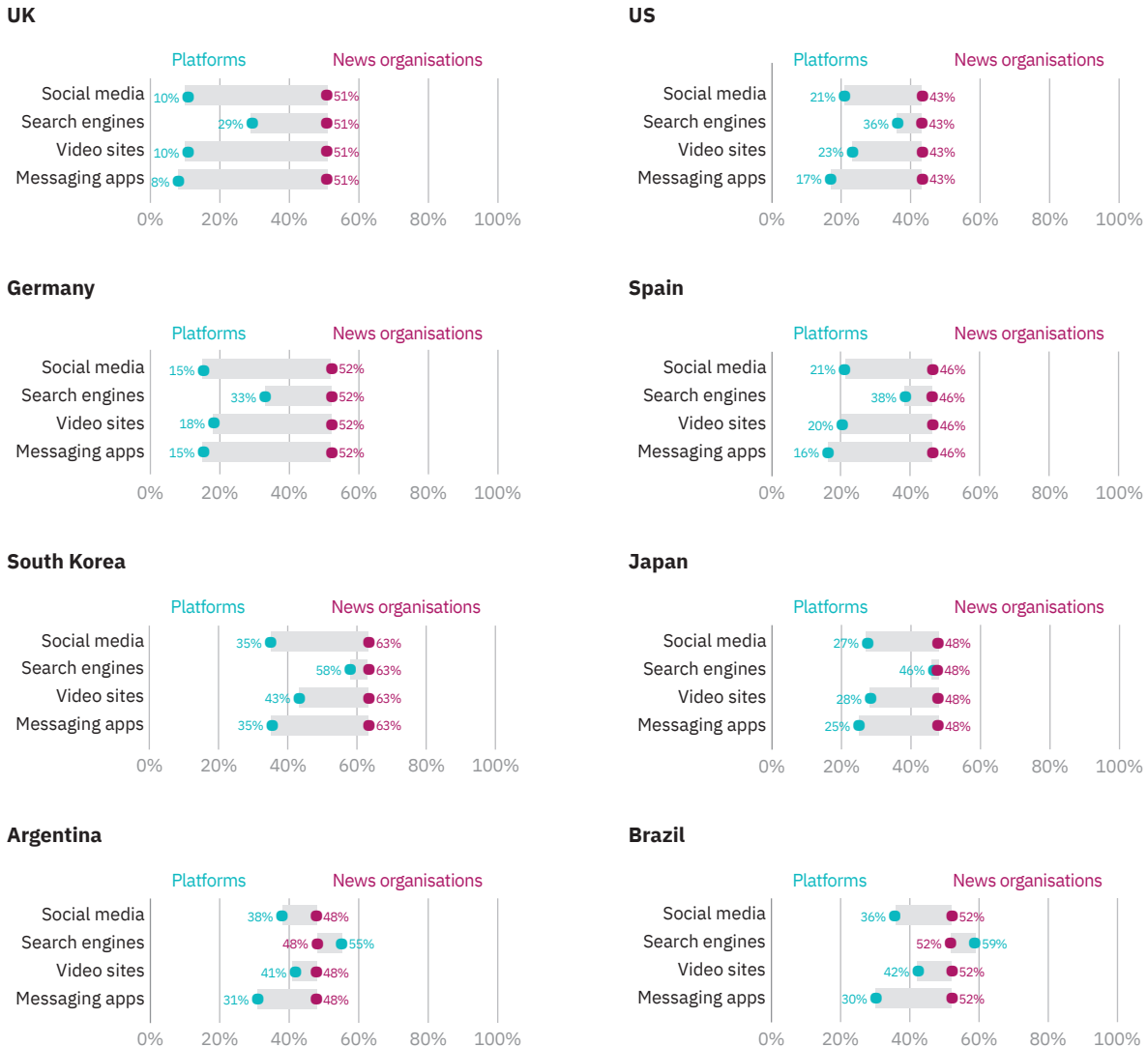

South Korea
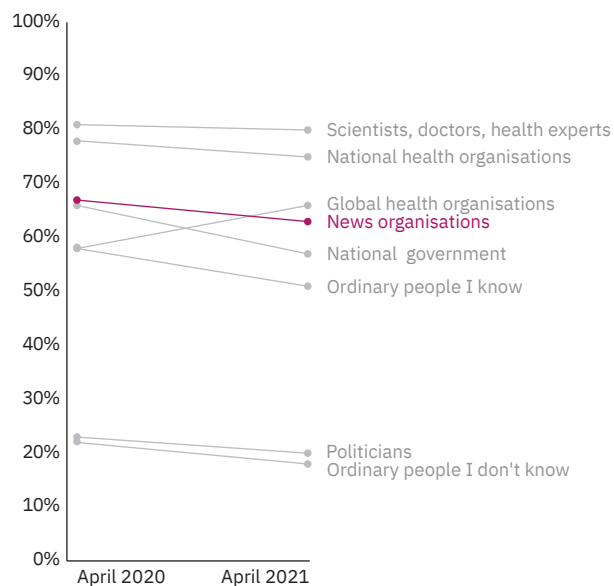
Argentina
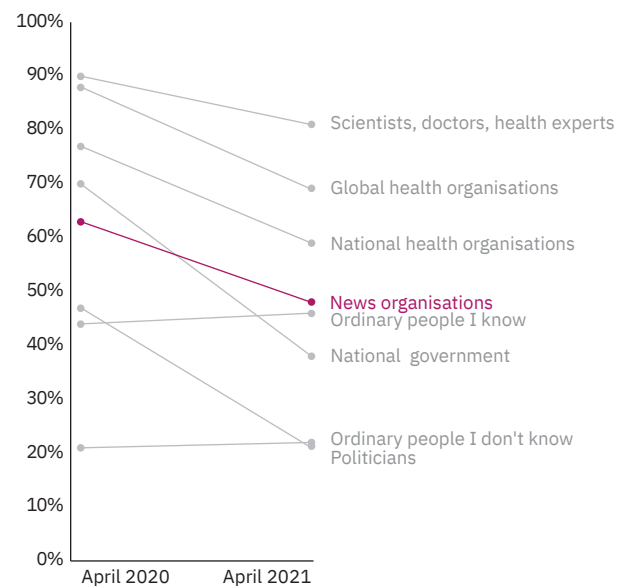
Q10. How trustworthy would you say news and information about coronavirus (COVID-19) from the following is? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'. *Base: Total sample in each country. Note: Trusts = 6–10. See website for precise figures.*

Turning from sources to platforms, there is much less trust in the main types of digital platforms (see Figure 7), and the 'trust gap' we documented last year between news organisations and news and information about COVID-19 from different kinds of platforms remains pronounced. Trust in news and information from digital platforms about coronavirus has also declined in several countries, from an often already low base.

Results vary significantly across different types of platforms nd somewhat from country to country, but when averaged across the eight countries the trust gap between information from news organisations and information from social media is 25 percentage points, between news and video sites 22 percentage points, and between news and messaging applications 28

percentage points. On average there is a six percentage point gap between news and search engines, but in Japan the gap is not statistically significant and in Argentina and Brazil search engines are trusted more for news and information about COVID-19.

Figure 7. Trust gap between platforms and news organisations for news and information about COVID-19

UK

US

Germany

Spain

South Korea

Japan

Argentina

Brazil

Q10. How trustworthy would you say news and information about coronavirus (COVID-19) from the following is? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'. **Q11.** How trustworthy would you say news and information about coronavirus (COVID-19) on each of the following is? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'. *Base: Total sample in each country. Note: Trusts = 6–10.*

Trust in news is often broadly the same across demographic and social differences (though if anything it is aligned with patterns of use, so slightly lower among younger people and those with lower levels of education), but in most countries it varies across the political spectrum. In six of the eight countries covered, trust in the news is significantly lower among those who identify as being on the political right, most markedly in the United States, where 43% of respondents overall rate news organisations as trustworthy, but just 21% of those on the right rate them this way. (Argentina is an outlier in this respect, as trust there is higher on the right.)

5. Concerns over misinformation

In addition to credible reporting and reliable public information from health authorities and scientists, the pandemic has also been accompanied by a much wider universe of more ambiguous information and speculation, as well as often very severe misinformation problems. Some of these issues involve prominent politicians (including several presidents) and other public figures – in some cases pundits or others associated with media organisations, and also organised communities of anti-vaxxers. Some are political, some commercially motivated, and others involve information operations by foreign states, whereas some misinformation is simply rumour and misunderstanding passed on with the best of intentions. Either way, the problems have been very pronounced on several large digital platforms, including Facebook, YouTube, and WhatsApp (Smith et al. 2020).

Survey data cannot in itself help us map the scale and scope of various kinds of misinformation, or other problematic information and potentially dangerous and misleading narratives, but it can help us understand how the public sees these problems, including how many people fear that different actors and institutions spread false or misleading information, and how much false or misleading information they think they see on various digital platforms. While public perception will not always correspond exactly to the actual misinformation problems in a given country, perception is important in itself as it will shape how people think about the information they come across and who, if anyone, they will rely on for advice on how to respond to the pandemic.

To understand how the public sees misinformation problems around the pandemic, we will look at sources (actors or institutions) first then platforms.
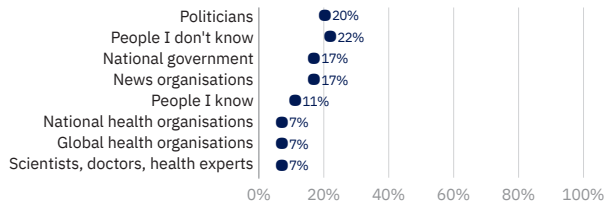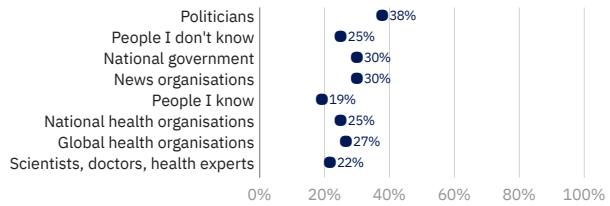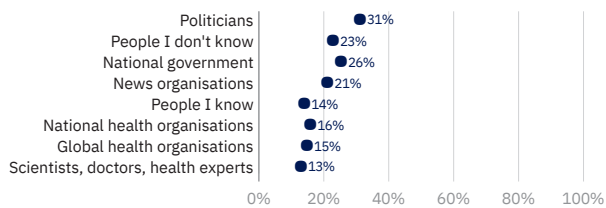
In terms of sources, public concern over false or misleading information about COVID-19 is centred on political actors first and foremost On average, 35% of respondents across the eight countries say they think they have seen a lot or a great deal of false or misleading information from individual politicians in the past week, and 27% say the same about their national government. In the countries where we have data from both 2020 and 2021, these topline figures have not changed much in the last 12 months

There is also a significant minority – on average about a quarter – who say they have seen a lot or a great deal of false or misleading information about COVID-19 from news organisations. This number climbs to around a third among those who self-identify as being on the political right.

Much smaller minorities are worried about false or misleading information about COVID-19 from national health organisations, global health organisations, scientists, doctors, and other health experts – ranging from fewer than one in ten in the UK (7%), to about a quarter in the US (22–27%).

Concern about false or misleading information about COVID-19 from ordinary people is low for people that the respondent knows personally but somewhat higher (generally on a par with the national government or news organisations) for people the respondent does not know personally (Figure 8).

Figure 8. Proportion that say they have seen 'a lot' or 'a great deal' of false or misleading COVID-19 information from each in the last week

UK

Politicians	20%
People I don't know	22%
National government	17%
News organisations	17%
People I know	11%
National health organisations	7%
Global health organisations	7%
Scientists, doctors, health experts	7%

US

Politicians	38%
People I don't know	25%
National government	30%
News organisations	30%
People I know	19%
National health organisations	25%
Global health organisations	27%
Scientists, doctors, health experts	22%

Germany

Politicians	31%
People I don't know	23%
National government	26%
News organisations	21%
People I know	14%
National health organisations	16%
Global health organisations	15%
Scientists, doctors, health experts	13%

Spain

Politicians	39%
People I don't know	27%
National government	32%
News organisations	32%
People I know	19%
National health organisations	16%
Global health organisations	15%
Scientists, doctors, health experts	11%

South Korea

Politicians	48%
People I don't know	41%
National government	27%
News organisations	23%
People I know	21%
National health organisations	15%
Global health organisations	16%
Scientists, doctors, health experts	11%

Japan

Politicians	23%
People I don't know	19%
National government	18%
News organisations	24%
People I know	13%
National health organisations	12%
Global health organisations	16%
Scientists, doctors, health experts	13%

Argentina

Politicians	43%
People I don't know	26%
National government	36%
News organisations	34%
People I know	21%
National health organisations	23%
Global health organisations	15%
Scientists, doctors, health experts	13%

Brazil

Politicians	41%
People I don't know	38%
National government	29%
News organisations	27%
People I know	24%
National health organisations	15%
Global health organisations	16%
Scientists, doctors, health experts	14%

Q12. How much false or misleading information about coronavirus (COVID-19), if any, do you think you have seen on each of the following in the last week? *Base: Total sample in each country.*

The US, which has seen a transition from a Trump administration that consistently downplayed the pandemic (and where the *Washington Post*'s Fact Checker's database of Trump's false or misleading claims contains more than 2,500 entries about the coronavirus alone)[4] to a Biden administration that promised to make tackling the coronavirus a top priority from day one, illustrates how extremely politicised public perception of misinformation problems can be. The topline percentage of US respondents who say they have seen 'a lot' or 'a great deal' of false

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4   https://www.washingtonpost.com/graphics/politics/trump-claims-database/

or misleading information about coronavirus from the national government has not changed much from 2020 (34%) to 2021 (30%). However, the profile of those who are most worried has been transformed. Concern among those who self-identify with the political left has dropped by 40 percentage points, and among those in the political centre by 13 percentage points (Figure 9). But concern on the political right has grown dramatically, by 44 percentage points. There are about the same number of conservative Americans worried about false or misleading information from the federal government today as liberal Americans worried about the same issue last year.

Figure 9. Proportion that say they have seen 'a lot' or 'a great deal' of false or misleading COVID-19 information from the national government in the last week, by political leaning (2020–21)

US
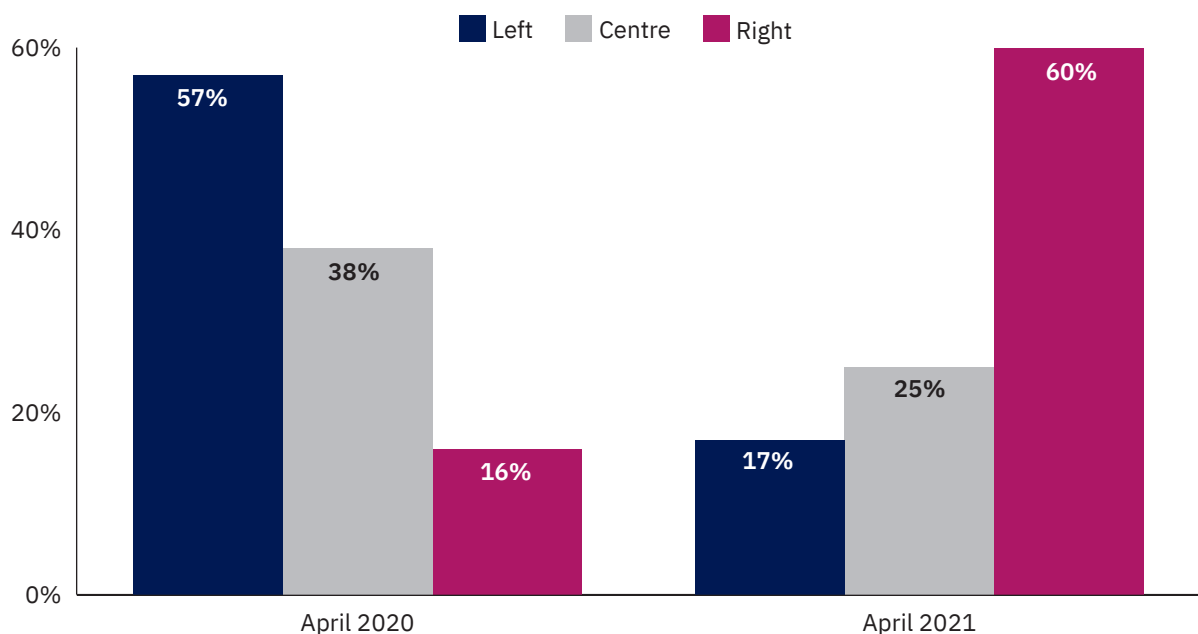
Q12. How much false or misleading information about coronavirus (COVID-19), if any, do you think you have seen from each of the following in the last week? Q3. Some people talk about 'left', 'right' and 'centre' to describe parties and politicians. With this in mind, where would you place yourself on the following scale? *Base: Left/Centre/Right: Apr 2020 = 293/490/309, Apr 2021 = 328/519/269.*

Turning next to platforms, public concern over false or misleading information about COVID-19 is centred on social media (which in many markets will primarily mean Facebook, the Facebook-owned Instagram, or potentially the less widely used Twitter). Country-specific figures are shown in Figure 10

Across eight countries, 30% of respondents say they think they have seen 'a lot' or 'a great deal' of false or misleading information about coronavirus on social media in the past week, second only to concern over individual politicians in our survey (see Figure 10).
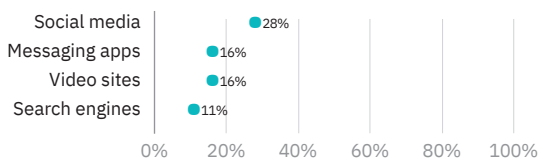
There is also relatively widespread concern over false or misleading information on messaging applications (such as the Facebook-owned WhatsApp) or video sites (such as the Google-owned YouTube), where, respectively, 26% and 23% of respondents say they think they have seen 'a

lot' or 'a great deal' of false or misleading information about coronavirus – a level of concern approximately on a par with concern over potential misinformation from national governments or news organisations.
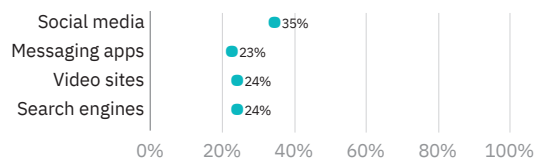
Among the digital platforms, search engines fare better than others, but a significant minority of 18% across all eight countries still say they have seen 'a lot' or 'a great deal' of false or misleading information about coronavirus on search engines (which, given its market share, primarily means Google Search in all countries except South Korea).

Figure 10. Proportion that say they have seen 'a lot' or 'a great deal' of false or misleading COVID-19 information on each in the last week
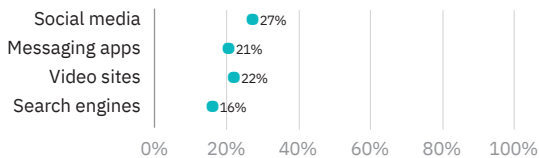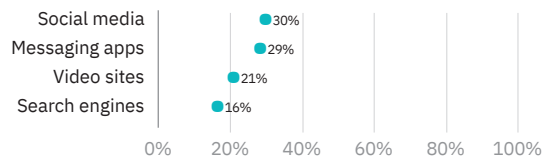
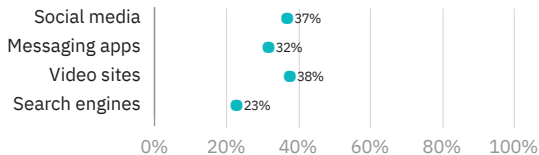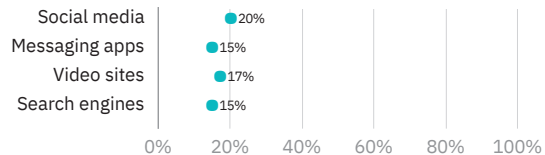**UK**

Social media	28%
Messaging apps	16%
Video sites	16%
Search engines	11%

0% 20% 40% 60% 80% 100%

US

Social media	35%
Messaging apps	23%
Video sites	24%
Search engines	24%

0% 20% 40% 60% 80% 100%

Germany

Social media	27%
Messaging apps	21%
Video sites	22%
Search engines	16%

0% 20% 40% 60% 80% 100%

Spain

Social media	30%
Messaging apps	29%
Video sites	21%
Search engines	16%

0% 20% 40% 60% 80% 100%

South Korea

Social media	37%
Messaging apps	32%
Video sites	38%
Search engines	23%

0% 20% 40% 60% 80% 100%

Japan

Social media	20%
Messaging apps	15%
Video sites	17%
Search engines	15%

0% 20% 40% 60% 80% 100%

Argentina

Social media	29%
Messaging apps	29%
Video sites	20%
Search engines	15%

0% 20% 40% 60% 80% 100%

Brazil

Social media	37%
Messaging apps	40%
Video sites	26%
Search engines	20%

0% 20% 40% 60% 80% 100%

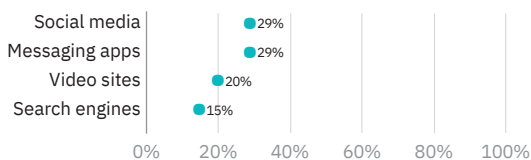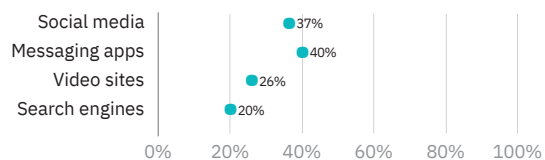**Q13.** How much false or misleading information about coronavirus (COVID-19), if any, do you think you have seen on each of the following in the last week? *Base: Total sample in each country.*

6. Belief in coronavirus vaccine misinformation

People's concern about and perceived exposure to misinformation may have real consequences regarding, for example, psychological distress (Lee et al. 2020) or which sources of information they trust or distrust. But their concerns may not always relate to the actual scale and scope of how much misinformation people encounter, or whether they are in fact demonstrably misinformed.

We can use our data to explore how many people believe in different false statements surrounding coronavirus vaccines to better understand these issues. As many countries are currently embarking on vaccination programmes, and vaccines are key to conquering the pandemic, we have focused on beliefs in false claims about coronavirus vaccines, as belief in these might lead to vaccine hesitancy (Freeman et al. 2020; Paul et al. 2021). After consulting with fact checkers and searching online databases, we selected five false claims that have surfaced in public debates and been debunked by fact checkers or official sources Despite the scientific evidence that all approved vaccines are safe the selected claims describe serious dangers to people's health, such as infertility or cancer.

Respondents indicated whether they thought each of the five cla ms was 'true', 'false', or 'don't know'. Because all claims were false by definition we also included three true claims to help ensure more accurate responses (not analysed here).

Encouragingly, only a small minority of our respondents said that they thought that each false claim was true (Figure 11). The highest rates of belief in vaccine misinformation across the five statements are found in the US, with 17% of US-Americans believing the claim that coronavirus vaccines can alter your DNA, or 12% believing that the vaccines can cause infertility. The US is closely followed by Germany, with 16% and 9% respectively believing in these false claims.

Belief in misinformation about coronavirus vaccines is very low across all other countries and statements. In the UK, between 2% and 5% believe in any of the five statements we pre ented, and belief ranges between 4% and 9% in Spain. For the most part, more than 90% of those that we have surveyed do not believe any of these claims, even if they may have come across them.

Figure 11. Proportion that think each false coronavirus vaccine claim is true
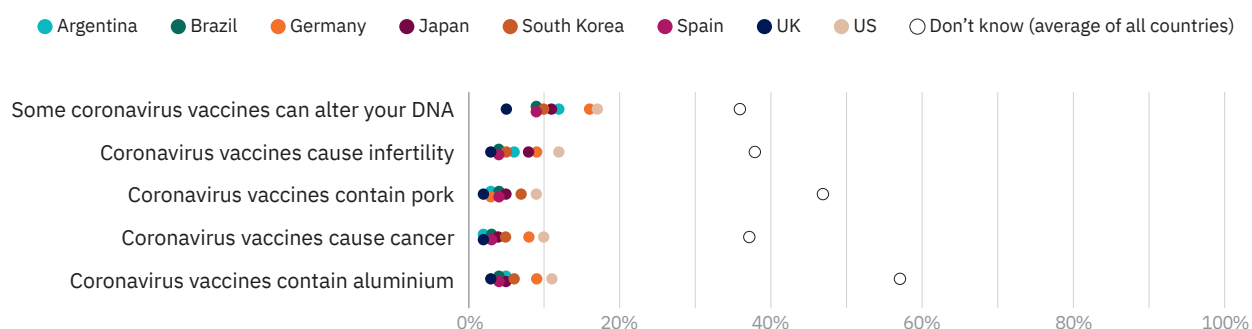
Q19. To the best of your knowledge, do you think each one of them is true or false? (If you are unsure, it is important that you select 'don't know' instead of guessing.) *Note. 'Don't know' is the mean figure across all eight countries. See website for precise figures.*

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However, the fact that few people actually fell for vaccine misinformation does not mean that all remaining respondents knew for certain that these statements are false. Across countries, we see high numbers of people who say they don't know whether coronavirus can alter someone's DNA (36%), whether the vaccines contain pork (47%), or aluminium (57%), with figures highest in Argentina, where half don't know whether the vaccines cause infertility, and 70% don't know whether aluminium is an ingredient or not. There is clearly considerable uncertainty about some of these claims.

While belief in misinformation is limited to a minority in all countries (for similar results, see Roozenbeek et al. 2020), it is still important to understand what factors are associated with higher or lower levels of belief in false claims about coronavirus vaccines. We explored this by running a regression analysis (summarised in Table 3) in every country, using different sociodemographic variables, people's political leaning, and different sources for news and information about coronavirus, to examine if any of these factors are statistically linked to belief in coronavirus vaccine misinformation (measured as the number of false claims respondents believed to be true). As our data is cross-sectional, we will not be able to establish causation between belief in misinformation and using different sources of information, but the results do reveal those groups in which belief in misinformation is more common.

The results summarised in Table 3 show one significant finding that is consistent across a countries: using news organisations as a source for news and information about coronavirus decreases the rate by which people believe in coronavirus vaccine misinformation in all countries studied. This effect is strongest in Argentina (.40, p<.001) and the UK (.41, p<.001). This is in line with our finding in April last year that relyin on news organisations in most countries was associated with higher levels of knowledge about coronavirus (Nielsen et al. 2020).

Relying on the government is negatively associated with belief in vaccine misinformation in the UK, Germany, and Argentina, but it has the opposite association in Japan, where people who rely on the government are more likely to believe in misinformation. Relying on people one doesn't know personally, social media, or video sites is related to higher misinformation belief in more than half of the countries. (Argentina is an outlier on the last count, because here using social media as a source for coronavirus information is associated with decreased belief in vaccine misinformation.)

The source in our data that is most consistently associated with higher misinformation belief is relying on messaging applications for information about coronavirus. In all the countries studied (except South Korea, where people use different messaging platforms), we see that people who rely on apps such as WhatsApp (or smaller rivals such as Telegram) to learn about the pandemic are more likely to believe in more coronavirus vaccine misinformation (the effect is strongest in Germany: 1.82, p<.001) compared to those who do not rely on them.

The finding that relying on widely used digital platforms – including social media and video sites, and especially messaging applications (but not search engines) – is in most countries associated with higher belief in coronavirus vaccine misinformation, helps document that these platforms are central to the 'infodemic' problems we face today. Interestingly, despite the fact that younger age groups and those with lower levels of formal education are using these sources more for coronavirus information, we do not find these groups to be more vulnerable to coronavirus vaccine misinformation. Rather, in four out of eight countries (the UK, the US,

Germany, and Spain) older groups show higher belief in misinformation, and education – as was shown in a study from April 2020 (Gerosa et al. 2021) – is unrelated to these beliefs in all countries except for the US, where less-educated individuals were more prone to believing false statements to be true.

Table 3. Summary of Poisson regression where the dependent variable is the count of belief in false coronavirus vaccine claims

	UK		US		Germany		Spain	
(Intercept)	0.15 ***	(0.15)	0.76 **	(0.09)	0.29 ***	(0.09)	0.16 ***	(0.19)
Degree (ref=No degree)	0.80	(0.13)	0.74 ***	(0.09)	1.01	(0.08)	0.86	(0.13)
Gender (ref=male)	0.92	(0.12)	0.72 ***	(0.07)	1.20 **	(0.07)	1.13	(0.12)
Age	1.61 ***	(0.14)	1.37 ***	(0.08)	1.41 ***	(0.08)	1.47 *	(0.15)
Political leaning								
Centre (ref=Left)	1.32	(0.17)	0.68 ***	(0.10)	1.09	(0.09)	1.95 ***	(0.19)
Right (ref=Left)	1.06	(0.15)	0.81 *	(0.09)	1.40 ***	(0.09)	2.60 ***	(0.16)
Don't know (ref=Left)	1.33	(0.17)	0.50 ***	(0.13)	1.09	(0.11)	2.08 ***	(0.19)
News organisations	0.41 ***	(0.14)	0.61 ***	(0.09)	0.54 ***	(0.08)	0.54 ***	(0.13)
Government	0.57 ***	(0.17)	1.04	(0.10)	0.69 ***	(0.10)	0.77	(0.20)
Politicians	1.44	(0.26)	1.12	(0.12)	1.22	(0.11)	0.83	(0.25)
Global health orgs.	1.86 **	(0.20)	1.16	(0.09)	1.04	(0.10)	1.26	(0.17)
National health orgs.	0.49 ***	(0.18)	0.86	(0.10)	0.85	(0.09)	0.81	(0.16)
Scientists/doctors/experts	0.91	(0.17)	0.65 ***	(0.09)	0.88	(0.08)	1.03	(0.15)
People I know	1.89 ***	(0.15)	1.09	(0.09)	1.21 *	(0.08)	0.89	(0.17)
People I don't know	1.94 **	(0.22)	1.68 ***	(0.10)	1.30 **	(0.10)	2.03 ***	(0.21)
Social media	1.36 *	(0.14)	1.64 ***	(0.08)	1.30 ***	(0.08)	1.10	(0.14)
Search engines	0.89	(0.14)	0.72 ***	(0.09)	0.95	(0.07)	0.89	(0.13)
Messaging apps	1.63 **	(0.16)	1.69 ***	(0.09)	1.82 ***	(0.08)	1.65 ***	(0.15)
Video sites	1.38	(0.17)	1.30 **	(0.09)	1.57 ***	(0.08)	1.16	(0.16)
N	2213		1314		2130		1117	
AIC	1913.89		2925.00		3861.35		1427.34	
BIC	2022.23		3023.44		3968.96		1522.69	
Pseudo R2	0.15		0.32		0.20		0.15	

	South Korea		Japan		Argentina		Brazil	
(Intercept)	0.50 ***	(0.18)	0.28 ***	(0.19)	0.47 ***	(0.20)	0.33 ***	(0.21)
Degree (ref=No degree)	0.85	(0.12)	0.87	(0.12)	0.85	(0.16)	0.85	(0.15)
Gender (ref=male)	0.85	(0.11)	0.93	(0.12)	1.09	(0.12)	0.83	(0.14)
Age	1.06	(0.14)	1.21	(0.15)	1.26	(0.14)	1.14	(0.15)
Political leaning								
Centre (ref=Left)	0.74 *	(0.13)	0.93	(0.16)	0.98	(0.20)	0.74	(0.21)
Right (ref=Left)	0.78	(0.15)	0.86	(0.19)	1.17	(0.18)	1.08	(0.16)
Don't know (ref=Left)	0.90	(0.27)	0.80	(0.22)	0.79	(0.18)	0.56 *	(0.24)
News organisations	0.58 ***	(0.12)	0.45 ***	(0.12)	0.40 ***	(0.12)	0.63 **	(0.16)
Government	0.83	(0.13)	1.43 *	(0.14)	0.63 **	(0.16)	1.24	(0.14)
Politicians	2.40 ***	(0.17)	0.90	(0.19)	1.14	(0.25)	2.01 ***	(0.21)
Global health orgs.	1.14	(0.16)	1.49 *	(0.18)	0.93	(0.18)	0.78	(0.15)
National health orgs.	0.84	(0.13)	0.71 *	(0.16)	0.96	(0.16)	0.94	(0.15)
Scientists/doctors/ experts	0.78	(0.16)	0.87	(0.15)	1.07	(0.15)	0.60 **	(0.15)
People I know	1.02	(0.14)	1.50 **	(0.14)	0.83	(0.17)	0.75	(0.16)
People I don't know	1.39	(0.17)	1.34	(0.15)	1.32	(0.24)	0.95	(0.21)
Social media	1.84 ***	(0.14)	1.31 *	(0.14)	0.75 *	(0.13)	0.98	(0.16)
Search engines	1.09	(0.15)	1.24	(0.13)	1.00	(0.13)	0.77 *	(0.14)
Messaging apps	1.17	(0.13)	1.33 *	(0.13)	1.37 *	(0.14)	1.45 *	(0.15)
Video sites	0.85	(0.12)	1.78 ***	(0.13)	1.44 **	(0.14)	1.49 **	(0.15)
N	1018		1005		1006		1009	
AIC	1571.70		1505.57		1401.41		1287.89	
BIC	1665.29		1598.91		1494.77		1381.31	
Pseudo R2	0.15		0.21		0.12		0.13	

*Note: Columns showing exponentiated coefficients followed by standard error. A coefficient higher than 1 indicates a positive association, a coefficient below 1 indicates a negative association. *** p < 0.001; ** p < 0.01; * p < 0.05. Social media = Uses any of Facebook, Twitter, Instagram, LinkedIn, Snapchat, TikTok, Nextdoor, Kakao story, BAND; Search engines = Uses any of Google, Bing, Naver, Daum; Messaging apps = Uses any of WhatsApp, Facebook Messenger, Telegram, Kakao Talk, Line. Video sites: YouTube.*

7. Helping people understand the coronavirus crisis

In the end, people are (among other things) looking for information they can rely on to understand the pandemic and that explains what they can do in response to it. On a battery of questions focused specifically on news organisations as institutions committed in principle to providing the public with credible information in a crisis, and national governments, as the primary institution responsible for helping the public through a crisis, our data documents a pattern akin to that seen in terms of trust.

Across eight countries, a little over half of our respondents say that the news media have helped them understand the pandemic, and about the same number say the news media have explained what they can do in response to the pandemic, though a third feel the news media have exaggerated the pandemic. The figures for national governments are generally slightly lower, in terms of helping people both understand the pandemic and respond to it, but also in terms of whether governments have exaggerated the crisis (see Figure 12).

In the six countries where we have data from both 2020 and 2021, overall public appreciation of the role played by news media has declined somewhat year-on-year, but the decline for national governments is generally more pronounced.
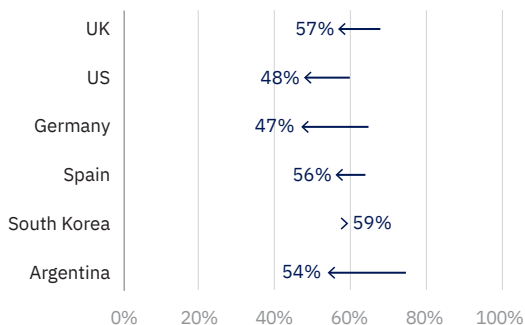
Figure 12. Proportion that think the government and the news media have helped them understand/ explained what they can do in response to/exaggerated the pandemic (2020–21)

The news media ...
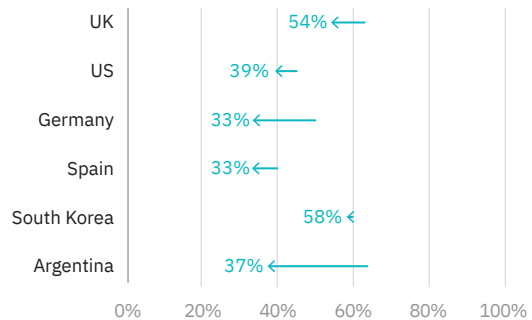
... has helped me understand the pandemic.

UK	54%
US	43%
Germany	46%
Spain	51%
South Korea	66%
Argentina	50%
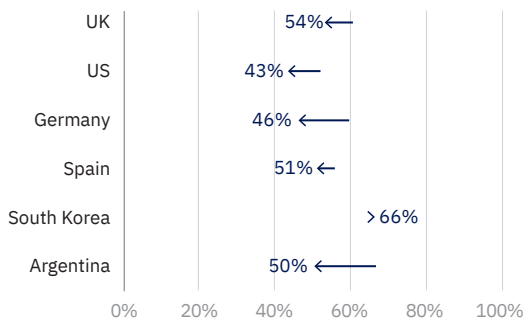
The government ...

... has helped me understand the pandemic.

UK	54%
US	39%
Germany	33%
Spain	33%
South Korea	58%
Argentina	37%

... has explained what I can do in response to the pandemic.

UK	57%
US	48%
Germany	47%
Spain	56%
South Korea	59%
Argentina	54%

... has explained what I can do in response to the pandemic.

UK	65%
US	47%
Germany	42%
Spain	42%
South Korea	57%
Argentina	45%

... has exaggerated the pandemic.

UK	31%
US	40%
Germany	31%
Spain	41%
South Korea	23%
Argentina	43%

... has exaggerated the pandemic.

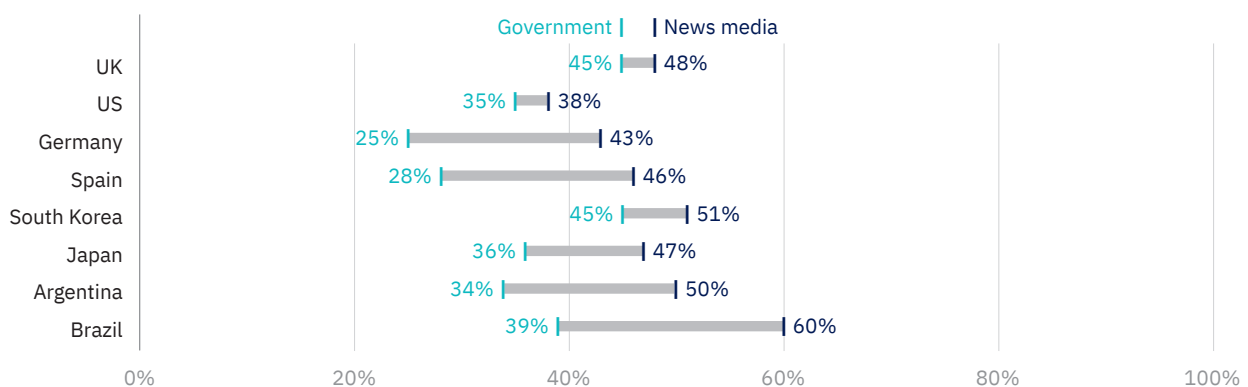|	
UK	21%
US	38%
Germany	30%
Spain	28%
South Korea	21%
Argentina	41%
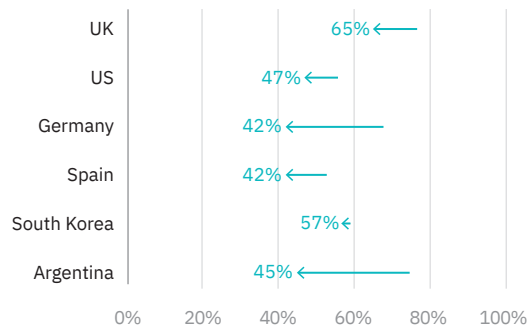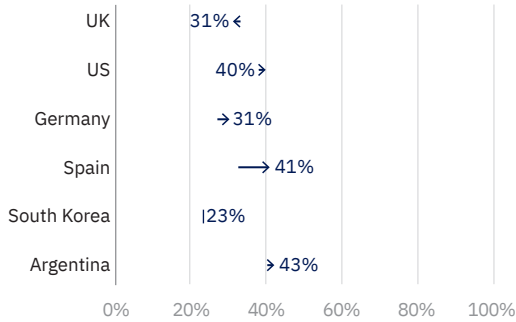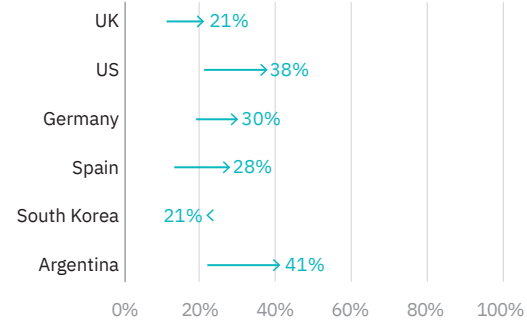
Q14/15. To what extent do you agree or disagree with the following statements about the coronavirus (COVID-19)? *Base: Total sample in each country (2020–21). Note: showing 'agree' and 'strongly agree'. See website for precise figures.*

This year, we also asked a similar set of questions about coronavirus vaccines specificall . In most countries around half of respondents think the news media have done a good job of explaining how the vaccines work, and how the population will be vaccinated (Figure 13). These figures for the news media are typically higher than the equiva ent figures for the government The exception is the UK, where many people think that the government has been central to the success of the rollout.

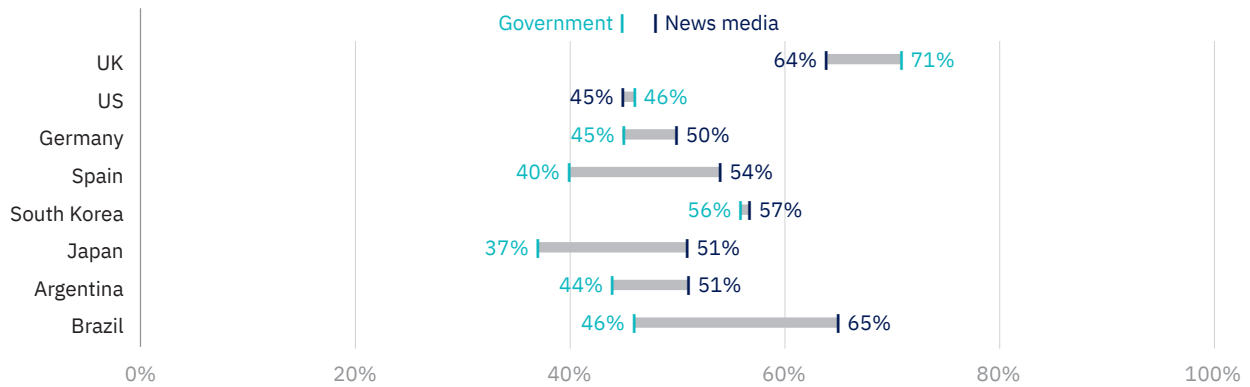In recent months, the news media have also had to find a difficult balance be een reporting on research into possible vaccine side-effects while also helping people understand that the actual risks are usually very small. In most countries people are more likely to think the media have exaggerated the risks than the government, but (with the exception of Spain) most people do not think this has happened.

Figure 13. Proportion that think the government and the news media have helped them understand how vaccines work/explained how people will be vaccinated/exaggerated the risks
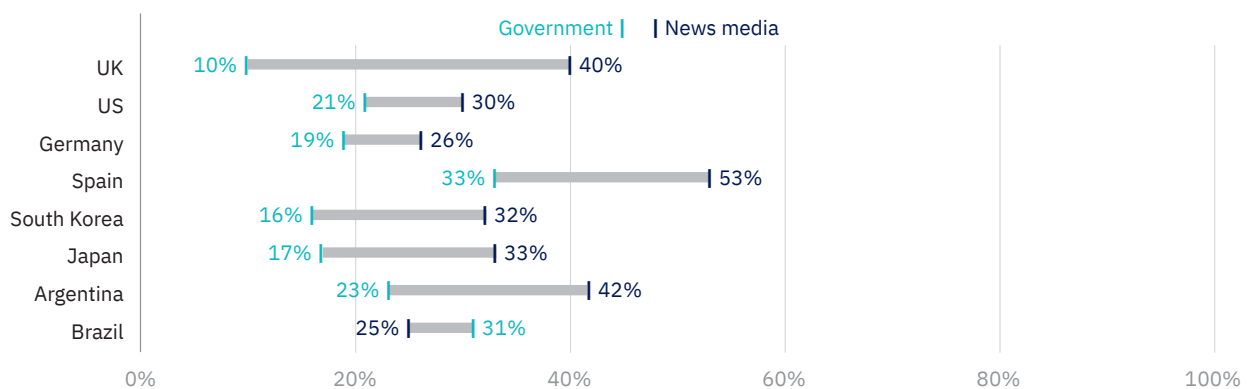
The _____ has helped me understand how the vaccines work.

Government | | News media

	Government	News media
UK	45%	48%
US	35%	38%
Germany	25%	43%
Spain	28%	46%
South Korea	45%	51%
Japan	36%	47%
Argentina	34%	50%
Brazil	39%	60%

The _____ has explained how the population will be vaccinated.

Government | | News media

UK	64% / 71%
US	45% / 46%
Germany	45% / 50%
Spain	40% / 54%
South Korea	56% / 57%
Japan	37% / 51%
Argentina	44% / 51%
Brazil	46% / 65%

0%   20%   40%   60%   80%   100%

The _____ has exaggerated the risks of getting a vaccine.

Government | | News media

UK	10% / 40%
US	21% / 30%
Germany	19% / 26%
Spain	33% / 53%
South Korea	16% / 32%
Japan	17% / 33%
Argentina	23% / 42%
Brazil	25% / 31%

0%   20%   40%   60%   80%   100%

Q14a/15a. To what extent do you agree or disagree with the following statements about coronavirus (COVID-19) vaccines? *Base: Total sample in each country. Note: showing 'agree' and 'strongly agree'.*

We also asked a series of questions to find out how confident pe   le are in their knowledge of coronavirus vaccines, and what specific topics people typically feel more or less su e about. We should keep in mind that these figures may not reflect peop   's actual knowledge, as people can confidently believe things that are false and some demographic groups may be prone to over-reporting. Nonetheless, looking at the differences between the topics may provide an indication of where the public feels less sure.

Although the proportion who say they feel 'somewhat' or 'very' confident in their knowledge varies by country, Figure 14 shows that on average people are most confident in t eir knowledge of vaccine efficac , how vaccines work, and vaccine safety. Overall, our respondents are less confident when it comes to the development of new vac ines and how they are regulated. The largest differences between countries concern people's confidence in knowledge of how the population will be vaccinated, and how many people have been vaccinated so far. This partly reflects variation in the progress of the vaccine r llout, with confidence relatively low in Japan but higher in the UK.

Figure 14. Proportion 'somewhat' or 'very' confident in their knowledge of each
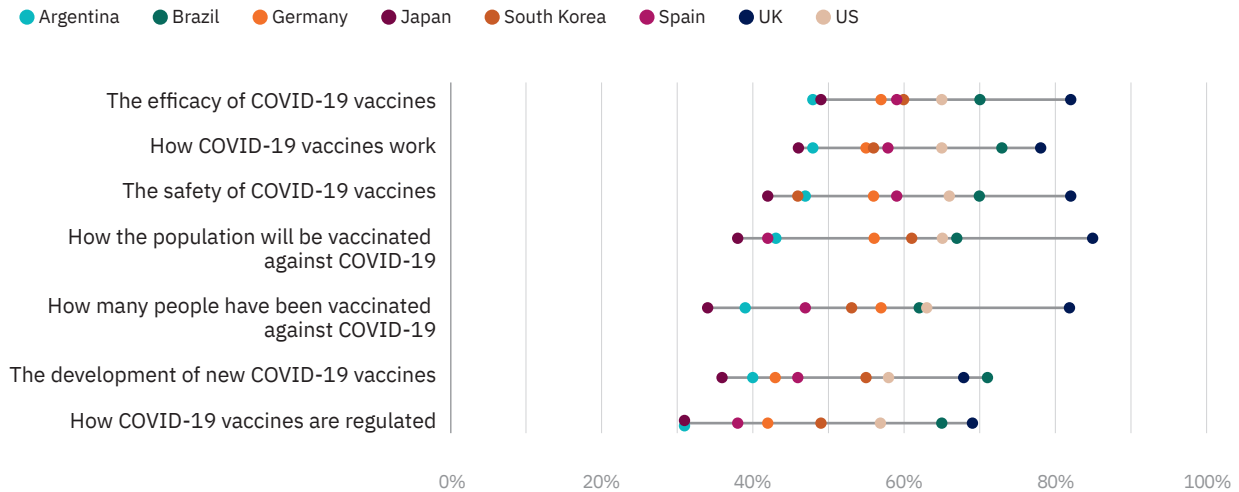
Q18. How confident, if at all, are you in your knowledge about each of the following? *Base: Total sample in each country. Note: see website for precise figures.*

Conclusion

The coronavirus pandemic and the associated infodemic is and has been extremely testing for the public, and for institutions as well. Overall, our 2021 data and analysis, and our opportunity to compare between 2020 and 2021 in six countries, document that news organisations on the whole are playing a central and important role in helping people navigate the crisis. Reach has declined, but news organisations have, in fact, become relatively more important as other sources' reach has declined more. Trust has declined, as the 'rally around the flag' effect dissipated, reporting has sometimes fallen short, and the handling (and coverage) of the crisis has become more explicitly political, but trust in news has declined less than trust in governments. (And health authorities and medical experts are, in most countries, still highly and broadly trusted.) A significant minority worry about news organisations as a so rce of false or misleading information about coronavirus, but many more worry about politicians or social media.

While there are real and worrying problems with misinformation around coronavirus, including false or misleading claims about vaccines that put both individual and public health at risk, we, encouragingly, find that in most countries the vast majority of our survey re pondents do not believe any of the false claims we include in the survey. Many will have come across at least some misinformation, but few actually believe it. Looking more closely at which sources and platforms demonstrably help people navigate the crisis, we find that using news organisations as a source for news and information about coronavirus is significantly associated with lower belief in vaccine misinformation. In contrast, in several countries reliance on messaging applications, social media, or video sites is associated with higher belief in vaccine misinformation. It is clear that there are still very serious problems with the accuracy and credibility of much of the information people see online, especially on big digital platforms such as WhatsApp, Facebook, or YouTube, and that, while news is necessarily imperfect, on balance it demonstrably helps people understand coronavirus as a disease (as we found last year) and coronavirus vaccines (as we have shown here).

News organisations overall have played an important role in helping people navigate the ongoing infodemic. There are real problems with information inequality as news media struggle to reach and effectively serve many groups – including younger people, those with lower levels of education, and often many disadvantaged or marginalised communities – and a growing minority are not seeking out any information about coronavirus. At the same time, just over half of our survey respondents say that the news media have helped them understand the pandemic, and most say they are confident in their knowledge of vaccine efficac , how they work, and their safety – a confidence well aligned with the generally low belief in vac ine misinformation we document here, and a confidence that is often at least in part, built on the work of journalists reporting on the crisis.

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