

COVID, Anti-Vaccine Narratives and Influence Operations in Brazil

High activity and anomalous accounts concentrate around anti-vaccine narratives, frequently using Telegram as a key distribution channel

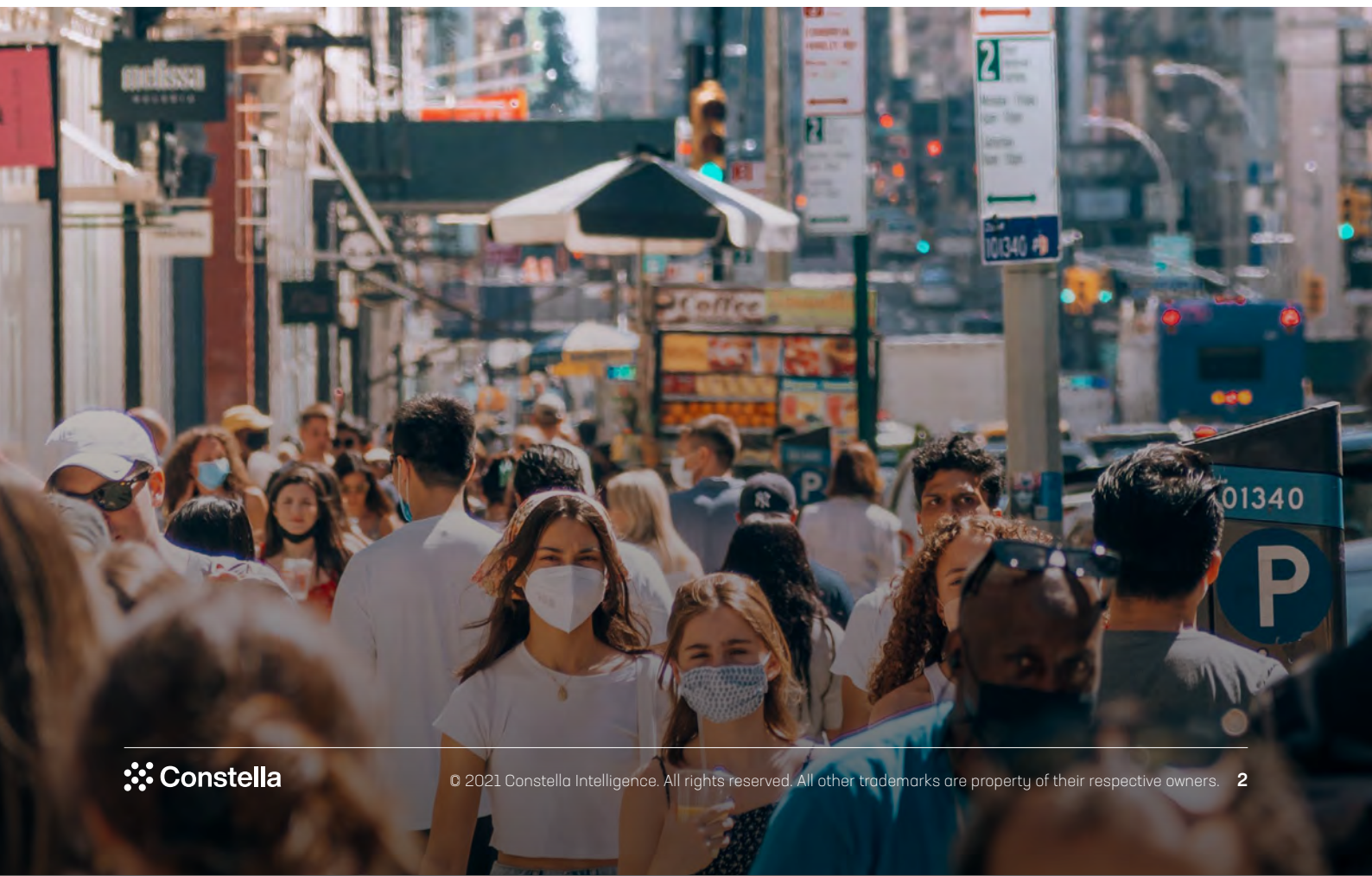


Introduction

A healthy amount of skepticism, doubt, and critical engagement is a necessary, integral part of democratic discourse. However, certain narratives are more susceptible to distortion than others and can easily be falsely framed within already sensitive or politicized conversations. In this way, misconceptions and legitimate concerns about medicinal science and personal liberty can be misrepresented, leading to the emergence of diverse alternative narratives and conspiracy theories among vulnerable audiences. These audiences have become fertile ground for information operations that may be driven by state actors and aim to generate social disarray and confusion, political division, or to manipulate public opinion directly.

Global challenges concerning public health-related misinformation and disinformation have been investigated and documented in several research projects carried out by Constella in recent years, including [independent research into the digital public debate on vaccines](#) and a [recently published collaboration with the United Nations Development Programme](#) on the scale and implications of COVID-19-related “information pollution” in Latin America and the Caribbean. Constella’s team first analyzed the impact of Anti-Vaccine narratives in 2019, prior to the COVID-19 outbreak. Our analysis identified a relatively small but vocal community propagating staunch Anti-Vaccine content and messages, refuting medical science, and discrediting public health institutions by pushing erroneous or incomplete narratives. This trend appears to have only intensified and spread geographically in recent years.

The following report demonstrates the significant impact of Anti-Vaccine communities within the broader public health debate by focusing on the polarized and politically charged digital conversation related to COVID-19 and vaccines in Brazil.



KEY INSIGHTS FROM THE ANALYSIS COVERED IN THIS REPORT INCLUDE:

1

Communities of users spreading and engaging with vaccine-related disinformation are highly influential across the digital debate.

Eight distinct communities engage in the conversation on vaccines. The third-largest community is formed by users that oppose vaccines, diffusing vaccine-related disinformation. The second-largest community is composed of users critical of the pandemic management.

WHY IS THIS IMPORTANT?

Communities that are close in proximity are more susceptible to narratives that may be produced and propagated with malign reputational or geopolitical intent. By understanding the adjacency of distinct communities of users and the key actors driving the conversation, we can better approach solutions that encourage must-needed discourse while detecting and responding to patently false content that can have a real-world impact.

2

Statistically anomalous users concentrate in an Anti-Vaccine community and share vaccine-related disinformation with high frequency.

60% of the authors with extremely high activity belong to the Anti-Vaccine Community. Among users presenting patterns of anomalous behavior, 45.3% belong to the Anti-Vaccine Community, demonstrating the propensity for anomalous patterns of digital interaction (posting, reposting, and message distribution) in communities frequently sharing disinformation narratives and content.

WHY IS THIS IMPORTANT?

To understand the composition of the digital conversation and the influence of the distinct types of actors participating, it is critical to discern how levels of activity and engagement can distort the debate and the most widely distributed narratives and content. Concentrations of extremely high activity users have been identified in other analyses amplifying the relevance of specific narratives, often targeting companies or aiming to exert geopolitical influence.

3

Alternative communications channels—like WhatsApp and Telegram—are effective at distributing Anti-Vaccine narratives to large audiences across the debate.

In an analysis of the distribution of public Telegram groups, the Anti-Vaccine Community is where most of the public Telegram groups are disseminated. Among these groups are pages dedicated to health-related content with over 100K followers.

WHY IS THIS IMPORTANT?

Alternative communications platforms can be critical yet opaque spaces in the digital conversation. Although the most publicly visible content and narratives may be exchanged on platforms like Twitter or mainstream news media, the impact of both alternative media and emerging channels must be understood as core to the digital conversation. In contexts where information is critical to public safety outcomes, understanding the influence of alternative messaging platforms will be increasingly important for brand, geopolitical, and even physical safety.

8 Distinct Communities Engage with the Conversation on Vaccines

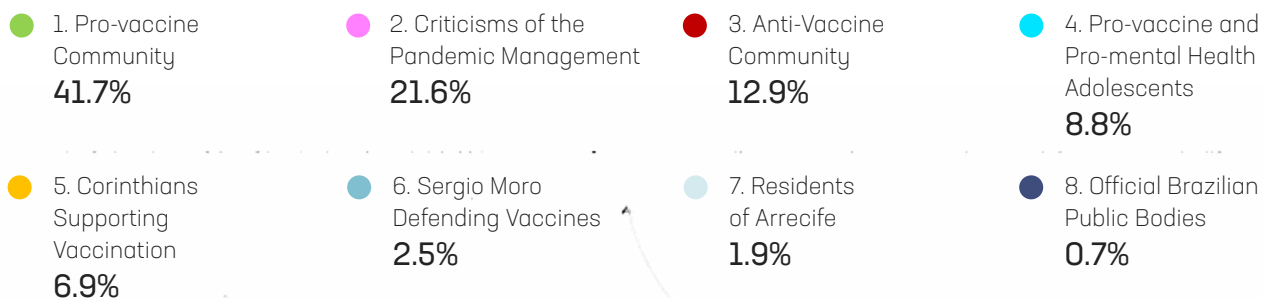
Constella's threat intelligence team leveraged Analyzer, Constella's cloud-based platform for advanced risk analysis of the digital public sphere, to analyze the digital conversation related to the COVID-19 pandemic from January 1st to February 9th, 2022. The analysis was conducted in Brazil in the Portuguese language.

Constella's data scientists applied clustering algorithms, like the Louvain Method for community detection, for example, to determine the different communities and visually represent the resulting network. Constella's algorithms identified eight key communities producing conversations related to the COVID-19 pandemic. Out of a total of **741,237 users** and their **4,692,089 total comments** and interactions, those with zero algorithmic influence across the network were excluded to emphasize the most relevant conversations.

These communities of opinion driving the debate included:

- **1. PRO-VACCINE COMMUNITY (41.7% OF USERS):** Diverse profiles criticize the Anti-Vaccine movement and positively encourage vaccination against COVID-19.
- **2. CRITICISMS OF THE PANDEMIC MANAGEMENT (21.6% OF USERS):** Community generated around Lula that criticizes the administration of Bolsonaro for its Covid-19 policies, especially related to vaccination.
- **3. ANTI-VACCINE COMMUNITY (12.9% OF USERS):** Community with a high level of misinformation and discourse against vaccines, the COVID passport and figures like Bill Gates. Allegations of side effects such as heart problems and brain damage are widely diffused.
- **4. PRO-VACCINE AND PRO-MENTAL HEALTH ADOLESCENTS (8.8% OF USERS):** Young people support vaccines and show their concern about the pandemic's impact on their mental health.
- **5. CORINTHIANS SUPPORTING VACCINATION (6.9% OF USERS):** Community led by sports commentators and football profiles encouraging childhood vaccination.
- **6. SERGIO MORO DEFENDING VACCINES (2.5% OF USERS):** Community led by former Minister of Justice Sergio Moro in which the benefits of vaccination are explained.
- **7. RESIDENTS OF ARRECIFE (1.9% OF USERS):** Community led by the Prefecture of Arrecife and citizens who report the increase in COVID cases and lament the cancellation of Carnaval.
- **8. OFFICIAL BRAZILIAN PUBLIC BODIES (0.7% OF USERS):** Brazilian health agencies report progress in vaccination at the national level, the restriction of hospital visits, and the cancellation of the Rio De Janeiro Carnaval.

The third-largest community is formed by users that oppose vaccines, diffusing vaccine-related disinformation*



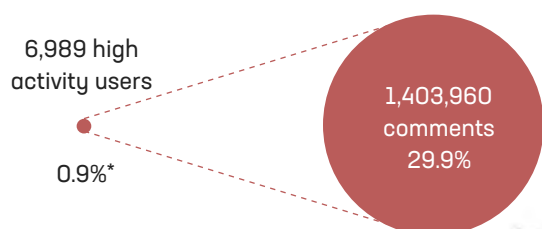
60% of the authors with extremely high activity belong to the Anti-Vaccine Community.

High activity users: 519 users present patterns of abnormal behavior, of which 45.3% belong to the Anti-Vaccine Community.*

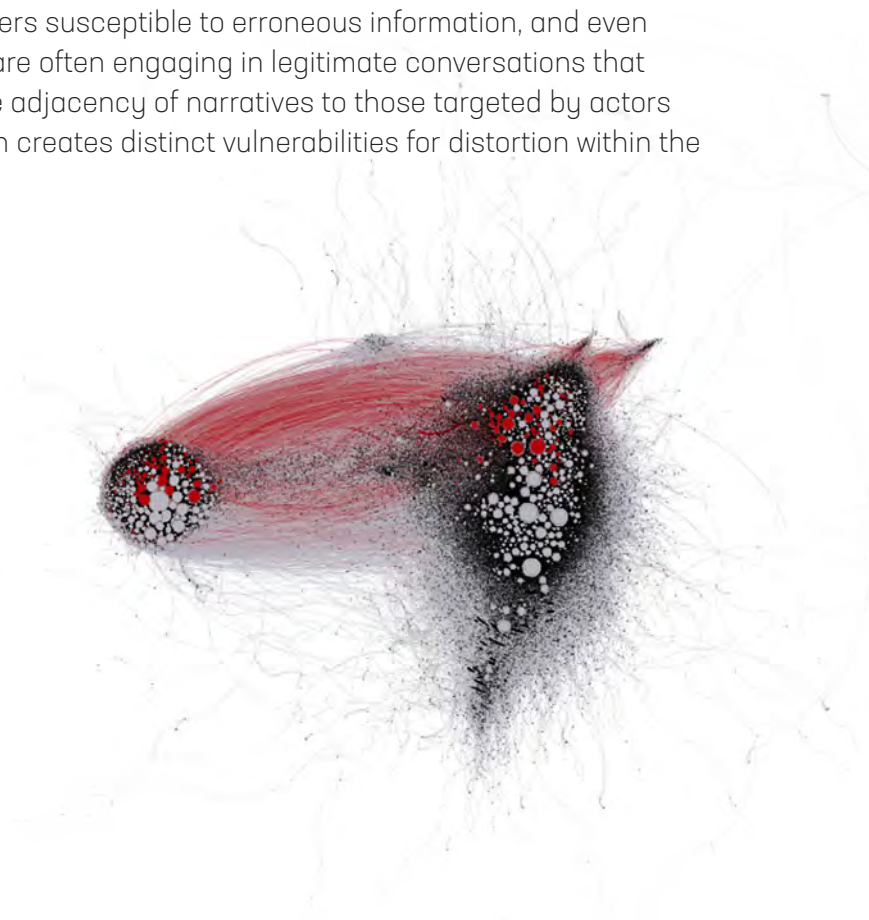
Abnormalities Analysis: Anomalous and High Activity Users

To determine the impact of users with abnormal activity levels in the debate, Constella's team analyzed statistical outliers across all previously identified communities to assess their posting frequency. Constella's analysts identified 6,989 (0.9%) users interacting with the highest frequency in the debate.

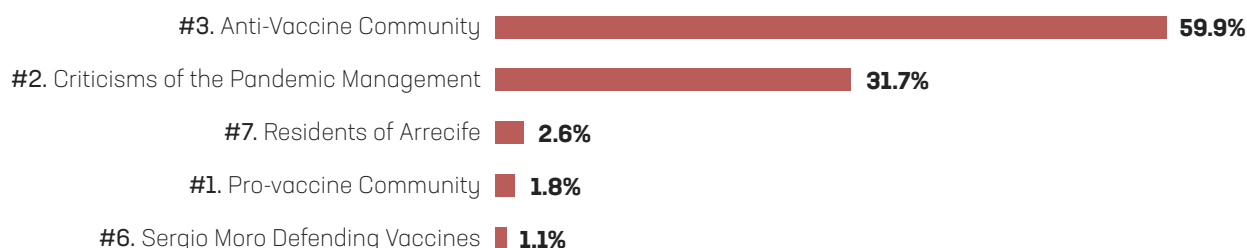
Nearly 60% of these anomalous activity users were detected in the Anti-Vaccine Community, while 31.7% were in the Community critical of the pandemic management. The distribution of these anomalous signals across communities critical towards vaccines, medical science, and the institutions leading the management of the pandemic demonstrates an important facet of the disinformation ecosystem—the groups of users susceptible to erroneous information, and even information operations and disinformation, are often engaging in legitimate conversations that include constructive discourse. However, the adjacency of narratives to those targeted by actors producing and propagating false information creates distinct vulnerabilities for distortion within the broader digital conversation.



* % of the total number of users and comments from the community network

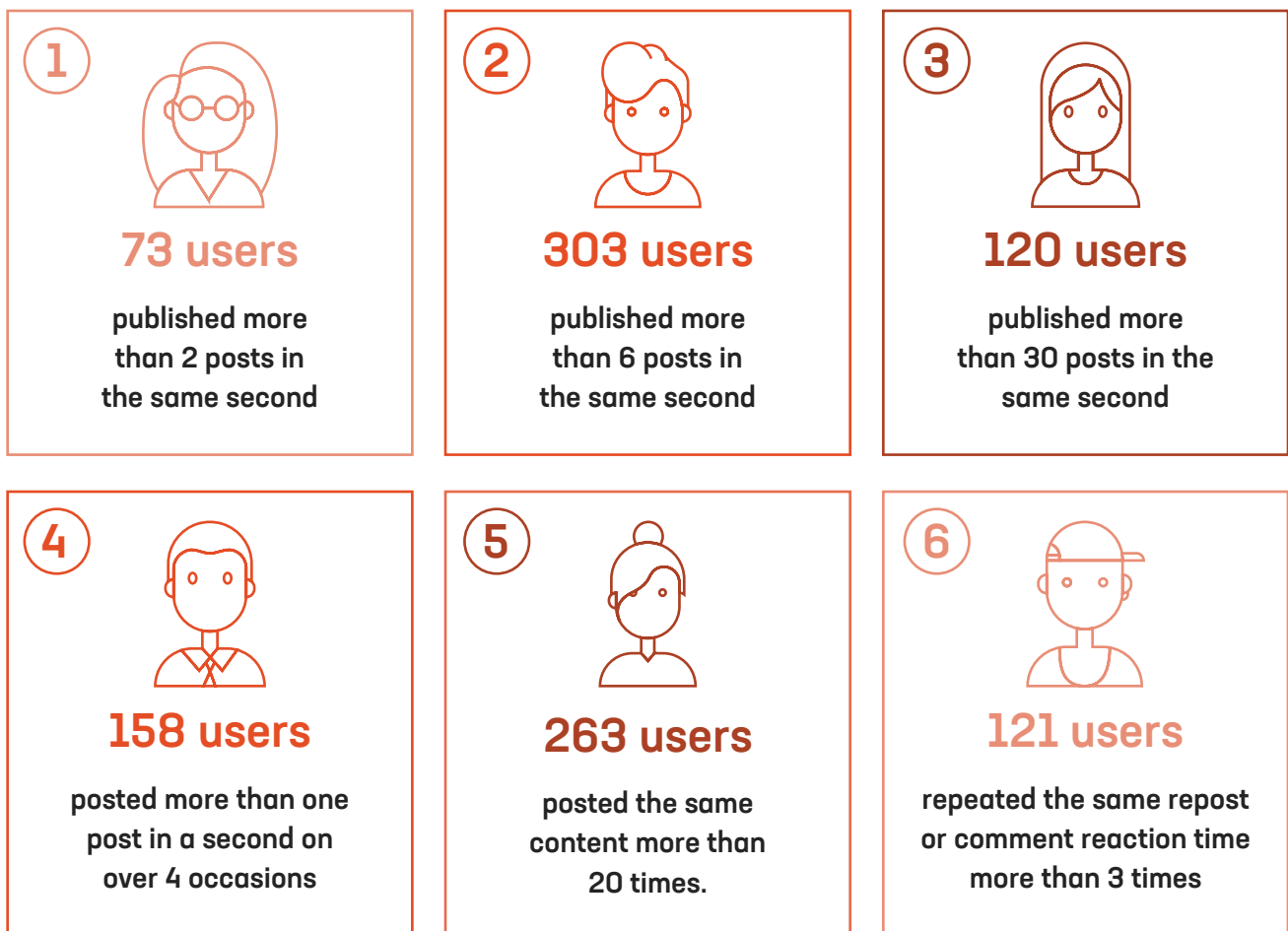


DISTRIBUTION OF USERS BY COMMUNITY



45.3% of behaviorally anomalous users belong to the Anti-Vaccine community

To assess the impact and behavioral characteristics of the most active users among the group of high activity users identified, Constella's analysts conducted an analysis of those users posting with a statistical frequency significantly greater than the average rate of activity across the debate. Among those high activity users identified, 519 users present anomalous behavioral patterns, of which 45.3% belong to the Anti-Vaccine Community. When examining the behavioral characteristics of these accounts, several statistically anomalous signals of non-human assisted, or synthetic activity, were detected. These include:



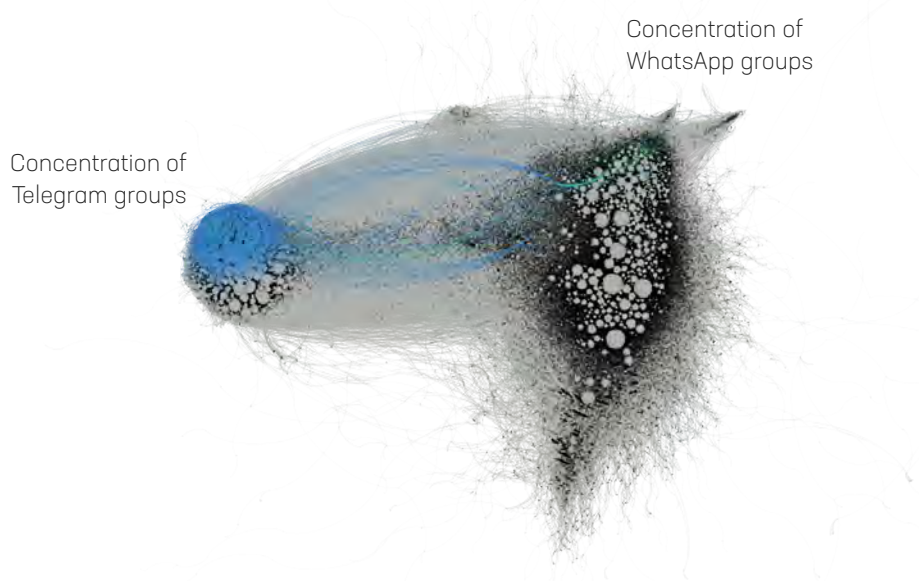
Public Telegram Groups Drive Vaccine-Related Disinfo



The Anti-Vaccine Community is where most public Telegram groups are disseminated.

Encrypted messaging apps, like WhatsApp and Telegram, have skyrocketed in popularity over recent years. Telegram launched in 2013 and gained approximately 100,000 daily active users in its first year. Now, the messaging app reports 550,000 daily active users in 2022. Encrypted messaging apps offer privacy and secured communications, especially in professions where the sensitivity of information and confidentiality are critical, like law, journalism and politics. However, they have proven fertile grounds for fringe groups and the effective dissemination of hard-to-track disinformation as the complexity of the information ecosystem continues to increase.

To assess the influence of encrypted messaging applications in the debate, Constella analyzed the distribution of WhatsApp and Telegram groups to understand if their distribution corresponded with other anomalous indicators detected in specific communities. Constella's analysis identified 1,019 WhatsApp groups shared a total of 4,029 times. These groups were shared primarily in the Anti-Vaccine Community (55%) and the Community critical of the pandemic management (37.6%).




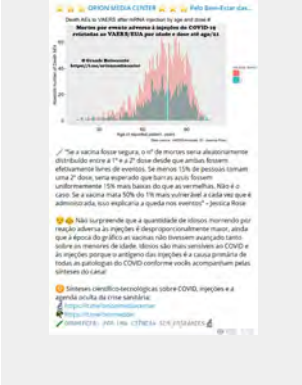












Constella's analysis identified 885 Telegram groups shared a total of 4,095 times over the period analyzed. **92.2% of these groups were shared in the Anti-Vaccine Community, where other signals of anomalous user activity were detected.**



	885	4,095	DISTRIBUTION OF TELEGRAM GROUPS BY COMMUNITY	
	Groups Shared	Times Shared	#3. Anti-Vaccine Community	<div></div> 92.2%
			#2. Criticisms of the Pandemic Management	<div></div> 3.9%
	1,019	4,029	DISTRIBUTION OF WHATSAPP GROUPS BY COMMUNITY	
	Groups Shared	Times Shared	#3. Anti-Vaccine Community	<div></div> 55.0%
			#2. Criticisms of the Pandemic Management	<div></div> 37.6%
			#5. Corinthians Supporting Vaccination	<div></div> 2.5%

Among the most shared public Telegram groups, groups sharing health-related disinformation predominate*

False content prevails across some of the most shared Telegram groups identified in the analysis. Groups like “[Médicos pela vida](#)” (+100,000 subscribers), “[Aslan](#)” (+12,000 subscribers), and “[Vacinas .hoja contra o Covid-19!](#)” (+10,000 subscribers) gather significant numbers of subscribers and share false health-related and conspiracy-related information to sizeable audiences on the Telegram platform. Several channels, including “[Saia da Matrix BR](#)” (+4,000 subscribers), leverage international content and narratives from other geographies, while other channels are used to coordinate physical events and rallies against public health measures in specific cities “[World Wide Rally Rio de Janeiro](#)” (+800 subscribers).

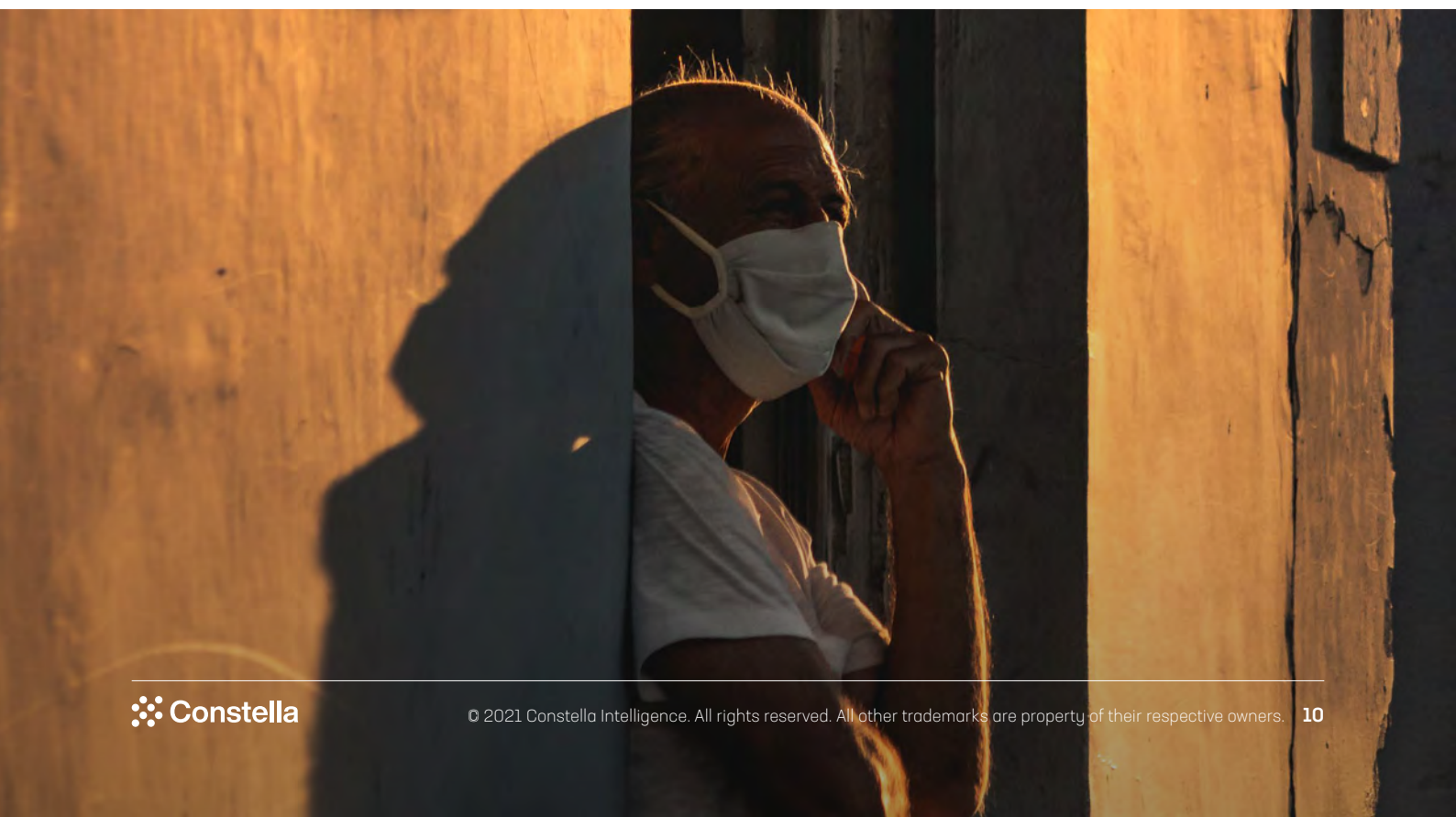
 <p>Aslan (TT) 12,777 members</p> 	 <p>Orion Media Center 1,609 members</p> 	 <p>2 + 2 = 4 1,609 members</p> 	 <p>Saia da Matrix BR 4,103 members</p> 
 <p>Médicos pela vida 106,438 members</p> 	 <p>Vacinas, hoja contra o Covid-19! 10,730 members</p> 	 <p>Despertando Leões 8,000 members</p> 	 <p>World Wide Rally Rio de Janeiro 815 members</p> 

How are Anomalies In the Digital Debate Linked to Foreign Influence Operations?

As the World Health Organization predicted at the outset of COVID-19 in 2020, the pandemic was swiftly accompanied by an “infodemic.” False information inundated the digital public sphere, with erroneous content and unsubstantiated conspiracy theories related to public health traveling at scale, speed, and efficiency. Throughout this period, significant growth in the size of audiences promoting explicitly anti-vaccine narratives and the proliferation of subtler narratives linked to vaccine hesitancy demonstrate the broad spectrum of narratives that can undermine public health efforts and generate distrust in science and public institutions. This growth corresponds with an explosion in the volume of general information related to vaccinations, COVID-19, and public health and the actors and channels producing and distributing this information.

Disinformation in the digital public square, which has become inexorably linked to the real world, can flourish and travel at global scales with astonishing speed. Constella’s research found that a relatively small proportion of abnormal behavior users produced an outsize impact on the overall digital conversation, promoting Anti-Vaccine disinformation narratives and conspiracy theories that distort the digital conversation. Recognizing this trend is crucial in our effort to identify and respond to disinformation and cyber threats in the future.

Digital transformation is continuing to accelerate rapidly and shows no signs of slowing down. By closely analyzing the digital public discourse, policymakers can more accurately gauge public sentiment and how malign actors can influence important debates on the public agenda. This type of complex, continuous monitoring will be critically important to prepare for potential scenarios, including future epidemics, natural disasters, and geopolitical conflict. Identifying these trends now will help respond to the widespread distribution of disinformation and false narratives that have a real-world impact during future times of crisis.



About Constella Intelligence

Constella Intelligence is a global leader in Digital Risk Protection that works in partnership with some of the world's largest organizations to safeguard what matters most and defeat digital risk. Our solutions are a unique combination of proprietary data, technology, and human expertise to anticipate, identify, and remediate targeted threats to your people, your brand, and your assets at scale—powered by the most extensive breach and social data collection from the surface, deep and dark web on the planet, with over 100B attributes and 45 billion curated identity records spanning 125 countries and 53 languages.

Our recent work has been featured in major mainstream media like the [Wall Street Journal](#), [World Economic Forum](#), and [Forbes](#), in addition to other notable media.

To learn more about how you can proactively anticipate, identify, and remediate targeted threats to your people, your assets, and your brand try our [Exposure Risk Tool](#) to see if your executives, your company, or your employees have been exposed – FREE.

Why Constella

OUR TEAM

We're a diverse multinational team committed to becoming the most trusted global partner for defeating digital risk. Constella integrates interdisciplinary intelligence community analysts, infosec pioneers, military veterans, and tech entrepreneurs with advanced analysis of surface, deep, and dark web to protect what matters most.

OUR INSIGHTS

Our diverse team of expert multidisciplinary cyber intelligence analysts delivers real-time, actionable insights to identify threats and reduce risks emerging from social media, the surface, deep, and dark web.

OUR DIFFERENCE

Our unique technology empowers advanced analysis across the entire risk surface for superior anticipation, protecting organizations, their employees, and their critical assets. Because, the best way to overcome future digital threats is by facing them today.

