A Healthier Internet for Health Information

Mapping the landscape of actors and initiatives improving health information on social media
Contents

Summary 03
Introduction 07
Project aims 09
Methodology 10
Report terminology 11
Findings 12
Opportunity areas 31
To use a gardening metaphor, rather than channeling all our energy into pulling up ‘bad’ information weeds, the idea of the Healthier Internet is to cultivate a better garden for health information. Supporting healthier online environments is needed more than ever if we are to unlock the full potential of social media as a platform for public engagement with science and as a force for good.

Why publish this report now?
The public engagement team at Wellcome has quietly explored the issue of online health misinformation since 2018, when they commissioned the research and design charity Shift to conduct a small piece of discovery research looking at the experiences of parents engaging with vaccine information on social media. This was followed a year later by a second research project - a rapid deep-dive mapping the landscape of actors already working on the issue. Then, just as the results from the mapping were being written up into this report, the Covid-19 pandemic hit. Suddenly it felt as if the contours of the whole landscape changed within just a few weeks.

Online information environments have never felt more important, or more challenging. In February 2020, WHO Director-General Dr Tedros Adhanom Ghebreyesus said, “we’re not just fighting an epidemic; we’re fighting an infodemic”. Referring to an overabundance of information that makes it hard for people to find trustworthy sources, the infodemic is a distinction that sets Covid-19 apart from previous viral outbreaks. While SARS, MERS, and Zika all caused global panic, fears around the novel coronavirus have been especially amplified by social media.

This report outlines the landscape of actors addressing health information on social media as it looked pre Covid-19. The fact that it was written before the pandemic means some of the examples inevitably feel dated. Yet the topic is more important than ever, and the analysis and conclusions of the work stand true. This is why the Wellcome public engagement team has decided that now more than ever, the report is valuable and worth sharing.
A Healthier Internet for health information

This report calls for a more positive, constructive and human-centred approach to online health information environments. The current focus on misinformation means that the discussion of health information on social media is often framed negatively. For example, the fact that misinformation is described as an ‘information disorder’ is symptomatic of how it has typically been understood as a disease of the information environment.

Yet information sharing is an innately human response to crisis events. The sociology of disaster shows that when there are high levels of uncertainty and anxiety, people come together to try to make sense of what is going on and to participate in what is called ‘collective sensemaking’. As Kate Starbird, Associate Professor of Human Centered Design & Engineering, University of Washington describes “rumouring is a part of that, as people try to find the best information.”

Furthermore, in its Global Research Roadmap, the WHO highlights the need to address the underlying drivers of fear, anxieties, rumours and stigma regarding Covid-19 that they have linked to the infodemic. These underlying drivers will be easier to address if we have healthier online platforms that enable positive information-seeking and information-sharing behaviours. This is particularly important in situations like Covid-19 where uncertainty creates anxiety and panic.

Researchers of disaster sociology remind us that human behavior during crisis events is often pro-social and there is no shortage of news stories documenting people using social media platforms in altruistic ways during the Covid-19 pandemic. Perhaps more surprising is that this altruism also applies to the issue of misinformation, even in non-crisis times.

For example, the behavioural economist Cass Sunstein, a Professor at Harvard Law School, identified four main types of rumour propagators in his book On Rumors published in 2014:

- Those who promote self-interest, for example to build up large followings online
- Those who promote the interests of a group they favour or support
- Those motivated by malicious intent, for example, trolls who seek to derail conversations
- Those who act for altruistic reasons, for example people with a sincere desire to warn others about a possible threat

While quantitative research on people’s motivations to share health information is relatively limited, a 2018 survey of 2,005 respondents in the UK found that the top two highest motivations to share news on social media were “to inform others” and “to express my feelings”, with both selected by two thirds (66%) of respondents. This suggests that information sharing on social media by the general public is driven by both socially and individually orientated interests.

A narrow focus on misinformation risks the end game becoming the absence of undesirable behaviours, and not the presence of desirable environments and behaviours. Rather than just clamping down on the misinformation that results from people’s fear and anxiety, a different more empathetic approach is needed. As the rapid emergence of community-led mutual aid during the current Covid-19 pandemic shows, the energy needed to cultivate positive information environments on social media already exists; it just needs support.
Creating positive information environments online

There are other policy areas which we can look to for parallels on how to evolve more positive discourses about online information environments. Mental health is one example. Over the last couple of decades there has been a fundamental shift in the way mental health is discussed and understood. The sector has moved away from the language of ‘mental illness’ towards a more positive concept of ‘mental health and wellbeing’. Similarly, climate change narratives are shifting away from negative, fatalistic representations of the future towards more positive stories about interconnection and collective action.

Applying these lessons to the issue of online misinformation suggests moving away from metaphors based on ‘disorders’ and ‘disease’ towards ones that envision collective ‘health’ and ‘wellbeing’. There are signs that the idea of a ‘healthier internet’ is already taking root amongst the wider system of actors. Twitter, Mozilla and Grant for the Web have all launched initiatives that use this language.

A Healthier Internet needs to encompass both the behaviours of people and the design of online environments. But what does this mean in practice? As a new concept, this is not yet completely clear. However there are emergent signals, many of which apply principles of public health to information environments. These include the principles that the best way to keep individuals healthy is to keep the community healthy, and that each person has a role to play.

For example, experts are increasingly calling for ‘information hygiene’. Kate Starbird argues there is a need for infodemics to have the behavioural equivalents of hand washing. She notes these could include using digital literacy techniques like SIFT to vet information, and ‘tuning into’ how our anxiety can make us susceptible to spreading false rumours. There are also growing calls for ‘slow design’ as research shows when people slow down, they are better able to evaluate information credibility.

A Healthier Internet also means creating the right conditions on social media for community engagement to work well. As this report documents, there is growing recognition that health information online needs to be delivered by a broader range of trusted messengers if it is to reach into online echo chambers.

This could simply mean using large scale data like social listening to help with ‘healthy’ conversations. Alternatively, it could be encouraging social media companies to rethink engagement. Rather than optimising for user engagement measured as clicks and time on a website, Ethan Zuckerman, the director of MIT’s Center for Civic Media has asked: “Can we imagine a social network designed in a different way: to encourage the sharing of mutual understanding rather than misinformation?”

If we had healthier information environments on social media they could also become better participatory platforms between science and society. The Covid-19 pandemic has seen new citizen science projects harnessing people’s enthusiasm for collaboration during lockdown, with one project in Italy involving thousands of people using their mobile phones to measure light pollution. Wikimedia offers a template for how to successfully let people participate in an online information environment, and for encouraging them to participate in productive ways.
Original project objectives

The original objective of this project was to rapidly map who had developed initiatives around health misinformation on social media, and where there were gaps and opportunities for further work. This was to help the public engagement team at Wellcome identify potential roles that could be played in this space, as part of their ongoing effort to understand how social media platforms can be harnessed so that they result in better engagement with health information.

When this work was originally commissioned in the last quarter of 2019, the theme of vaccine misinformation was selected so that the rapid mapping had a manageable focus in the time available. The mapping was conducted in January 2020 through searches of PubMed, Google and Twitter as well as conversations with experts. Particular attention was paid to what the big players in health and technology were doing around vaccine misinformation.

While the mapping is primarily based on vaccine misinformation initiatives, the conclusions go beyond misinformation and are relevant to other types of health information on social media.

Roles that organisations can play to create a Healthier Internet

The pre Covid-19 mapping identified over 150 relevant social media initiatives around the world. The current pandemic is likely to increase this even further. The landscape comprises a diverse range of actors from health organisations, technology companies, universities, NGOs, media companies and governments.

Organisations play a variety of roles in their efforts to improve the online information environment. Analysis of these initiatives identified six roles by which all initiatives can be categorised, summarised in Table 1 below. Four of these roles - Convene, Catalyse, Collect and Co-ordinate - are field building roles. These roles are needed to help shift the focus away from singular initiatives towards a new multidisciplinary field that proactively supports the development of a healthier internet for health information.
## Table 1: Organisational roles identified in the initiative mapping

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convene</td>
<td>Developing partnerships and networks to bring stakeholders together and engage influencers. Much of the effort here has been partnering with social media companies and encouraging them to do more to tackle health misinformation. Examples include WHO’s Global Vaccination Summit and partnership with Facebook</td>
</tr>
<tr>
<td>Catalyse</td>
<td>Accelerating the development of new initiatives to tackle the problem through innovation challenges and the provision of funding e.g. WhatsApp and Facebook’s misinformation research funds.</td>
</tr>
<tr>
<td>Collect</td>
<td>Collecting and disseminating research and best practice to build the collective knowledge base and increase the quality of interventions e.g. Credibility Coalition’s Health Misinformation Working Group and WHO’s ‘How to respond to vocal vaccine deniers in public’ best practice guidance.</td>
</tr>
<tr>
<td>Co-ordinate</td>
<td>Coordinating actions across organisations and agreeing standards e.g. Meedan’s Standards of Care for Responding to Misinfodemics and the Trust Project, a consortium of top news companies developing transparency standards that help the public easily assess the quality and credibility of journalism.</td>
</tr>
<tr>
<td>Communicate</td>
<td>Communicating to either campaign positively or directly counter misinformation. This includes communication campaigns that try to increase the supply, reach and/or salience of evidence-based health information e.g. Kaiser Permanente’s #Stopflu campaign that uses micro influencers from Latinx &amp; African American communities on Twitter. It also includes media literacy training, fact checking and credibility scoring e.g. Africa Check’s What’s Crap in WhatsApp voice note podcasts.</td>
</tr>
<tr>
<td>Control</td>
<td>Controlling the visibility of online information to make ‘good’ information easier to find than ‘bad’ information. This includes technological solutions like adapting recommendation algorithms and changes to incentive structures e.g. YouTube’s removal of advertising from anti-vaccine videos. It also includes regulation such as the UK’s new Online Harms statutory duty of care for technology companies to protect users from disinformation.</td>
</tr>
</tbody>
</table>
The Healthier Internet

opportunity areas

There are however significant gaps in what the big health organisations and social media companies are currently doing on the issue of health information on social media. These include:

1. There are few actors playing catalyst roles to develop interventions that improve the wider online environment for health information - most actors are narrowly focused on addressing misinformation.

2. There is a huge gap in the evidence base around the effectiveness of interventions on social media.

3. There is virtually no ‘big player’ support for frontline health workers and health researchers to use social media as a way of engaging the public.

Based on these gaps and other findings from the mapping, six opportunity areas have been developed. While these were initially developed for Wellcome, they are relevant to other organisations. Now more than ever we need actors to play these roles.

Opportunity 1: “The Science Behind” - As online information environments evolve, so does our understanding of the features of these environments, how they work, and their impact on individuals and populations. How might we catalyse, convene and coordinate the field of collaborative discovery around healthier and more resilient online health information environments?

Opportunity 2: “What Works?” - Existing efforts are often singular, disjointed, duplicative, not tailored to specific cultural contexts and miss opportunities to build on each others’ work. How might we collect what works and catalyse a field of actors using rapid experiments and longer term evaluations to test, learn and open up what works to make online health information environments more resilient?

Opportunity 3: “Future Proofing” - The technological and social context of online health misinformation is changing rapidly. How might we convene and catalyse a field of actors taking a longer term view on the challenge of changing online information environments to prepare the industry for opportunities and challenges to come?

Opportunity 4: “Recruiting To The Cause” - There is a large and growing community of experts doing innovative work on online misinformation in other sectors e.g. journalism, politics, violent extremism and climate change. However health information as an investigative area within this field remains relatively underdeveloped. How might we encourage the wider misinformation and internet-health community to catalyse the field of research and practice focused on online health information environments?

Opportunity 5: “Got Your Back” - Misinformation experts often recommend using trusted messengers to deliver counternarratives, yet in health there is very little support available to the grassroots advocates who take on this role. Parents, frontline health workers and researchers avoid talking about vaccines online because they don’t want to be attacked. This has led to an ‘asymmetry of passion’ online. How might we catalyse and convene actors working on the front lines of health, as well actors further upstream in research, in order to give them the backing, safety, motivation and leverage they need to make significant change?

Opportunity 6: “Pandemic Focused” - Pandemics create a huge impact upon society and offer an important opportunity to both show that online information plays a supportive role in population health and address the issue. How might we catalyse a field of actors working on making online environments fit for purpose in the fight against pandemics?

It is worth repeating that this was a rapid deep-dive piece of research commissioned by the public engagement team at Wellcome before the Covid-19 pandemic, and the initiatives discussed in this report might well have been different had the mapping been conducted just a few months later. However the need for a more positive way of talking about social media and other online information environments is even more relevant now. It is hoped that the opportunities identified in this report will inspire other organisations and provide some direction towards creating a Healthier Internet for health information.
Are you working in this area? Do you know of other initiatives?

To explore a visualisation of the initiatives working to create a Healthier Internet for health information, explore an open database of current initiatives and contribute new ones, visit healthierinternet.org
Introduction

This report summarises the findings of Shift’s rapid mapping of social media initiatives that aim to improve the online information environment for health information, with a particular focus on vaccine misinformation.

The research took place in January 2020, right before coronavirus and covid-19 started making the headlines. With the issue of health misinformation now firmly on the global agenda, there has never been a better moment to look at the role social media plays, or could play, as a platform for public engagement with health information.

Cast your mind back to 2010. Facebook is six years old, Twitter is four and WhatsApp is coming up to its first birthday. People are still poking each other and surfing the web, and cyber-optimists buzz excitedly about the democratisation of information, the Arab Spring and the promise of social media to unleash positive social change.

Fast forward to 2020 and the language has changed. Deep fakes. Fake news. Misinformation. Disinformation. Echo chambers. Filter bubbles. Trolls and bots. It looks like social media has developed a health problem. While the issue of misinformation and its role in politics and international affairs has been well documented - and for good reason - attention is now shifting to health research.
The good, the bad and the unhealthy

It is frequently reported that social media often undercuts public health messages. A survey in 2018 by the Royal Society of Public Health found that 50% of British parents of children younger than 5 years regularly encounter negative messages about vaccination on social media. Three months after the first case of coronavirus COVID-19 was reported in China in December 2019, WHO dubbed the new virus “a massive ‘infodemic’ referring to “an overabundance of information - some accurate and some not - that makes it hard for people to find trustworthy sources and reliable guidance when they need it.”

The current economy of the online information environment is not helping. As Jonathan Quick of Duke University in North Carolina has recently summarised: “News tends to be behind paywalls, while fake news is free.”

It’s clear there is a problem. According to Meedan, the world now has more internet users than people with access to essential health services, which means people are increasingly seeking out critical health information online. If online information ecosystems amplify fears and misunderstandings about health topics like vaccinations, epidemics, cancer prevention and disease treatments, it’s not unreasonable to assume the health decisions people make for themselves and their families will be affected.

However with all the noise around online misinformation and its weaponisation by actors with vested interests, we risk forgetting the good that social media can do for population health. For example researchers have used social media to track and forecast influenza outbreaks. It provides valuable social support and online communities for people experiencing similar health conditions. And as data gets cheaper, mobile messaging platforms like WhatsApp offer a way for healthcare providers to widen access to vital health services in lower income countries and beyond.

Shifting paradigms

“A lie can travel halfway around the world while the truth is still putting its shoes on.”

Mark Twain

It feels as though we are still putting our shoes on when it comes to knowing how to address the problems facing online information environments. Fact-checking has long been the ‘go-to’ response to misinformation, and it was the first approach that Facebook experimented with following widespread criticism after the US election in 2016. Born in US newsrooms in the early 1900s, a whole industry has since mushroomed around fact-checking: according to the 2019 Duke University Reporters’ Lab census, 44 fact-checking organisations existed five years ago; there are 210 now.

However a whole slew of alternative approaches are under development. The field is rapidly evolving and new actors are entering the space - each with their own understanding of the problem and beliefs about what needs to be done. Some of their approaches continue to target the public, like media literacy training, while others focus on changing the regulatory and technological architecture of the information environment.

Underpinning all these new approaches are questions of trust and the effectiveness of facts in a “post-truth” world. How to respond to these issues is a pressing matter, especially for institutions, like Wellcome, that have information - e.g. in the form of health and medical research - at the core of their identity.
Project aims

Wellcome’s public engagement team has developed an experimental programme of work to explore the potential of large scale platforms in public engagement. One significant platform is social media.

It plays a huge role in the socialisation and rapid sharing of opinions and information related to health. Social media has become a highway for health information, directly affecting how the public inform, trust, and use health information and research.

Wellcome want to understand how these platforms could be harnessed so that they result in better engagement with health information. They commissioned Shift to conduct rapid mapping on who had developed initiatives in this space, and where there were gaps and opportunities for further work that could fit Wellcome’s strengths.

The theme of vaccines and online misinformation was chosen so that the rapid mapping had a manageable focus in the time available, although Shift did also plot initiatives linked to creating healthy online environments. The opportunities identified in this report relate to shaping this new emergent field of healthy online information environments.

Particular attention has been paid to building up a picture of what the big players in population health and technology are doing around vaccine misinformation, and Shift mapped these activities as thoroughly as they could.

Shift then did a broader search of initiatives beyond the vaccine misinformation sector, looking at: 1) what is being done to improve online information environments and 2) new approaches in the parallel worlds of climate change and violent extremism, areas where there have long been concerns about the impact of the online information environment. In these searches Shift focused less on trying to produce a complete picture of all initiatives and more on identifying trends, key influencers and examples of innovative practice.
Project methods

**Initiative landscape mapping**

Initiatives were identified primarily through a desk-based search conducted in January 2020. Google was used to do site searches of organisational websites and press releases, as well as searches on Twitter and PubMed. Over 150 initiatives were identified around the world but there are undoubtedly many more - every week sees the announcement of new initiatives, and the Covid-19 pandemic is likely to increase this even further. This mapping is therefore a snapshot of the landscape as it was in the beginning of 2020.

The search initially focused just on initiatives addressing vaccine misinformation on social media. Once this area was thoroughly mapped Shift spiralled outwards to look at what was happening around online health information more broadly. The search finished by looking at developments in parallel worlds such as climate change and violent extremism.

Once the search was completed, different ways of clustering the initiatives were explored, e.g. by target user, role and system levers. The role mapping was found to be the most useful for identifying gaps and opportunities.

To make the mapping results open and useful to others, Shift created an interactive website called Healthier Internet that visualises the existing initiatives database and allows users to explore initiatives by organisation type, role and continent. The website encourages users to submit new initiatives to an open document to help keep the database up to date.
A note about terminology

The language used around this topic is constantly evolving. The term “fake news” was widespread a few years ago, but is now falling out of favour among experts in the US and UK due to its vagueness and the perception that political actors have co-opted the term to mean news that they don’t like. It is still commonly used by the general public and media.

The terms most commonly used by experts are currently “misinformation” and “disinformation”, based on definitions developed by Claire Wardle, founder of First Draft, in a 2017 report for the Council of Europe. These definitions are:

**Misinformation** is when false information is shared, but no harm is meant (i.e. a mistake)

**Disinformation** is when false information is knowingly shared to cause harm (i.e. a lie)

**Malinformation** is when genuine information is shared to cause harm, often by moving information designed to stay private into the public sphere (i.e. gossip)

Alternative words and phrases that are also used: infodemics; information disorder, information credibility and accuracy, information quality and integrity, information pollution, myths, rumours and ‘truth decay’. “Junk news” and “junk information” are terms growing in popularity to describe the wide range of bad information algorithmically spread on social media.

For the sake of brevity, we use the term “misinformation” in this report to refer to all types of misinformation and disinformation.
Overview of findings from the initiative mapping
A diverse field has rapidly developed to address online misinformation following the political events in 2016 which highlighted its scale and spread on social media.

This section focuses on the who, where and what: who is working on the problem, where is work being done and what is being done to improve online information environments for health information.

Who is working on the problem of online health misinformation?

Every week new actors are entering the field. National and international policymakers, social media companies, NGOs, journalists, universities and start-ups have set about initiating committees and working groups, organising conferences, running campaigns, conducting research, developing standards, launching interventions, and in some countries even introducing laws.

Initiatives by big player health organisations

Within the last year a growing number of national and international health organisations have launched initiatives addressing online vaccine misinformation, catalysed by the WHO’s announcement in 2019 that it considered “vaccine hesitancy” one of the top 10 threats to global health.

Health organisations’ efforts to date have centred on lobbying social media companies to do more to address vaccine misinformation and developing partnerships with them e.g. WHO partnered with Facebook in 2019 as its ‘information partner’ which means that users searching for vaccine information on the platform now get redirected to the WHO website. The other main areas of focus have been launching social media communication campaigns, such as UNICEF’s #vaccineswork global campaign, to deliver positive messages about vaccines; using social media listening to understand public sentiment towards vaccines; and convening events to drive the agenda forward.

Here is an overview of the initiatives relevant to vaccine misinformation on social media that influential international health organisations have launched (pre Covid-19):
• **World Immunisation Week** (Global) - a global public health campaign held annually since 2012 to raise awareness and increase demand for vaccines. The 2019 campaign celebrated Vaccine Heroes from around the world.

• **‘Information partnerships’ with Facebook and Pinterest** (Global) - in 2019 Facebook partnered with WHO as its ‘information partner’ and now directs users searching for vaccines on its platform to WHO information.

• **Global Vaccination Summit** (Global) - the WHO and European Commission co-hosted the world’s first Global Vaccination Summit in Brussels in September 2019. The Summit aimed to advocate against the spread of vaccine misinformation worldwide.

• **#VaccinesWork campaign** (Global) - UNICEF launched a new global #VaccinesWork campaign in 2019 to emphasise the power and safety of vaccines among parents and wider social media users. #VaccinesWork has long been used as a hashtag to bring together immunisation advocates online.

• **Audience sentiment research with Facebook** (Brazil, India and Pakistan) - UNICEF has partnered with Facebook to do social media listening to understand public attitudes towards vaccines. This will be followed up by Facebook campaigns using targeted messaging unique to each country.

• **High level event on misinformation** (US) - UNICEF hosted a high-level event at the United Nations in New York in 2019 to bring together technical experts, policy makers, governments, civil society and the private sector to address misinformation on vaccines. The aim was to catalyse technology companies to do more.
Donations to encourage use of #VaccinesWork hashtag (Global) - During UNICEF’s 2019 #VaccinesWork campaign, the Bill & Melinda Gates Foundation contributed USD$ 1 to UNICEF for every like or share of social media posts using the hashtag #VaccinesWork in April, up to USD$1 million.

The Gates Foundation does not seem to have prioritised vaccine misinformation on social media. They have run several innovation challenges on increasing vaccine demand, but with little focus on social media.

Piloting new social media listening strategies (India) - GAVI has proposed to pilot media monitoring strategies on Facebook and WhatsApp in India that could be combined with AEFI monitoring systems.

Lobbying social media companies (Global) - the CEO of Gavi wrote to 11 digital and social media platform CEOs in 2019 putting pressure on them to do more to control the spread of vaccine misinformation being shared on their platforms and provide accurate information as a public service.

Vaccinate with Confidence: Stop Myths trusted messengers (US) - CDC says it will work with local partners and trusted messengers to improve confidence in vaccines among at-risk groups and establish partnerships to contain the spread of misinformation.

Flu Vaccination Digital Ambassadors (US) - CDC’s Flu Vaccination Digital Ambassador programme recognises partners and online publishers who commit to posting about flu vaccination multiple times throughout the season.
Initiatives by ‘big player’ social media companies

Under pressure from governments and public health organisations to do more to tackle vaccine misinformation shared on their platforms, there is no obvious path forward for social media companies. They cannot be seen to be ignoring vaccine misinformation, but they are concerned that removing it would limit their users’ freedom of expression and put the companies themselves into an ‘arbiter of truth’ role, which they desperately want to avoid due to role and profit conflicts. The main players, therefore, are all trying slightly different approaches.

- **Blocking anti-vaccine hashtags** - Instagram now blocks anti-vaccine hashtags that are themselves false claims, such as #vaccinescauseautism, as well as more general hashtags that are being used to spread vaccine misinformation. However it has been reported that anti-vaccine activists are finding workarounds by using coded hashtags like #learntherisk and #justasking.

- **Demonetising anti-vaccine videos** - after advertisers complained about programmatic ad placements on anti-vaccine videos, YouTube removed ads on anti-vaccine videos, saying that such videos fall under its policy prohibiting the monetisation of videos with “dangerous and harmful” content.

- **Information pop up panels on anti-vaccine videos** - YouTube now places a new [information panel](#) that links to the Wikipedia entry on “vaccine hesitancy” before anti-vaccine videos.
• **Working with third party fact-checkers**  
  - Facebook has been working with third party fact-checkers since **2016**. Fact-checkers analyze flagged stories and if found to be misleading, reduces their ranking in Facebook’s news feed and search functions. Distribution usually falls by around 80% after being flagged as misleading, the company says.

• **Changing algorithms and rankings**  
  - In March 2019 Facebook announced that it would take steps to diminish anti-vaccine content. Facebook and Instagram now direct users searching for vaccine information to the WHO. Ads with vaccine misinformation are rejected, and you can no longer target people based on options like “vaccine controversies.”

• **Information pop up panels**  
  - In 2019 Twitter launched an initiative called #KnowTheFacts. When a user searches Twitter for information on vaccination, a notification pops up on the screen titled, “Know the facts,” with a link to a public health website.

• **While WhatsApp has launched a number of initiatives around misinformation**  
  - such as a misinformation research fund, labelling forwarded messages and digital literacy training - it does not seem to have developed any initiatives around vaccine misinformation specifically.
There has been a lot of press recently about Covid-19 misinformation being spread on social media. Examples of misinformation include conspiracy theories that the virus is a lab-made bioweapon, inflated numbers of fatalities, and misleading claims about its prevention and treatment (e.g. that drinking bleach can cure it).

One of the biggest players responding to the issue has been the World Health Organisation (WHO). Dr. Tedros Adhanom Ghebreyesus, director-general of WHO, in a February briefing, described how the organisation and its partners “are fighting back with a four-pronged approach” which he summarised as “building a band of truth-tellers that disperse fact and debunk myths”.

01. **Tracking online misinformation**
   the WHO’s risk communications and ‘infodemic’ management team are actively tracking misinformation, in multiple languages.

02. **Public communication**
   WHO’s ‘infodemics’ team is working with the communications department to deliver information to a broader public audience. This includes addressing rumours by publishing “myth busters” and Live Q&A interviews with experts on the WHO website, social media and through traditional media.

03. **Working with tech companies**
   WHO is collaborating with Google, Twitter, Facebook, Pinterest and TikTok to limit the spread of harmful rumours. It’s pursuing a similar tactic with Chinese digital companies such as Baidu, Tencent and Weibo. WHO is asking them to filter out false information and promote accurate information from credible sources like WHO and CDC.

04. **Working with influencers**
   WHO is connecting with Instagram and YouTube influencers to help spread factual messages to their followers, with a focus on the Asia-Pacific region.
Garlic is a healthy food that may have some antimicrobial properties. However, there is no evidence from the current outbreak that eating garlic has protected people from the new coronavirus (2019-nCoV).

No. Spraying alcohol or chlorine all over your body will not kill viruses that have already entered your body. Spraying such substances can be harmful to clothes or mucous membranes (i.e., eyes, mouth). Be aware that both alcohol and chlorine can be useful to disinfect surfaces, but they need to be used under appropriate recommendations.
Where is work being done to address online misinformation?

Almost half of the initiatives identified are global in nature, conducted by organisations with international remits. Country specific initiatives were identified in 21 countries, shown on the map below. The search was limited by being conducted in English, so it is likely that initiatives have been missed - however hopefully it provides an indication of what is happening around the world.

**Brazil**
UNICEF are currently working with Facebook to conduct social media listening research on vaccine sentiment in Brazil, India and Pakistan, which will be used to develop Facebook campaigns.

**Democratic Republic of the Congo**
As part of the National Institutes of Health’s (NIH) efforts to trial drugs and treatments for Ebola, it uses the analytics company Novetta to monitor public sentiment of Ebola via WhatsApp groups.

**India**
WhatsApp launched Checkpoint Tipline for users in India ahead of the country’s 2019 prime minister elections. Users can forward messages to the tip line for verification.

**China**
Social Entrepreneurship to Spur Health will be using crowdsourcing to rebuild trust in mandatory Chinese childhood vaccines by organising a nationwide open contest on social media to solicit community input on intervention messages.

**South Africa**
WITNESS Africa has been holding workshops in South Africa to discuss the threats of deepfakes to the protection of human rights, prioritising threats and solutions from Africa’s perspective.

**Kenya**
“Stop. Reflect. Verify.” is a US government sponsored media literacy programme aimed at fighting misinformation in Kenya.

**Thailand**
The Thai Health Authority has shared pro-vaccine messages from local religious leaders urging people to accept vaccinations following recent measles outbreaks.
What is being done to address online misinformation?

Shift’s mapping work has found that organisations play a variety of roles in their efforts to improve the online information environment, demonstrating how actors can contribute to the collective action in a myriad of ways.

Table 2: Roles played by actors working to improve online information environments

- **Convene**: Developing partnerships and networks to bring stakeholders together
- **Catalyse**: Accelerating the development of new interventions
- **Collect**: Collecting and disseminating research and best practice
- **Co-ordinate**: Co-ordinating actions or pledges, and agreeing standards
- **Communicate**: Campaigning positively and counteracting misinformation
- **Control**: Introducing regulations and changing algorithms
The field-building roles

The first four roles - Convene, Catalyse, Collect and Co-ordinate - are field-building and supporting roles, whereas the last two - Communicate and Control - are more ‘frontline’ interventionist roles directly tackling misinformation online. Let’s look a little closer at the field-building roles first. These roles are:

- **Convening** - Developing partnerships and networks to bring stakeholders together and engage influencers. Much of the effort here has been partnering with social media companies and encouraging them to do more to address health misinformation. Examples include WHO’s Global Vaccination Summit and partnership with Facebook, UNICEF’s ‘groundbreaking discussion’ with policy and technology stakeholders, and the UK Prime Ministers’ proposed summit with social media companies.

- **Catalysing** - Accelerating the development of new initiatives to address the problem through innovation challenges and the provision of funding e.g. WhatsApp and Facebook’s misinformation research funds and the Knight Foundation’s innovation challenge on misinformation.

- **Collecting** - Collecting and disseminating research and best practice to build the collective knowledge base and increase the quality of interventions e.g. Amnesty International’s Citizen Evidence Lab, Credibility Coalition’s Health Misinformation Working Group and WHO’s ‘How to respond to vocal vaccine deniers in public’ best practice guidance.

- **Co-ordinating** - Coordinating actions across organisations and agreeing standards e.g. Meedan’s Standards of Care for Responding to Misinfodemics, the European Commission’s The Code of Practice on disinformation and The Trust Project, a consortium of top news companies developing transparency standards that help the public easily assess the quality and credibility of journalism.

Interventions directly tackling online misinformation

Building on existing typologies of misinformation solutions (e.g. Anya Schriffen of Columbia University’s supply vs. demand side taxonomy), three broad types of interventions have been identified ‘Information campaigns’ and ‘Counteracting misinformation’ have been summarised as an overall “Communicate” role in Table 2 above). Each intervention approach has its own pros and cons.
01. **Controlling information:**
These are interventions that essentially make ‘good’ information easier to find than ‘bad’ information by controlling the type, flow and visibility of online information. This includes technological fixes like adapting recommendation algorithms, changing search rankings and creating new algorithms that detect and de-prioritise inauthentic content. Business models and incentive structures can also be changed to encourage or discourage certain types of content e.g. removing advertising from anti-vaccine videos. It also includes legislative and policy changes such as introducing regulation or banning certain types of undesirable content.

These interventions are generally the preserve of social media companies and governments.

**Pros:**
- Easy to scale
- Given their scalability and reach, these interventions likely have more impact

**Cons:**
- Often controversial due to issues over censorship and freedom of expression
- Drives more extreme content underground

---

**Regulation**
New Online Harms statutory duty of care for technology companies to protect users from disinformation. (UK)

**Content removal**
Health authorities in Pakistan successfully lobbied Facebook to remove anti-polio videos following a leap in polio cases in 2019. (Pakistan)
02.

**Countering misinformation:**
These are interventions that directly seek to counter misinformation through either exposing it as inaccurate or false e.g. fact checking and credibility scoring; or building public resilience to it e.g. media literacy training that enables the public to critically evaluate information and spot misinformation themselves. These interventions are mostly delivered by fact-checking NGOs and media start-ups, often in collaboration with universities.

**Pros:**
- Encourages public participation
- Strengthens accountability

**Cons:**
- Hard to scale (there aren’t enough human fact checkers for the volumes of misinformation)
- Fact checking can backfire - mixed evidence on effectiveness
- Media literacy places responsibility on the individual i.e. blaming the problem on people’s illiteracy and assuming it can solved through education
- Media literacy interventions can find it difficult to reach target audience

---

**Health fact-checking**
Health Feedback is a worldwide network of scientists “sorting fact from fiction” in health and medical media coverage. It reviews health/medical articles and claims published in the media, giving each a scientific credibility score. (Global)

**Media Literacy**
Public Health England and the Cabinet Office’s “Don’t Feed the Beast” campaign directs Britain’s most active social media users to the government’s SHARE checklist, which lists the tell-tale signs of fake news and disinformation - it uses measles as a case study. (UK)

---

*Be careful what you share. Things aren’t always what they seem online.*

*Don’t Feed the Beast*
03.

Campaigns spreading ‘good’ information:
These are interventions that use social media and other online channels as a means to communicate and share evidence-based information, either by increasing its supply and reach e.g. social media communication campaigns or by increasing its salience e.g. using grassroots advocates and other trusted influencers to deliver positive messages and more emotive stories. These interventions are most used by public health organisations.

Pros:
• Greater potential for emotional connection through storytelling
• Rebalances the “asymmetry of passion” online by increasing the availability of positive health information

Cons:
• Messages don’t always reach target audiences
• Effectiveness evidence is lacking (only one study has been identified, which focused on Denmark’s “Stop HPV, Stop Cervical Cancer” campaign)

Campaign stories
#ProtectOurFuture campaign was launched in Ireland following negative stories about the HPV vaccine in the media. The campaign used video to share the true story of young girls’ experiences of getting the vaccine. (Ireland)

Grassroots influencers
Kaiser Permanente’s #Stopflu campaign uses micro influencers from Latinx & African American communities on Twitter who have under 10,000 followers, as they are deemed more relatable. (US)
As might be expected given its infancy, the emerging field of actors addressing the symptoms of unhealthy online information environments currently feels fragmented. Anya Schiffrin of Columbia University attributes this fragmentation to the speed with which the field has developed. She describes how early steps addressing misinformation were taken “when academic research was still underway, and so the proposed solutions were often not fully informed by evidence as to what could actually work”. The imperative “to do something” necessitated taking action before the evidence was in place.

However there are several cross-cutting trends and themes that seem to be gaining traction, some of which are evidence based (although the lack of meta analyses means that most interventions generally appear to be informed by single studies that have been cherry picked). Many of these new and innovative approaches are addressing a broader issue that goes right to the heart of the misinformation debate: trust - and the lack of it.

**New and innovative approaches**

**Radical transparency online**

Building trust and accountability through opening up “black box” organisational processes (e.g. editorial decision) or using technologies like blockchain. A good example of this is Science News’ Transparency Project, launched in 2019 in partnership with News Co/Lab, a collaborative lab at Arizona State University’s Walter Cronkite School of Journalism and Mass Communication. Science News is a bi-weekly science magazine.

The Transparency Project initiative is experimenting with ways to increase transparency to readers - with one early test involving side bars where science journalists explain how and why stories were reported.
02. Following the money

Nothing changed with tobacco until the companies were sued, forcing their documents and emails into the light of day. At this time, lawsuits against the fossil fuel industry, opioids companies and Monsanto are shining a light on corporate strategies to create scientific disinformation. There are signs that similar approaches are being considered as a means of addressing vaccine misinformation.

Recent research by David Broniatowski, a professor of engineering at George Washington University - who has previously investigated Russian bots spreading pro- and anti-vaccine content on Twitter to amplify the appearance of civic tensions - has followed the money behind anti-vaccine adverts on Facebook. His research found that the majority of Facebook ads spreading misinformation about vaccines are funded by two organisations run by well-known anti-vaccination activists - Robert F Kennedy Jr’s World Mercury Project and Larry Cook’s Stop Mandatory Vaccinations bought 54% of ads.

03. Inoculation theory

As misinformation is often resistant to correction - especially if a correction challenges a person’s worldview - alternative avenues of dampening the impact of misinformation are being explored. There is currently a lot of excitement around inoculation theory (sometimes described as “pre-bunking”).

Inoculation theory - a psychological framework from the 1960s that aims to induce preemptive resistance against unwanted persuasion attempts - draws comparison with the concept of vaccination. Just as the administration of a weakened dose of a virus (the vaccine) triggers antibodies in the immune system to fight off future infection, the idea is that preemptively exposing people to weakened examples of common misinformation techniques will generate ‘mental antibodies’.

The interactive game Bad News is an example. In collaboration with the Social Decision-Making Lab at University of Cambridge, Netherlands based start-up Drog developed a free online browser game in which players walk a mile in the shoes of a misinformation producer. Their idea was that prompting players to actively think about how misinformation works from the perspective of the ‘villain’ would be significantly more effective than conventional media literacy interventions that tend to focus on passive exercises such as reading or watching a video.
Supporting journalists

Media literacy training has typically focused on educating the public. However there is a growing subset of training that targets journalists. This is due to a growing body of research investigating the tactics “bad actors” use to manipulate media professionals into sharing misleading information.

For example a research institute Data and Society report titled “Source Hacking” describes an ecosystem of well-meaning journalists, bots, social media campaigns and those who want to spread bad information. In another study conducted by the Institute for the Future, a California-based nonprofit think tank, researchers found more than 80% of journalists admitted to falling for false information online. Only 15% of journalists surveyed said they had been trained on how to best report on misinformation.

An example of an initiative around this is Code for Africa’s Data Bootcamps that teach journalists digital literacy skills. Originally developed by the International Centre for Journalists, during each bootcamp, 60 to 80 journalists, developers and data specialists work in multidisciplinary teams to develop prototypes for data-driven news tools. With the help of expert mentors and trainers, each team is taught data literacy skills, such as data scraping and analysis, allowing journalists to better understand stories that exist in the data.
Crowd-driven fact-checking

Right from the beginning, Wikipedia has taken a different route from other technology companies: community-driven fact-checking. Wikipedia's open-access format — which enables anyone to edit any article with every single edit, change, and discussion happening in the open — allows Wikipedia editors to keep one another in check.

Twitter appears to be considering a similar tactic as part of its Healthier Conversations initiative. According to recently leaked memos, Twitter is experimenting with adding brightly coloured labels directly beneath misinformation posted by politicians and other public figures. In addition to corrections from fact-checkers, corrections could also possibly be made by other users who would participate in a new ‘community reports’ feature, which the demo claims is “like Wikipedia”.

One version of the leaked demo will allow Twitter users to earn points or “community badges” if they “contribute in good faith and act like a good leader.” Community members would be asked to rate a tweet as “likely” or “unlikely to be harmfully misleading.”

This approach is backed by a 2019 study testing the effectiveness of crowdsourcing to reliably identify misinformation. The study concluded that perhaps surprisingly, we find that laypeople on average are quite good at distinguishing between lower- and higher-quality sources. These results indicate that incorporating the trust ratings of laypeople into social media ranking algorithms may prove an effective intervention against misinformation.
Gaps in the landscape

Analysis of the initiatives identified in the mapping work has highlighted several significant gaps in what the big players are currently doing.

1. **There are few actors playing catalyst roles when it comes to developing interventions that improve the online environment for health information.** The Bill & Melinda Gates Foundation have run several innovation challenges around vaccine demand which overlapped with misinformation issues, but none have targeted digital health information specifically. Similarly we have not identified any health misinformation research funds - although encouragingly a recent Call for Proposals from Facebook does have health misinformation as a sub-issue.

2. **There is a huge gap in the evidence base around the effectiveness of interventions on social media.** While there are abundant systematic reviews on interventions to tackle declining vaccine confidence there doesn’t seem to be a single one yet on interventions addressing health misinformation online.

3. **Knowing how to increase the reach of health information online via viral diffusion.** Big player communication campaigns often rely on broadcast methods to communicate information on social media, thinking their authority as world-leading experts will cut through online. However there is evidence that their information isn’t breaking into echo chambers and reaching target audiences. To do this there needs to be greater use of intermediaries e.g. Facebook group administrators, Wikipedia, YouTube influencers and other online communities.

4. **There is virtually no ‘big player’ support for frontline health workers and health researchers to use social media as a way of engaging the public.** Grassroots advocates play an important role in communicating counternarratives, addressing the **asymmetry of passion** online and increasing the plurality of voices talking positively about controversial health topics like vaccines. However doctors have traditionally been told not to use social media in case they get into trouble, which ends up increasing further the information void online.

5. **The interventions feel reactive rather than anticipatory** - big players are often described as ‘scrambling’ to respond to a misinfodemic. While social media listening is helping to identify rumours quicker, the pace of technological change (e.g. the rise of synthetic misinformation) means it is difficult for information providers to anticipate where they should be investing their resources.

However perhaps the biggest gap in the landscape is a positive frame. **Currently health information on social media is framed as vulnerable to illness.** For example misinformation is sometimes described as an ‘information disorder’. Most actors are therefore geared towards stopping, tackling and drowning out misinformation online.

It was easy to find initiatives around misinformation. But it was a lot harder to find health information initiatives that holistically approached social media as having potential for positive impact positively. The consequence is that continuing to take an ‘illness view’ may miss out on an opportunity to unlock the full potential of social media as a force for good.
The opportunity: a Healthier Internet
A Healthier Internet

The Healthier Internet agenda offers a more positive and constructive approach to online information environments. The fact that misinformation is sometimes described as an ‘information disorder’ is symptomatic of how misinformation has typically been talked about as a disease of the information environment. But there is a risk that by focusing only on the disease, we take an illness-centred rather than a people-centred approach to online information environments.

Shifting the narrative from illness to health

If 2016 was the year when the issue of political online misinformation tipped into mainstream reporting, then we are now four years into a collective effort to address it. For health misinformation specifically though, the journey has only just really started. This means that there is ample opportunity to help shape the future of online health information environments.

Advances in parallel worlds offer a guide for how to evolve approaches to online misinformation so that they are more positive and less illness-centred.

Mental health is one example. Over the last couple of decades there has been a fundamental shift in the way society understands and talks about mental health. We have moved away from talking about ‘mental illness’ towards a more positive concept of ‘mental health’. As the WHO says “Mental health is not just the absence of mental disorder. It is defined as a state of well-being”. This change in nuance is important as it has catalysed more work within the sector on prevention and understanding social determinants. Practically this means that mental health is no longer just about the individual, but about communities and the wider environment too.

Another example is violent extremism. Here the wider sector is increasingly shifting its focus from countering violent extremism towards preventing and transforming violent extremism by strengthening and empowering communities, and addressing fundamental issues such as the root causes of extremism, dialogue, peacebuilding and trust.

A Healthier Internet

Applying these lessons from parallel worlds to the problem of online misinformation opens up a new way of thinking about the issue. Shifting from illness to health as the way the issue is framed is one such avenue. There are signs that the idea of a ‘healthier internet’ is already taking root amongst the wider system of actors. Twitter, Mozilla and Coil have all launched initiatives that take a more systemic approach to the misinformation problem.
Healthier conversations - Twitter

In 2018 Twitter launched a new initiative to improve the health of public conversations on Twitter. CEO Jack Dorsey tweeted that up until that point “We’ve focused most of our efforts on removing content against our terms, instead of building a systemic framework to help encourage more healthy debate, conversations, and critical thinking. This is the approach we now need.” Based on research by MIT Media Lab they will be measuring four attributes of “a healthy public sphere”:

01. Shared Attention:
Is there overlap in what we are talking about?

02. Shared Reality:
Are we using the same facts?

03. Variety:
Are we exposed to different opinions grounded in shared reality?

04. Receptivity:
Are we open, civil, and listening to different opinions?

Twitter is now trialling “pro-social interventions” to see if they can encourage more healthy conversations between people. These include things such as a Facebook-like presence indicator that displays when users are online, an “ice breakers” feature and new ways of organising conversation threads. They have also been testing ways to limit the visibility of bots and trolls that don’t violate Twitter’s policies but are behaving in ways that distort the conversation.

Healthier information - Mozilla

The Mozilla Information Trust Initiative (MITI), launched in 2017, is a comprehensive effort to keep the internet “credible and healthy”. Mozilla is developing products, research, and communities to address “information pollution” and misinformation online.

This is in support of a wider approach that has seen Mozilla pledge to stand for a Healthy Internet. In their manifesto they have pledged to support an accessible and inclusive internet that promotes civil discourse, human dignity, and individual expression; that elevates critical thinking, reasoned argument, shared knowledge, and verifiable facts; and that catalyses collaboration among diverse communities working together for the common good.
Coil

Healthier financial incentives - Coil

Coil, a platform that helps writers and artists monetise their content on the internet, launched Grant for the Web in 2019 to kickstart a healthier internet ecosystem built on open standards. It is a new $100 million fund to benefit creators and promote innovation in web monetisation. Grant for the Web is funded and led by Coil, in collaboration with Creative Commons and Mozilla.

The programme will fund individuals, projects, and global communities that contribute to a privacy-centric, open, and accessible web monetisation ecosystem.

Therefore rather than just putting all the resources into fighting the ‘illness’ of misinformation, a more transformative approach could be to focus on making online information environments healthier. “Healthier” encompasses a number of features - we don’t know them all yet but they likely include trust, resilience and interaction.

This suggests a new fourth area is needed on the misinformation model. This new area - which we are for now calling ‘humanising information environments’ - does not replace existing efforts to communicate, counteract and control information, but instead supports these efforts by building a better foundation of understanding about how humans and information interact - and influence each other - in online ecosystems.
There is an opportunity for Wellcome, as well as other organisations, to strengthen the emerging field of healthier online information environments and increase the attention paid to health information in this growing field.

One of the aims of this could be to help evidence-based health information travel further online by making it easier to find and trust. This is important because public health information online has been found to occupy its own echo chamber.

For example organisations could play a bridging role by either working more with intermediaries and communities who ‘compete’ with experts online – or supporting those that already do. An inspirational example of how to work with intermediaries is given by Danil Mikhailov who describes how the Royal Society achieved greater cut through online of its policy advice on fracking by “collaborating with Wikipedia’s editor community to get the facts right on the Wikipedia pages devoted to fracking, instead of spending resources increasing readership of its own official report”.

**The opportunity areas**

The project team at Shift and Wellcome have identified an overarching framework of a Healthier Internet with six opportunity areas that provide potential areas of focus. While these were initially developed for Wellcome, they are relevant to other organisations. Now more than ever we need actors to play these roles.
The opportunity: creating a Healthier Internet for health information, with six potential areas of exploration at different levels.

These opportunities are starting points, based on insights and gaps identified in the mapping work. They are also options - organisations would not necessarily need to pursue all six of them.
Opportunity 1: “The Science Behind”

As online information environments evolve, so does our understanding of the features of these environments, how they work, and their impact on individuals and populations. What might research from diverse disciplines such as neuroscience, behaviour science, information security, philosophy and design tell us about these environments, their dynamics and how to make them ‘healthier’ for all.

This area seeks to develop and grow a more multidisciplinary research field around online health information environments, and adds value to existing activity by bringing more scientific approaches to the table.

**Examples of orgs working in this space:**

- **Centre for an Informed Public** is a recently launched research centre at the University of Washington. Their mission is to “resist strategic misinformation, promote an informed society, and strengthen democratic discourse” and to translate research into policy, technology design and public engagement.

- **Facebook** have recently launched a £2 million request for proposals (RFP) on Foundational Integrity Research: Misinformation and Polarization.

- **Berkman Klein Centre** has an interdisciplinary team working on the intersection of digital technology and society, and Internet Health is actually one of their specialist topics. Researchers like **Natalie Gyenes** are already working on health misinformation.

**How we might catalyse, convene and coordinate the field of collaborative discovery around healthier and more resilient online health information environments?**
Opportunity 2: “What Works?”

From communication campaigns to technological nudges, multiple actors around the world are working on the influence of online information environments upon population health. These efforts are often singular, disjointed, duplicative, not tailored to specific cultural contexts and miss opportunities to build on each others’ work. How might a clearer understanding of which efforts are effective - and how might they be leveraged in local contexts, help make the internet a ‘healthier’ place?

This area addresses the huge gap in knowledge about the effectiveness of interventions on social media, and adds value by collecting the ingredients necessary for successful online interventions.

**Examples of orgs working in this space:**

- **LSE Arena** programme is focused on developing best practice around tackling disinformation and unlike many academic or think tank projects, it creates content and then measures its impact, rooted in academic rigour and practice.

- **Professor Brendan Nyan** of Dartmouth College is one of the foremost researchers who has tested information interventions online, being the first to identify the ‘backfire effect’.

- **First Draft** is a global non-profit that is well connected in the sector and has a research practice.

How we might collect what works and catalyse a field of actors using rapid experiments and longer term evaluations to test, learn and open up what works to make online health information environments more resilient?
Opportunity 3: “Future Proofing”

The technological and social context of online health misinformation is changing rapidly. When we finally get a clear understanding of how online information environments work today, things change and we’re facing new challenges we didn’t see coming. Deep fake anyone? What if we took a more future facing look to anticipate, predict and prepare for how new, emerging and embryonic developments will impact the role of online information environments on population health in the next decade?

This area builds on existing approaches that typically take a short term ‘fire-fighting’ approach to addressing the symptoms of unhealthy online information environments, and adds value by helping others anticipate big technological and demographic changes on the horizon.

Examples of orgs working in this space:

- Centre for Humane Technology was set up by Google’s former design ethicist Tristan Harris with the aim of realigning technology with humanity.
- School of International Futures is a respected group of futurists working on public issues, well versed in futures methodologies like horizon planning and scenarios.
- Careful Industries is a consultancy navigating the intersections of social justice and technology.

How we might convene and catalyse a field of actors taking a longer term view on the challenge of changing online information environments to prepare the industry for opportunities and challenges to come?
Opportunity 4: “Recruiting To The Cause”

There is a large and growing community of experts doing innovative work on online misinformation in other sectors e.g. journalism, politics, violent extremism and climate change. However health information as an investigative area within this field remains relatively underdeveloped. How might encouraging people already working on misinformation to focus on health information support us in fostering online information environments that better support population health?

This area addresses the current imbalance of focus within the landscape of actors working on misinformation, and adds value by raising the profile of health information as an investigative area.

Examples of orgs working in this space:

- **Credibility Coalition** is a network of people working on information credibility who seem to be very well connected. They have a health misinformation working group.

- **Renee DiResta** is Research Manager at the Stanford Internet Observatory at Stanford - she is one of most influential thinkers on online misinformation and has an interest in vaccines (she is one of the co-founders of Vaccinate California).
How we might catalyse and convene actors working on the front lines of health, as well actors further upstream in research, in order to give them the backing, safety, motivation and leverage they need to make significant change?

Opportunity 5: “Got Your Back”

Misinformation experts often recommend using trusted messengers to deliver counternarratives, yet in health there is very little support available to the grassroot advocates who take on this role. Parents, frontline health workers and researchers avoid talking about vaccines online because they don’t want to be attacked. This has led to an ‘asymmetry of passion’ online. What if there was more support for grassroots advocates and researchers to add their voices into the online information environment to support public health?

This area addresses the current gap in support available to grassroots advocates actively filling the ‘information void’ on social media via public engagement. It adds value by providing big player support and resources to them.

Examples of orgs working in this space:

- **Association for Healthcare Social Media** is a recently founded professional body in the US supporting healthcare workers to use social media, run by doctors.

- **Kids Plus Pediatrics** have launched an initiative called Shots Heard which calls itself a “rapid-response digital cavalry” dedicated to protecting the social media pages of healthcare providers and supporting doctors who are attacked online by anti-vaccine activists.
Opportunity 6: “Pandemic Focused”

Pandemics create a huge impact upon society and offer an important opportunity to both show that online information plays a supportive role in population health and address the issue. How might we catalyse a field of actors working on making online environments fit for purpose in the fight against pandemics?

This addresses the fragmented nature of the conversation about vaccines and leverages the groundswell and sentiment around epidemics to ‘demonstrate’ the need and opportunities of healthier online information environments.

Examples of orgs working in this space:

- Meedan’s Digital Health Lab is researching, designing and testing a digital response framework for addressing health misinformation online, centered around accessibility and equity.

- Path is a global team of innovators who have worked extensively on vaccines and health topics with partners like Bill & Melinda Gates Foundation, UNICEF etc. They have a team focused on epidemic preparedness.

How we might catalyse a field of actors working on making online environments fit for purpose in the fight against global epidemics?
Acknowledgements
We would like to sincerely thank the following experts who shared their insights, signposted us to articles and recommended other people for us to speak as part of our research process.

- Dr. Kesavan Rajasekharan Nayar, Professor and Head Global Institute of Public Health, Ananthapuri Hospitals
- Jinbert Lordson, Lecturer, Global Institute of Public Health, Ananthapuri Hospitals and Research Institute
- Newley Purnell, Journalist, Wall Street Journal
- Robert Johns, Professor of Politics, University of Essex
- Sayan Banerjee, Lecturer, Department of Government, University of Essex
- Santosh Vijaykumar, Health Communication Researcher, Northumbria University
- Alphonce Shiundu, Kenya Editor, Africa Check
- Marina Joubert, Senior Science Communication Researcher, CREST, Stellenbosch University
- Hannah Keal, Researcher, CREST, Stellenbosch University
- Francois van Schalkwyk, Researcher, CREST, Stellenbosch University
- Melinda Suchard, Head of Centre for Vaccines and Immunology, National Institute for Communicable Diseases
- Sara Cooper, Senior Scientist, Cochrane Centre
- Anelisa Jaca, Researcher, Cochrane Centre
- Elizabeth Oduwole, Researcher, Cochrane Centre
- Rose Burnett, Head of South African Vaccination and Immunisation Centre, Department of Virology, Sefako Makgatho Health Sciences University
- Kerrigan McCarthy, Researcher, University of the Witwatersrand
- Hannelie Meyer, Professor and Acting Head: Division of Public Health Pharmacy and Management, Sefako Makgatho Health Sciences University
- Samantha Vanderslott, Social Sciences Researcher, Oxford Vaccine Group
- Jonathan Kennedy, Senior Lecturer, Queen Mary University
- Alice Thwaites, founder of Echo Chamber Club
Thank you

Shift project team and report authors: Chloe Cook, Tayo Medupin and Sam Firman

Wellcome project team: Carla Ross, Zaichen Mallace-Lu and Imran Khan

Report graphics and design: Carly Murphy-Merrydew