Witness Name: Hema Budaraju
Statement No.: 1
Exhibits: INQ000508231 - INQ000508241
Dated: 23 October 2024

UK COVID-19 INQUIRY

WITNESS STATEMENT OF HEMA BUDARAJU

I, Hema Budaraju, will say as follows:

A. INTRODUCTION

1. I am a Senior Director of Product Management in the Google Search team. I have held this role since 2021 and have been working at Google since 2019. I have held a number of different roles over time. Between 2019 and 2021, my role included working on features that help people connect with authoritative and timely information and make more informed choices across areas including healthcare, civic services, sustainability, climate, and economic opportunity. This included features relating to COVID-19 on products such as Google Search. Save where otherwise stated, the facts set out in this witness statement are within my own knowledge. Where the facts are not within my own knowledge, I give the source of those facts.

B. GOOGLE SEARCH

2. I am providing this statement in response to questions from the Inquiry about how Google defines and approaches COVID-19 vaccine misinformation. Google provides a number of services; my evidence in this witness statement relates to Google Search. I understand that Google has already provided a separate statement regarding YouTube.

3. Google Search is a search engine that uses software known as web crawlers to explore the web and store information about what they find in Google Search's index. When a user carries out a search, Google Search looks through the content in its index to find and return information that's relevant to the user's query.

C. CONTENT POLICIES

4. Google Search collates information from trillions of publicly accessible web pages, images, videos and other content, some of which might contain material that people could find objectionable, offensive or problematic.

5. We have automated systems to help protect against objectionable material and ensure that Google Search results are useful and relevant. We may manually remove from search results content that goes against our content policies after a case-by-case review. There are a number of content policies which apply to Google Search. For example, we do not allow:

    a. search results that lead to child sexual abuse imagery or material that appears to victimize, endanger, or otherwise exploit children;

    b. search results that contain personal information that creates significant risks of identity theft, financial fraud, or other specific harms, such as doxxing content, explicit personal images, and involuntary fake pornography; or

    c. search results which are designed to manipulate our search systems ("spam").

6. We also remove content from search results for legal reasons. For example, we remove content if we receive valid notification under the US Digital Millennium Copyright Act. We also remove content from local versions of search, consistent with local law, when we're notified that the content violates relevant local law. For example, we remove content that illegally glorifies the Nazi party from our German service, and content that unlawfully insults religion from our Indian service. In the UK, we remove content when we're notified that, for example, it is defamatory or infringes an individual's privacy rights.

7. When we receive notice that content violates our policies or the law, we carefully review the notice and only take action if we agree. It is important to note that even if Google Search removes a webpage or image from our search results, we are not able to remove content from websites that host it. The content may still exist on websites, which means it can still be found through URLs, social media sharing, or other search engines.

8. As well as our overall content policies (described at paragraph 5), we have a range of additional policies for our Search features. Search features are parts of Google Search's user interface which may be more prominent than regular search results, such as information panels, carousels, and predictive and refinement features (such as Autocomplete[1] and People Also Ask[2]) ("**Search Features**"). Like regular results, Search Features are automatically generated, but the way they are presented might be interpreted as having greater quality or credibility than regular results. Accordingly, many of our Search Features are subject to additional content policies which apply a higher standard than is applied to regular results. For example, from early in the COVID-19 pandemic (February 2020, onwards), many Search Features have been subject to a Medical Content Policy (exhibited at **INQ000508231**). The Medical Content Policy states that "*[w]e don't allow content that contradicts or runs contrary to scientific or medical consensus and evidence-based best practices*". This would include misinformation about COVID-19 and vaccines.

9. Some Search Features also have specific policies due to the particular ways they work. For example:

    a. Google's Policies for Content Posted by Users on Search (exhibited at **INQ000508234**) contain a "Medical Topics" policy which states:

    "*When we highlight information on medical topics across Search, we strive to show information that reflects scientific consensus and evidence-based best practices, since we consider this content high-quality. To this end, if this highlighted information is not supported by general scientific consensus, we reserve the right to correct or remove the information from the feature. Finally, please note that this service is*

[1] A Search Feature that helps users quickly complete searches by predicting the rest of a query as they type it.
[2] A Search Feature that provides users with related questions and answers based on their search query.

purely informative and should not be used to provide medical advice, diagnosis, or treatment, or provide medical or counseling care."

b. Google's autocomplete predictions contain a health-related predictions policy which states:

"*We don't allow predictions about potentially medically hazardous health claims.*"

D. AUTHORITATIVE CONTENT

10. Throughout the COVID-19 pandemic and beyond, people have used Google Search to find information about the virus and vaccinations. For example, between the first week of February 2020 and the first week of March 2020, search interest in COVID-19 increased by 260% globally (see **Exhibit INQ000508235**). Google seeks to ensure that users of Google Search can access accurate information in a number of ways.

Ranking

11. To give users the most useful information, Google Search algorithms look at many factors and signals, including the words of a query, the relevance and usability of pages, and the user's location and settings. The weight applied to each factor varies depending on the nature of the query. For topics where quality information is particularly important, like in health and crisis situations, we place particular emphasis on factors related to expertise and trustworthiness and seek to build that into our ranking systems (see **Exhibit INQ000508236**).

Additional features

12. In most cases, our Google Search feedback and rating processes (explained in more detail in **Exhibit INQ000508236**) show that our ranking systems do a very good job of making it easy for users to find relevant and reliable information from the web, particularly for topics like health, or in times of crisis. However, in these areas, we also develop features to make information from authoritative organisations like local governments and health agencies available directly on Google Search. For example:

a. In January 2020, Google launched an "SOS alert" with the World Health Organisation ("**WHO**") relating to COVID-19 (at the time referred to as "coronavirus") to help make resources about COVID-19 easily accessible. The launch of the SOS alert meant that when people searched for information related to COVID-19 on Google Search, they would find the alert at the top of the results page which connected them to the latest news, safety tips, and links to more authoritative information from the WHO (**Exhibit INQ000508237**).

b. In March 2020, Google Search introduced an organised search results panel ("**OSRP**") on COVID-19. The COVID-19 OSRP provides easy access to authoritative information from health authorities, such as the NHS for UK users, alongside what was then new data and visualisations (**Exhibit INQ000508237**).

c. Also in March 2020, Google Search introduced knowledge panels (information boxes that appears when a particular subject is searched for in Google Search (see **Exhibit INQ000508238**)) in partnership with the NHS, containing authoritative health information on more than 250 conditions from the NHS website, including COVID-19 (**Exhibit INQ000508239**).

d. In March 2021, following work between the WHO and Google, Google also launched an OSRP on COVID-19 vaccines with the most up-to-date information about safety, effectiveness, side-effects and more (see **Exhibit INQ000508240**)[3].

e. In December 2020, beginning in the UK, Google launched a new feature on Google Search so that when people look up information for COVID-19 vaccines, Google Search surfaces a list of authorised vaccines in their location, as well as information panels on each individual vaccine (see **ExhibitINQ000508240**). As other health authorities beyond the UK began authorising vaccines, we introduced this feature in more countries.

[3] I understand that the work between YouTube and the United States' National Academy of Medicine, and the adoption by the WHO is explained by my colleague, Iain Bundred, in his witness statement to the Inquiry.

f. In March 2021, Google partnered with the WHO to expand the information panels on COVID-19 vaccines globally, with the most up-to-date information about safety, effectiveness, side-effects and more (WHO web page demonstrating its collaboration with Google exhibited at **INQ000508241**).

E. SOURCES OF AND MOTIVES BEHIND COVID-19 VACCINE MISINFORMATION

13. I understand that the Inquiry has requested information on the key themes, sources of, and motives behind COVID-19 misinformation.

14. Google teams regularly monitored and discussed COVID-19 vaccine search trends. By doing so, they were able to identify search query trends for things like:

    a. information about vaccine providers and locations;

    b. information about whether vaccines were safe for people taking other common medicines, such as paracetamol, ibuprofen and aspirin; and

    c. information about symptoms after vaccination, such as fever, pain and fatigue.

    Other trends identified by the team included search topics like vaccine certificates and passports, the locations of vaccine clinics, and travel restrictions.

15. Google Search trends are published on the Google Trends website, which analyses Google search data to show how popular certain search queries are over time. In January 2021, we published a specific Coronavirus Search Trends report for COVID-19. A static version of that report is exhibited at **Exhibit INQ000508232**.

16. Teams also monitored and discussed trends related to areas of potential misinformation in order to better identify areas of emerging risk and help equip the individuals tasked with reviewing flagged content to identify material that breached our content policies. Examples of the trends identified which related to areas of potential misinformation include:

    a. whether the vaccine causes infertility;

    b. whether the vaccine causes changes to DNA;

c. whether the vaccine contains a microchip; and

d. claims that vaccine recipients had severe health problems or died as a result of the vaccination.

17. In order to help public health officials and researchers explore vaccine-related concerns and the information needs of local communities, Google published its search insights data (the COVID-19 Vaccine Search Insights or "**VSI**" data) consisting of aggregated and anonymised data from January 2021 onwards. That data is available on the Vaccine Search Insights website and can be filtered by country and week. Information on the searches is broken down into the categories of COVID-19 vaccination searches, vaccination and intent searches and safety and side effect searches.

18. As an example, the data for safety and side effect searches for the week 27 June to 3 July 2022 shows that searches for "*pfizer side effects after 1 week*" had increased by 109% on the previous period and the top search was "*covid vaccine side effects*". Users can also access the larger dataset within Google Cloud's BigQuery, analyse that data with structured query language ("SQL").

19. In consultation with academic researchers, Google published a paper considering how these vaccine search patterns provide insights into vaccination intent (i.e. the interest in or intention to obtain a COVID-19 vaccine) (**Exhibit INQ000508233**). The paper found that (i) between January and August of 2021 Google's weekly VSI index was associated with the number of new vaccinations administered in the subsequent three weeks; and (ii) the average VSI index in earlier months was strongly correlated with vaccination rates many months later. The paper concluded that the VSI results may assist current efforts to administer COVID-19 vaccines. While this paper focussed on the United States, I mention it here as I understand the Inquiry has asked about lessons learned from the COVID-19 pandemic, and the results of the paper highlight the opportunities for anonymised and aggregated internet search data, available in near real-time, to inform the response to public health emergencies generally.

F. COUNTER-DISINFORMATION UNIT AND RAPID RESPONSE UNIT

20. I understand that the Inquiry has asked about Google's working relationship with the Counter-Disinformation Unit ("**CDU**") and the Rapid Response Unit ("**RRU**") and that Iain Bundred has responded to this on behalf of YouTube. From my work at Google and from enquiries made in the course of preparing this statement, I am not aware of any aspect of Google other than YouTube which was involved with the CDU or RRU.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

Signed: Personal Data

Dated: OCT 23, 2024