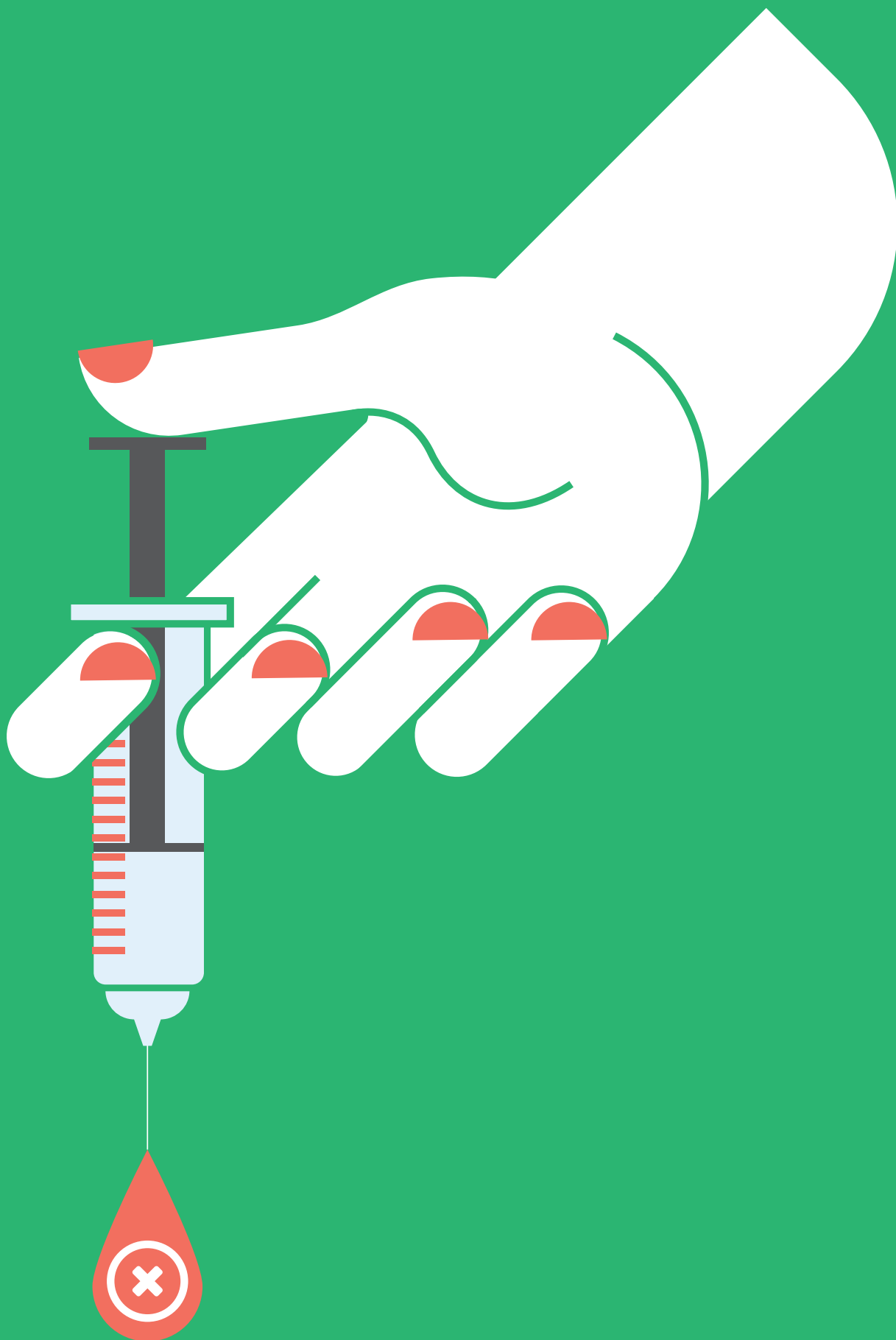


Is Fake News Making Us Sick?

How misinformation may
be reducing vaccination rates in Brazil.

A Report by Avaaz and the Brazilian
Society of Immunization (SBIIm)

AVAAZ



INTRO

EXECUTIVE SUMMARY

Around the world, fake news has become a massive threat politically and personally - whether we look at fake health information, bullies spreading viral lies about kids in school, or disinformation infesting our elections.

Frighteningly, Brazilians have been found to believe fake news more than most people in the world, according to an Ipsos poll conducted in 27 countries.¹ And the results may be life-threatening.

Is Fake News Making Us Sick? is a conjoined study between Avaaz and the Brazilian Society of Immunizations (SBIIm), a member of the Vaccine Safety Net (VSN) - a global network coordinated by the World Health Organization (WHO). Our goal was to examine the role that misinformation² on social media platforms and messaging applications may be playing in the declining vaccination rate in Brazil, which hit its lowest point in 2017.³

According to data from the Ministry of Health's National Immunization Program, over the past two years vaccine coverage among children under 1 year of age was lower than the desired minimum⁴. The critical period started in 2017, when 25% of the population at risk of contracting yellow fever, most of them children, were not vaccinated. The problem remains critical: recent data reveals that only 88% of the targeted population was vaccinated against measles nationwide this year, while 100 municipalities vaccinated under 50% of the targeted population against polio.

1 <https://valor.globo.com/brasil/noticia/2018/10/08/brasileiro-e-o-povo-que-mais-acredita-em-boatos-aponta-pesquisa.ghtml>

2 Misinformation Definition: The definition of misinformation we have used is content that is "incorrect or misleading information". It is important to note that not all anti-vaccination content (content that puts vaccines in a negative light) is considered misinformation. In this report there is a range of content from anti-vaccination content to disinformation, content that may be intentionally created to deceive the public. Given that our investigation did not delve into intent of content creators, we are strictly focusing on the factually inaccurate nature of content.

3 <https://g1.globo.com/bemestar/noticia/com-menor-indice-em-16-anos-vacinas-que-deveriam-ser-aplicadas-em-criancas-ficaram-fora-da-meta-em-2017.ghtml>

4 Indexes in children are used as a reference because of the higher accuracy of the data. However, it is known that among adolescents and adults the results are even more unsatisfactory.

EXECUTIVE SUMMARY

Our findings show that the gap in reliable vaccine information is being partially filled by anti-vaccination content and misinformation being posted on and shared across social media and messaging apps -- some of which is created by people who are also selling alternative “cures” alongside this anti-vax content. It also appears misinformation is having an impact on attitudes toward vaccine safety among those who get their main vaccine information from social media and messaging apps. Those individuals appear more likely to believe the factually inaccurate vaccine information they are seeing.

In order to measure the impact of online vaccination misinformation and negative vaccination content on Brazilians, Avaaz divided our research and reporting into three phases:

- 1. Measuring attitudes toward vaccines & how Brazilians get their information - The Ibope Poll (Study conducted by Avaaz with SBIIm)** We commissioned a national face-to-face poll from Ibope with a sample of 2,002 people, representative of the Brazilian population aged 16 years and older, with quota control by sex, age, education and industry. Asking respondents questions about where they get their top information about vaccines, what reasons they may have for not vaccinating themselves or a child under their care, and assessing their ability to identify factually inaccurate vaccination statements.
- 2. Analysing the most common anti-vaccine content and misinformation on social media and messaging apps (investigation conducted by Avaaz):** Then we analysed misinformation about vaccinations that has been debunked by the most relevant fact checking agencies⁵ in the country plus the Ministry of Health itself, and we also identified the most shared anti-vaccine content and the main pages that spread them in Brazil.
 - a.** As part of this research, Avaaz has created an open source database of anti-vaccination content. Using an automated program based on key words and news titles, we identified over 1,600 links on negative news about vaccines - we are making this database publicly available to encourage further research.
- 3. Uncovering who is behind anti-vaccine content and misinformation (investigation conducted by Avaaz):** Analysing the data obtained in the previous phase of the study, we started digging into the individuals and companies behind the anti-vaccination pages and websites still impactful on social platforms, and attempted to assess if there were economic or political interests behind them.

⁵ doctor Drauzio Varella’s website, Lupa, Aos Fatos, Fato ou Fake, Boatos.org, E-farsas, Uol Confere and the service Health Without Fakes by the Ministry of Health

MAIN FINDINGS

- **Top reasons for not vaccinating.** 13% of those interviewed failed to vaccinate themselves or a child under their care, this represents approximately 21,249,073 Brazilians⁶. The top reasons cited for not vaccinating were: 1) lack of planning or forgetfulness; 2) I didn't think vaccination was necessary (which is considered inaccurate or misinformation by SBI); 3) Lack of information; and 4) Fear of serious side effects (which is also considered inaccurate or misinformation by SBI).
- **Brazilians believe misinformation about vaccines.** In order to identify whether respondents had seen or believed vaccine misinformation, Avaaz sourced a list of the most reported myths about vaccinations heard by doctors according to SBI. Almost 7 in 10 Brazilians (67%) were found to believe at least one factually inaccurate statement about vaccines -- identifying at least one of the inaccurate statements as a true fact.
- **Misinformation is stopping people from vaccinating.** 57% of those who did not vaccinate cite a reason that is understood to be factually inaccurate, something SBI and WHO consider to be misinformation.⁷ For example, that vaccines have great chances of having serious side effects or that vaccines are not necessary.
- **Social Media and messaging apps are a top source of vaccination information.** 48% have reported social media and Whatsapp as one of their main sources of information about vaccines. It is the second most popular means of getting informed about vaccines.
- **People who get their vaccination information on social media or messaging apps are most at risk.** The proportion of people who believe inaccurate information about vaccines is higher among those who use social media and/or WhatsApp as a source of information -- 73% for those getting their vaccine information from social media versus 60% for those who cite other sources.

⁶ Source: IBOPE Inteligência based on official data of IBGE (Brazilian Institute of Geography and Statistics) "Estimate of the Brazilian population with 16 years or more" 163,454,407 million.

⁷ The criteria used to define what was and was not misinformation is further explained in the methodology section.

MAIN FINDINGS

- **Young people and men are among the most vulnerable to misinformation.** From all the people surveyed, young people, males, people belonging to the middle class, people who have an education level between 5th grade and High School and those who live outside the southeast region were found to be the least capable of spotting misinformation about vaccines, the most likely to feel vaccines are unsafe, and reported the most exposure to negative news about vaccines. Young people and men are also the ones that most cite social media and messaging apps as a source of information about vaccines.
- **Misinformation on vaccines may be being used to make a profit.** A significant proportion of the anti-vax claims we reviewed in our investigation were published by or originated from web pages that are publishing negative content and / or misinformation about vaccines alongside links to “miraculous” cures and other alternative health products. We note that some social media companies have barred anti-vaccination information from advertising, but have not acted to remove it from organic content that drives readers to websites selling these alternative medicines.
- **Most people who believe vaccines are unsafe have seen negative news about vaccines on social media or messaging apps.** 8% of Brazilians find vaccines partially unsafe, among them 72% have seen negative news about vaccines on social media. Another 6% find vaccines totally unsafe -- among those, 59% have seen negative news about vaccines on social media.
- **YouTube has anti-vaccination influencers reaching millions.** The top anti-vaccine YouTube stars this investigation found were Jaime Bruning; Ciência de Verdade (Real Science); Lair Ribeiro; Romulus Maraschin and Evangelists of the Apocalypse. The videos identified by Avaaz sum almost 9 million views - 7.4 million in the past 3 years.
- **Brazilian misinformation sourced back to the US.** Of the anti vaccination misinformation we investigated, which had been debunked by the most relevant fact-checking agencies in Brazil, much of the content was originally produced in the US, and has been reposted by Brazilian accounts. For example the website “Natural News”, led by the American Mike Adams, is the original source of 32% of our sample.
- **Reliable sources can stop fake news.** People assessed in this study who saw negative news about vaccines on social media still tended to feel safe about vaccines if they also had access to doctors and other reliable sources.

RECOMMENDATIONS

The government and social media platforms must work together to contain the misinformation epidemic that is affecting Brazil.

Most people exposed to content spread by the websites, pages, channels and networks uncovered in this report will probably never know they were being misinformed. Only the platforms know who saw which inaccurate pieces of information and only the platforms can tell people that they were victims of anti-vaccine misinformation by correcting the record. If about half of the population, or 48%, is getting informed about their health and the health of their loved ones on social media and messaging apps, the rules that apply inside these virtual places influence real life and public health and matter for the common welfare.

Below, we've listed a series of recommendations to curb this threat.

TO SOCIAL MEDIA PLATFORMS:

Correct the Record

This means that social media platforms must work with experts, the scientific community and independent fact-checkers to **immediately issue corrections to every user who has seen or interacted with misinformation, including anti-vaccine misinformation**; as well as inform followers of pages that have been taken down or demoted in the platforms algorithms for engaging in anti-vaccine misinformation campaigns.

Detox the Algorithm

Without proper care and oversight, the algorithms platforms use to display and promote content can increase user engagement with misinformation and other harmful content.

Big social media platforms and instant messaging apps need to be proactive in adapting their algorithms to ensure that they are not themselves accelerating misinformation.

Transparency

It is essential that governments, civil society, and the general public be informed about the nature and scale of the threat of anti-vaccine misinformation and the measures being taken by social media platforms to guard against it. Social media platforms with relevant reach must provide periodic reports, audited by independent auditors, listing the misinformation found on their services and detailing their efforts to deal with it.

Crackdown on Deceptive Tactics

Platforms of social network must, protecting constitutional principles and fundamental rights, assure the adoption of a strong and transparent policy towards page name changes in the platforms, to ensure malicious actors won't be creating pages with popular themes, then changing after reaching many followers. Additionally, social media platforms should be cautious about coordinated sharing of misinformation content by "alternative outlets". Other deceptive tactics include the use of fake accounts and inauthentic spread, when malicious actors create different pages to boost misinformation content from one another to game the platform's algorithms. It is important to remember that the use of bots to spread such misinformation can also escalate the problem if not properly addressed.

TO BRAZILIAN OFFICIALS AND GOVERNMENT AUTHORITIES:

1. TO THE MINISTRY OF HEALTH AND THE FEDERAL GOVERNMENT:

- a. **Review communication strategies, seeking channels that can disseminate information more effectively.** To fight vaccine misinformation and anti-vaccination opinions, we need more information available to the public. It is strongly recommended that the federal government in 2020 include a bold plan to cover any missing information gaps that are being filled by fake news.
- b. **Increase communication efforts for groups most vulnerable to disinformation.** The combination of lack of information and a flood of online rumors, makes entire communities vulnerable. We strongly suggest that the Ministry of Health seeks to find ways to target the populations identified by this report (youth, men, middle-class people, people with intermediate education - between the fifth grade of elementary school and high school - and residents from outside the Southeast region) who are more influenced by misinformation and less adherent to vaccinations.

- c. **Develop social media focused campaigns.** We also encourage the government to channel resources for the development of educational campaigns focused on social networks, attacking the most popular misinformation content identified by this study.
- d. **More, better and faster fact-checking.** We acknowledge the Ministry of Health's efforts to verify anti-vaccine misinformation and encourage it to improve this core service by actively seeking anti-vaccine misinformation and working with the scientific community to unmask lies.

2. TO THE NATIONAL CONGRESS:

- a. **Introduce amendments to the Federal Government's 2020 budget** to provide **funding for communication efforts and other strategies to increase population adherence to vaccination.**
- b. **Introduce legislation that guarantees that social media users are offered fact-checked corrections** to the anti-vaccination misinformation they have been exposed to **while protecting freedom of speech** and not criminalising the average user who unintentionally spreads a piece of misinformation or was led to error.

PHASE I:

MEASURING
ATTITUDES
TOWARD
VACCINES & HOW
BRAZILIANS
GET THEIR
INFORMATION

1.1

METHODOLOGY

IBOPE Inteligência conducted a face to face survey in Brazil - with 2,002 interviews - to assess the perception of Brazilians about vaccines and how their sources of information were impacting their vaccination choices. The questionnaire was formulated by experts from Avaaz and the Brazilian Society of Immunizations (SBIIm), with support from Ibope researchers.

DATE OF FIELD WORK: September 19th-22nd, 2019

SAMPLE: 2,002 Brazilians over 16 years-old.

MARGIN OF ERROR: The maximum margin of error is 2 percentage points up and down.

TRUST LEVEL: 95% (probability that these results represent the current situation)

DATA COLLECTION: Personal interviews using questionnaires designed for the survey's purpose. The interviews were conducted by a team of interviewers from IBOPE properly trained.

QUALITY CONTROL: All questionnaires are filtered after the interview. Inspection is done in approximately 20% of the questionnaires.

1.1 METHODOLOGY

INTERVIEWEES PROFILE:

SEX



52%
Female



48%
Male

CLASS

23%

A/B

48%

C

26%

D/E

INSTRUCTION

22%

Up to 4º grade

20%

5ª to 8ª grade

38%

High School

20%

University

AGE

17%

16 to 24

22%

25 to 34

22%

35 to 44

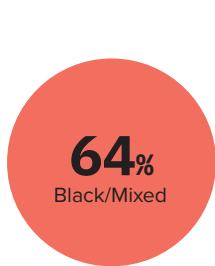
18%

45 to 54

2%

55 or +

RACE/COLOR



31%
White

5%
Other

RELIGION

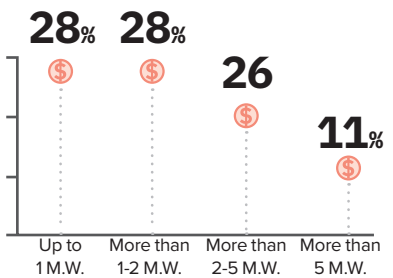
54% Catholic

28% Evangelical

18% Others

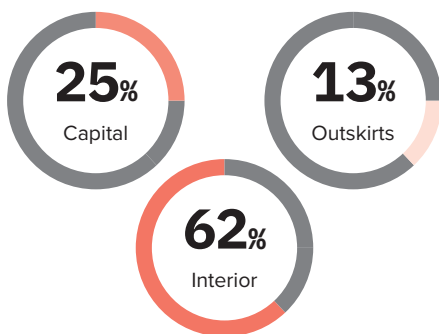
FAMILY INCOME

(In minimum wage)



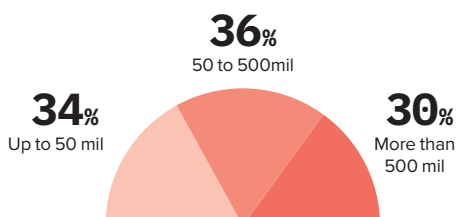
*7% – Didn't respond

CONDITIONS OF MUNICIPALITY

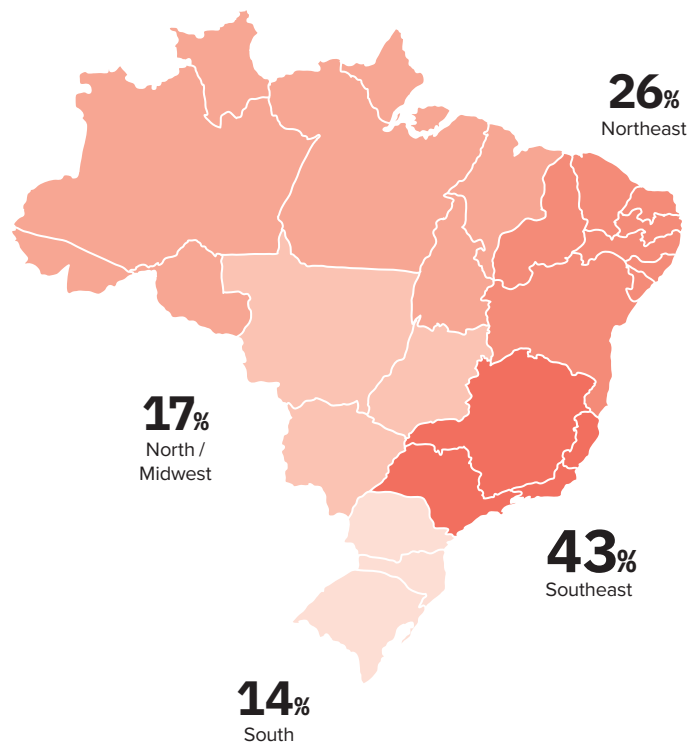


SIZE OF MUNICIPALITY

(In number of inhabitants)



REGION



HOW WE MEASURE BELIEF IN VACCINE MISINFORMATION

In order to identify whether respondents had seen or believed in vaccine misinformation, Avaaz sourced a list of the most reported myths about vaccination heard by doctors according to SIBM. Then, we included that list in two poll questions and, in one of them, we asked respondents to identify which statements were accurate. The list was: there are big chances that vaccines can cause the disease they are trying to prevent; vaccines have big chances of causing serious side effects; there are alternative treatments that are as efficient or more than vaccines; some vaccines, such as HPV, can be an incentive for young people to become promiscuous; vaccines overcharge small children's immunological systems; parents/family can get sick from their babies' feces after vaccination with a live virus such as rotavirus; the government uses vaccination to forcefully sterilize poor people; pregnant women can't take vaccines; contracting the actual disease is a stronger protection than getting vaccinated; fear of getting sick with the disease I was trying to prevent with the vaccine; fear of having serious side effects after taking a vaccine; I didn't think the vaccine was necessary; I chose an alternative treatment instead which I considered more efficient; the news, stories or warnings I read online.

Every respondent who cited that they believe factually inaccurate information about vaccines⁸ or that this inaccurate information was a main reason for not vaccinating themselves or a child from questions 3B⁹ or 4 were then marked as part of a group who had 1) seen or interacted with vaccine misinformation 2) believed in that vaccine misinformation. If a respondent didn't choose any of the misinformation answers, the poll assumes that they were able to spot it or were not influenced by vaccine misinformation.

⁸ We considered inaccurate all information that contradicts the best recommendations at the WHO and the SBIIm.

⁹ In question 3B, we considered either partial or complete products of misinformation: fear of getting sick with the disease I was trying to prevent with the vaccine; fear of having serious side effects after taking a vaccine; I didn't think the vaccine was necessary; I chose an alternative treatment instead which I considered more efficient; the news, stories or warnings I read online. On question number 4 all alternatives are factually inaccurate information about vaccines.

HOW WE ANALYSE THE RESULTS

In addition to testing individual respondent's ability to spot a piece of vaccine misinformation, once we collected the results we split these groups of respondents in two:

GROUP A: those who reported social media and/or messaging services such as WhatsApp as one of their top 3 sources of information about vaccines

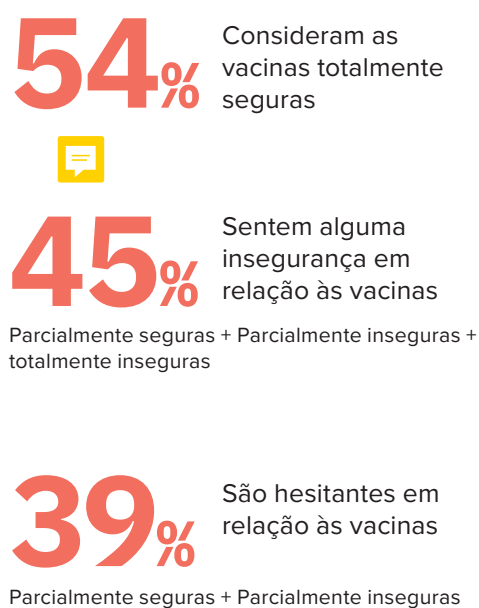
GROUP B: those who didn't report either social media nor messaging services such as WhatsApp as one of their top 3 sources of information about vaccines

Applying that model, we were then able to compare each cohort's attitudes and behavior towards vaccines.

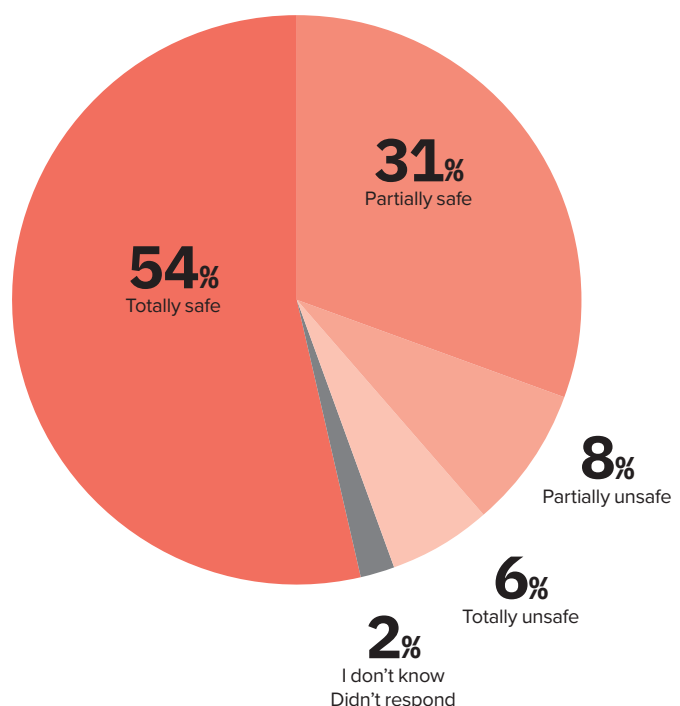
QUESTIONS ASKED

Interviewees were asked the questions below in the following order:

1. Thinking about vaccines in general, would you say that vaccines are totally safe, partially safe, partially unsafe or totally unsafe?

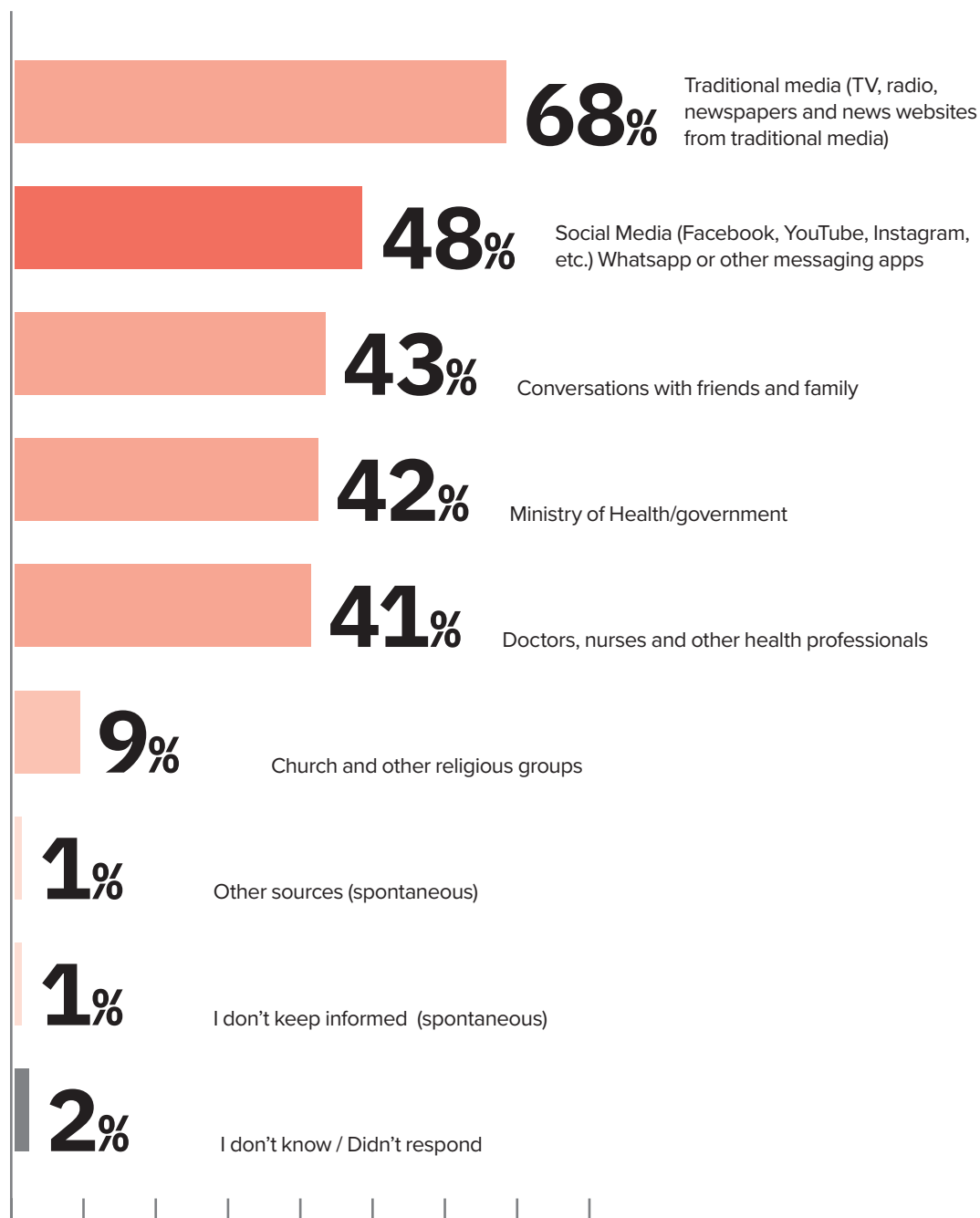


Base amostra: 2002



1.1 METHODOLOGY

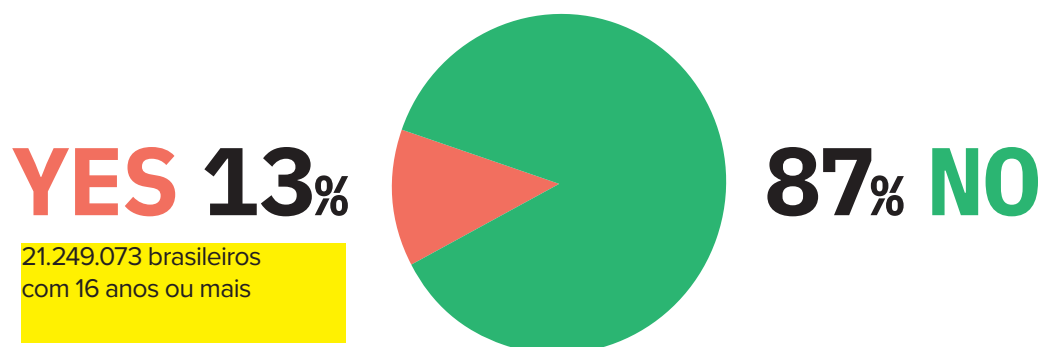
2. And from which of these sources do you **MORE** see or hear information about vaccines? And secondly? And thirdly?



Base amostra: 2002

1.1 METHODOLOGY

3.A - Have you ever not vaccinated yourself or a child under your care?



3.B - (if answered yes to the previous one) And what was the main reason for you to stop vaccinating or vaccinating any children in your care? And secondly? And thirdly?



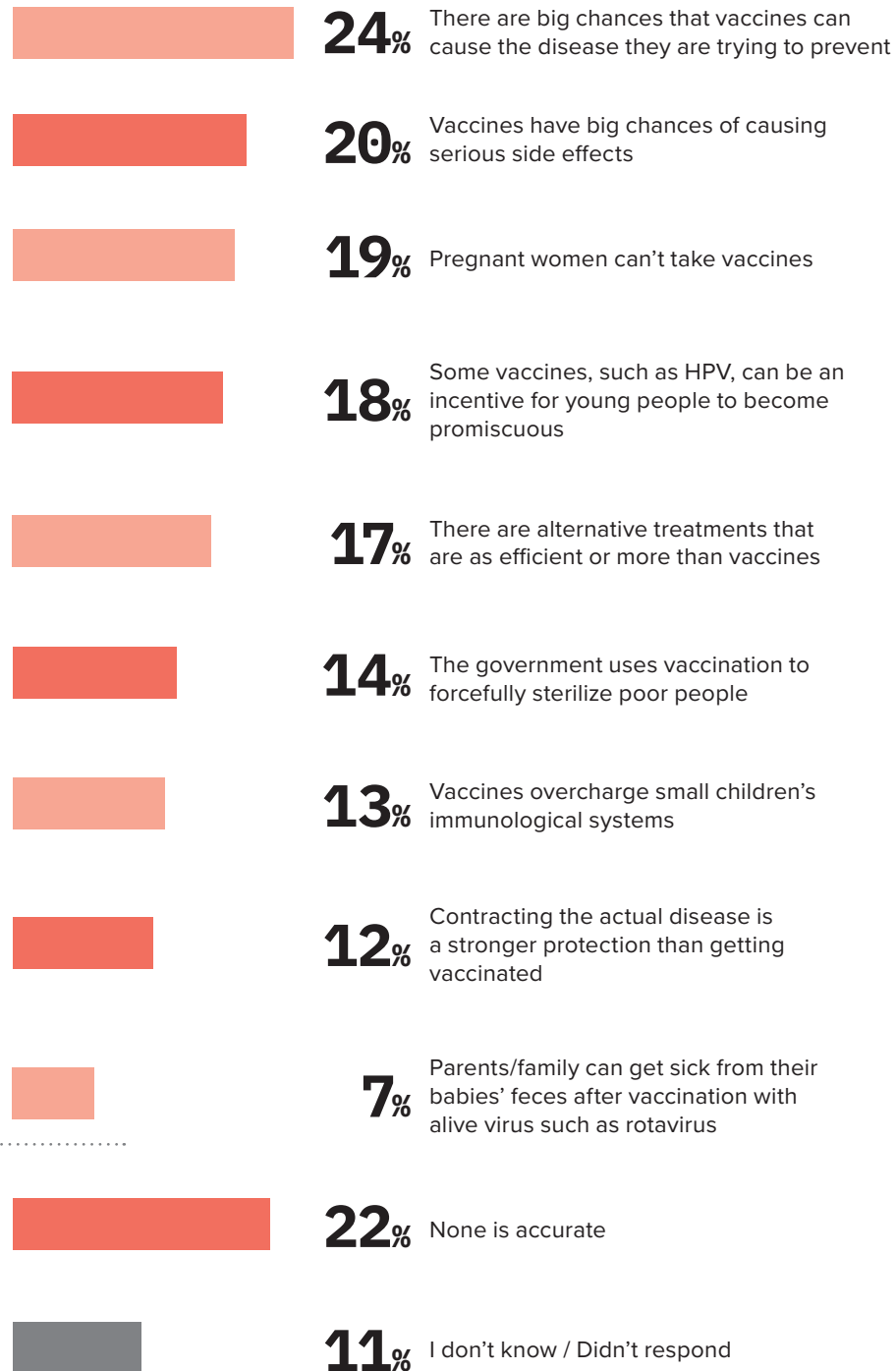
Base amostra: 2002

1.1 METHODOLOGY

10. Now, from the phrases below, I would like you to tell me all that you think are CORRECT¹⁰?

67%

Acreditam em pelo menos um notícia falsa sobre vacinas

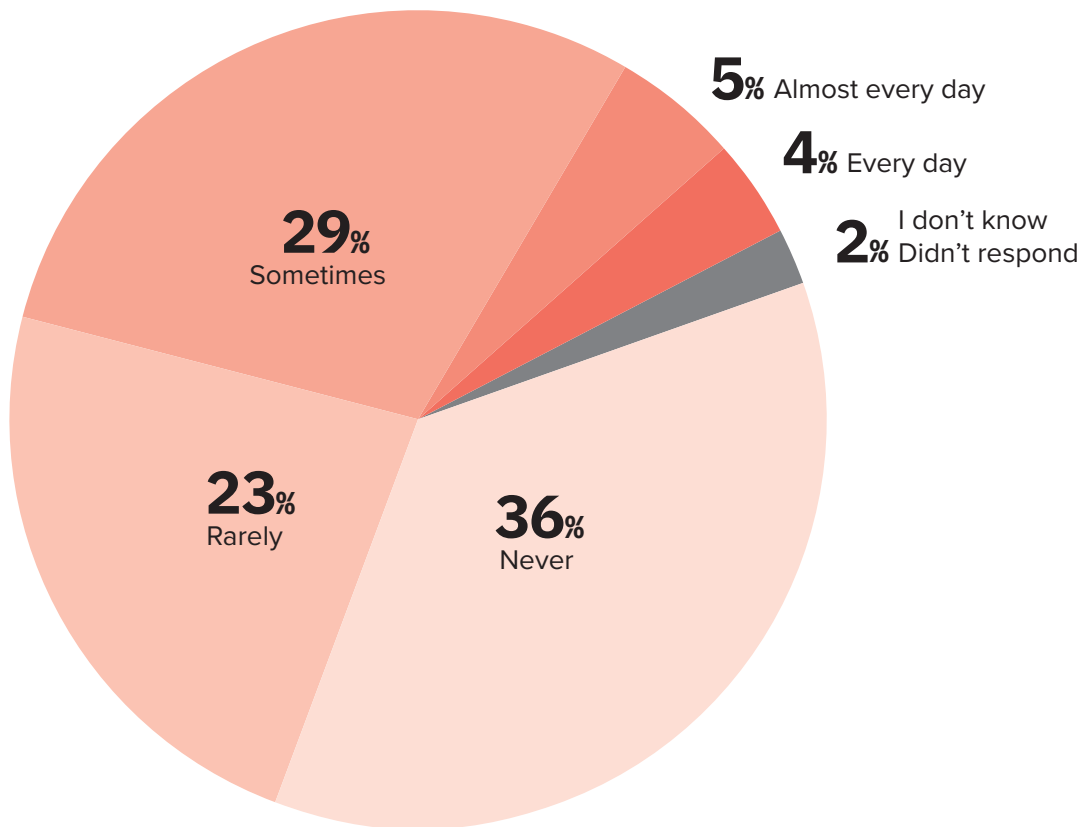


Base amostra: 2002

10 The first 10 statements here are incorrect according to doctors at SBIm and the WHO website.

1.1 METHODOLOGY

5. How often have you received or become aware of any negative messages about vaccines through Social Networks (Facebook, Youtube, Instagram, etc.) or WhatsApp?



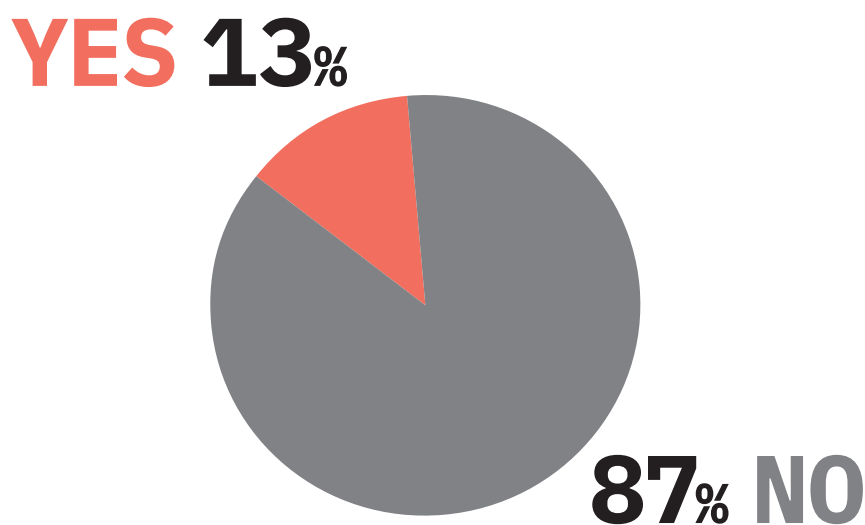
1.2

ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

WHO IS SKIPPING VACCINATIONS AND WHY

The vast majority of Brazilians (87%) say they have never skipped getting a vaccination for themselves or a child under their care, while 13% of those interviewed say they have failed to get a vaccine for themselves or a child under their care. This may sound small, but it represents approximately 21,249,073 Brazilians over 16 years old.¹¹

FAILED TO GET A VACCINE FOR THEMSELVES OR FOR A CHILD (STIMULATED %)



¹¹ Source: IBOPE Inteligência based on official data of IBGE (Brazilian Institute of Geography and Statistics) "Estimate of the Brazilian population with 16 years or more" 163,454,407 million.

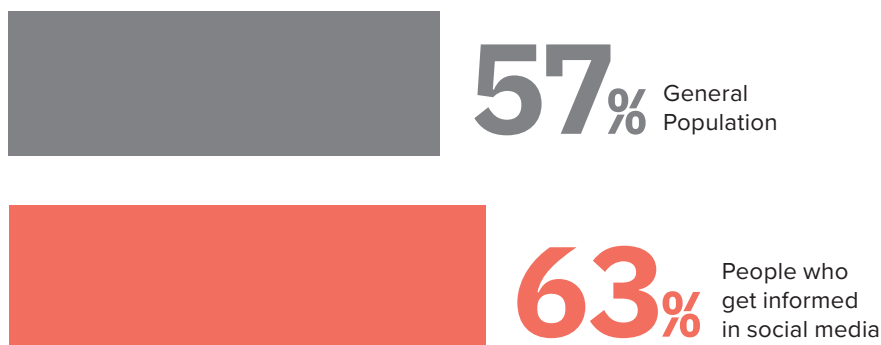
1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

Age appears to be a factor here: 18% among the youngest (16 to 24 years old) failed to get a vaccine for themselves or for a child under their care, a percentage that falls to 8% among adults over 44 years of age. It's worth noting that young people are also the main users of social media/messaging services - 61% cited them as sources of information for vaccines.

We believe misinformation plays an important role here, and could be stopping a relevant part of the population from seeking vaccines, thus bringing back previously eradicated diseases in Brazil. Based on our polling, **57% of those who did not vaccinate report at least one reason that is considered misinformation by SBI¹². Among those who decided not to vaccinate based on misinformation, 60% said social media and messaging services are one of their top 3 sources of information about vaccines.**

The most cited reasons not to vaccinate that are considered to be misinformation are, in this order: I didn't think the vaccine was necessary (31%); fear of having serious side effects after taking a vaccine (24%); fear of getting sick with the disease I was trying to prevent with the vaccine (18%); because of the news, stories or warnings I read online (9%).

REASONS TO SKIP VACCINATION



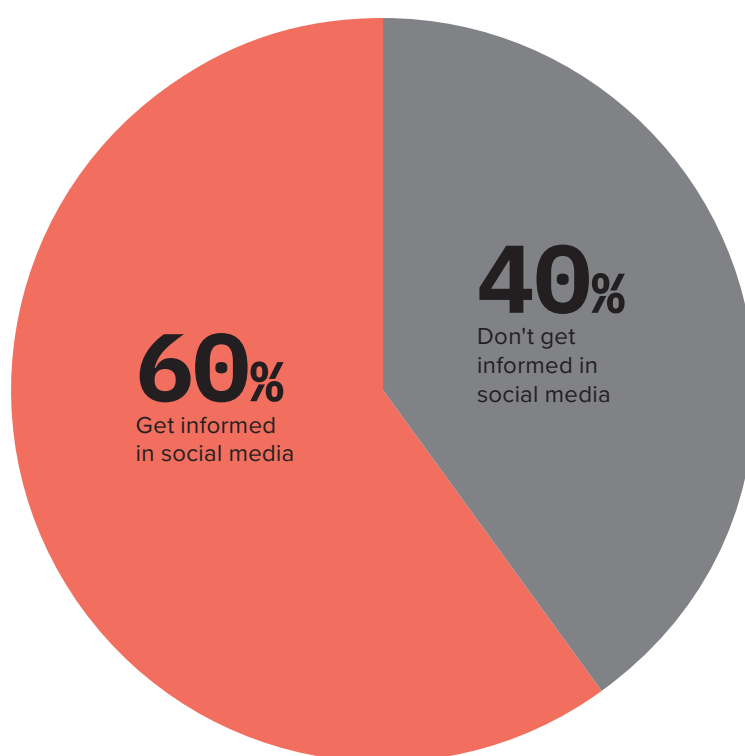
Didn't vaccinated for reasons related to misinformation

¹² Using as a criteria the standards considered inaccurate by the World Health Organization (WHO), misinformation was included into the answers of question 3.B on purpose. The misinformation included was: fear of getting sick with the disease I was trying to prevent with the vaccine; fear of having serious side effects after taking a vaccine; I didn't think the vaccine was necessary; I chose an alternative treatment instead which I considered more efficient; the news, stories or warnings I read online; the stories or warnings from my religious leaders.

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

Among the general population, misinformation¹³ is cited as a reason not to vaccinate more than lack of access to vaccination posts (20%) or forgetfulness (38%), for example. Lack of information is also a big reason - 27% claimed skipping vaccination for this reason.

PEOPLE WHO DID NOT GET VACCINATED FOR REASONS BASED ON MISINFORMATION



About 1 in 10 Brazilians openly admit not vaccinating themselves or a child under their care because of news they read online. We estimate that this number is, in reality, much higher since vaccination is mandatory in Brazil and those who avoid it can be punished with fees, sued by child endangerment and even lose the guardianship of their child(ren). So, they are likely not to admit it.

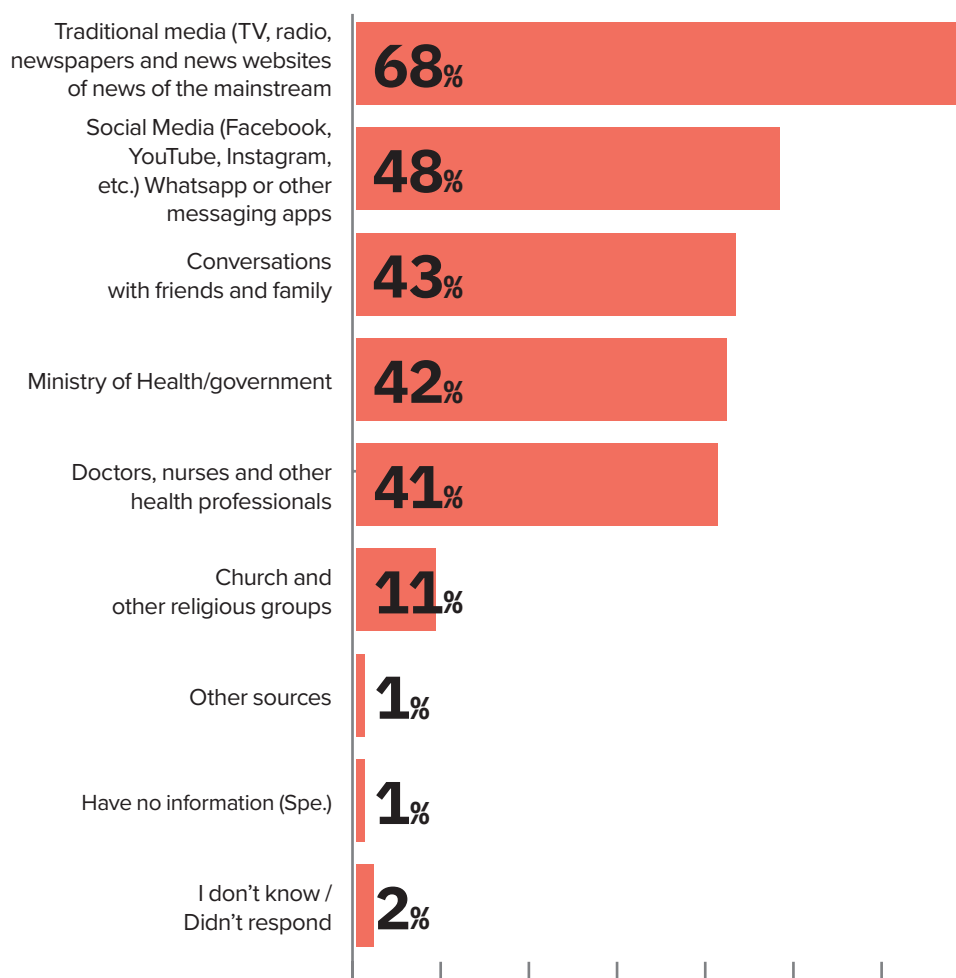
¹³ Here we refer to the statements that are considered partial or full products of misinformation by the experts at SBIm and the WHO website.

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

SOCIAL MEDIA & MESSAGING APPS ARE AN IMPORTANT SOURCE OF INFORMATION ABOUT VACCINES

Respondents were asked to select up to 3 sources of information in which they most see or hear information about vaccines. Traditional media, which includes television, radio, newspapers and news websites of the mainstream press stands out as the most cited source, with 68%. Social networks such as Facebook, YouTube and Instagram and/or WhatsApp or other instant messaging applications came in second place, mentioned by nearly half of the population (48%) as a source of vaccination information.

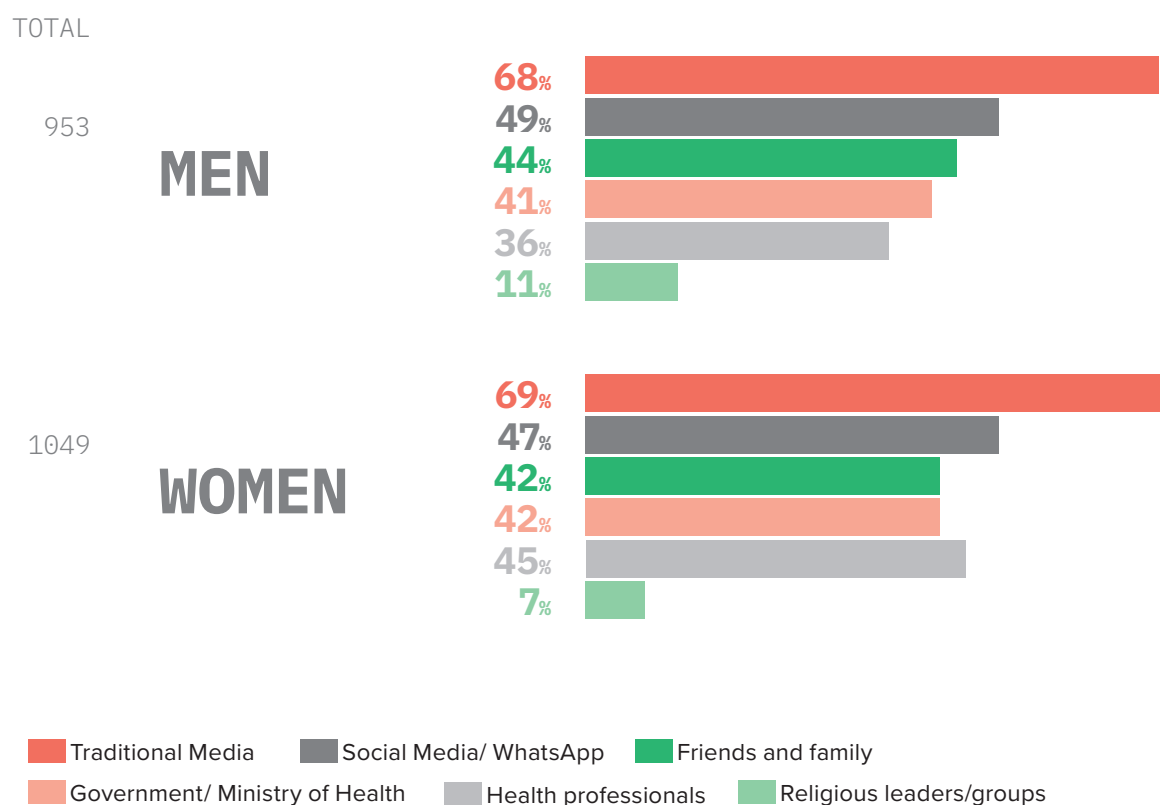
On the other hand, the sources, in theory, most qualified to provide information about vaccines - Government / Ministry of Health and health professionals - came in 4th and 5th place respectively.



1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

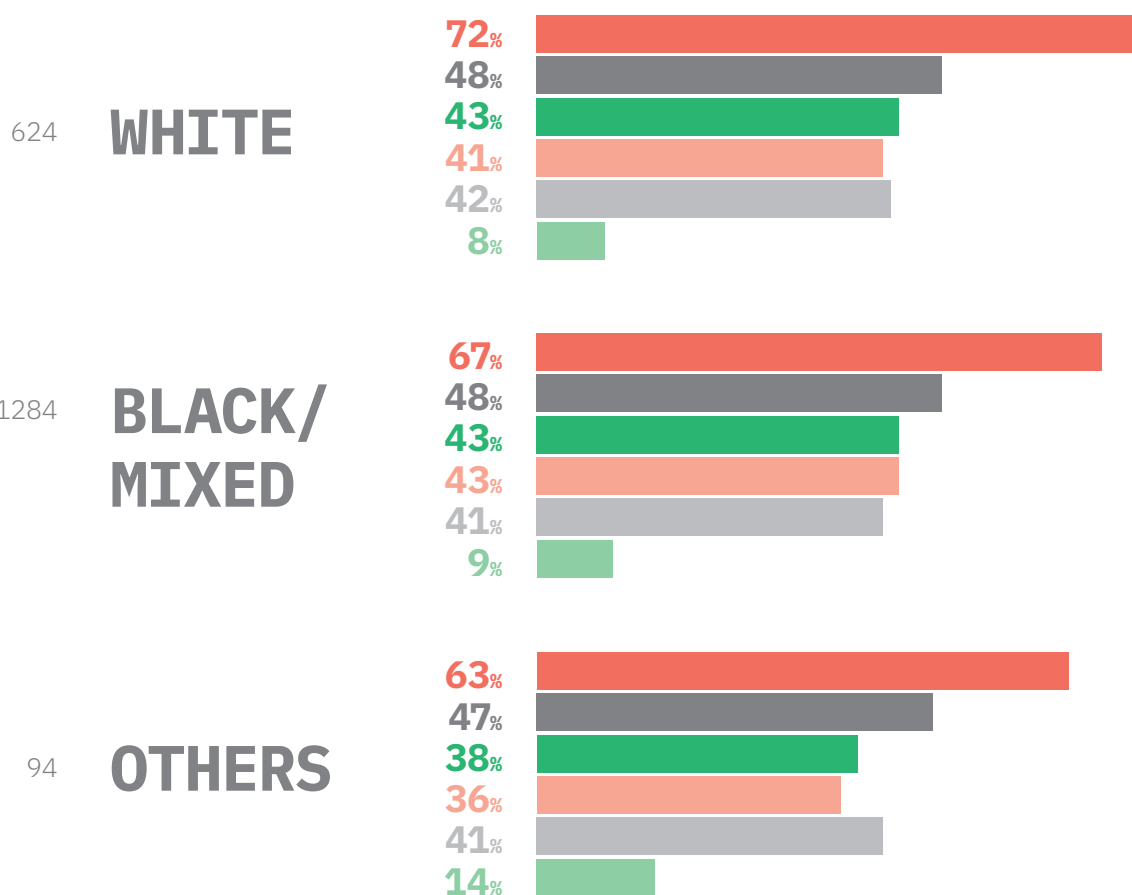
Social Networks have even more dominance as a source of information for the youngest and more educated. They are cited as a source of information by 60% of respondents with higher educational level against 23% of the least educated; by 61% of the youngest (16 to 24 y/o) against 32% of the oldest (55 or more) respondents. Gender also impacts the sources of information: 45% of women cite health professionals as a top source of information, while only 36% of men do so.

SOURCE OF INFORMATION X PROFILE OF RESPONDENT



1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

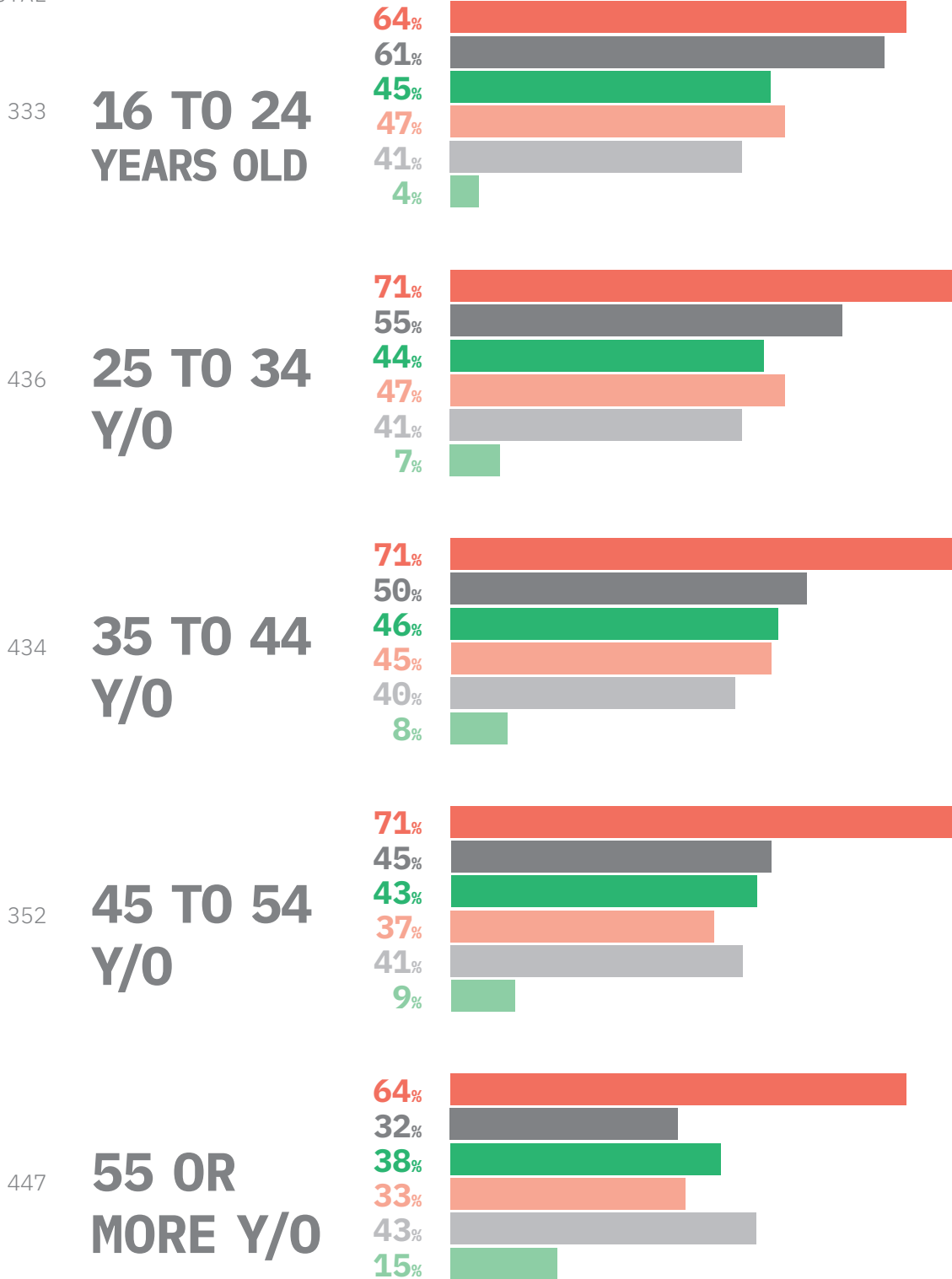
TOTAL



■ Traditional Media
 ■ Social Media/ WhatsApp
 ■ Friends and family
■ Government/ Ministry of Health
 ■ Health professionals
 ■ Religious leaders/groups

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

TOTAL



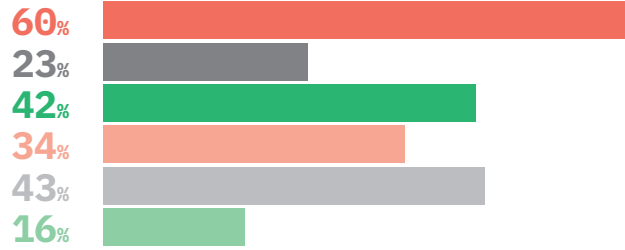
■ Traditional Media
 ■ Social Media/ WhatsApp
 ■ Friends and family
■ Government/ Ministry of Health
 ■ Health professionals
 ■ Religious leaders/groups

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

TOTAL

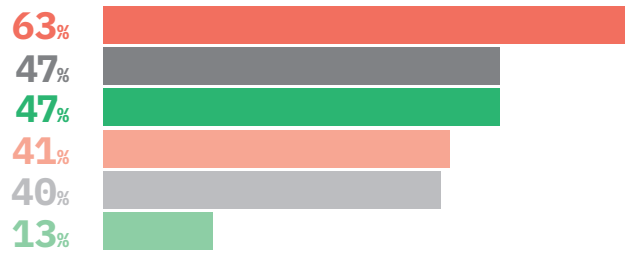
431

**UP TO 4TH
GRADE**



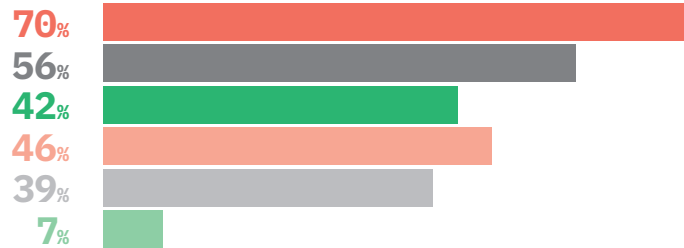
399

**5TH TO 8TH
GRADE**



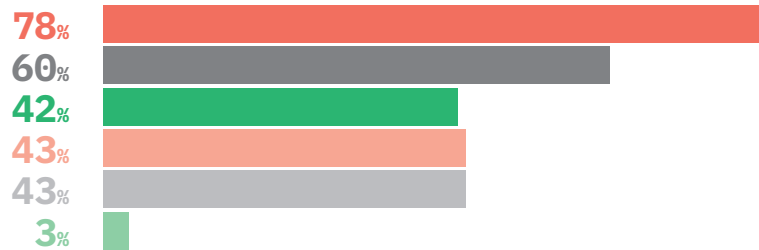
767

**HIGH
SCHOOL**



405

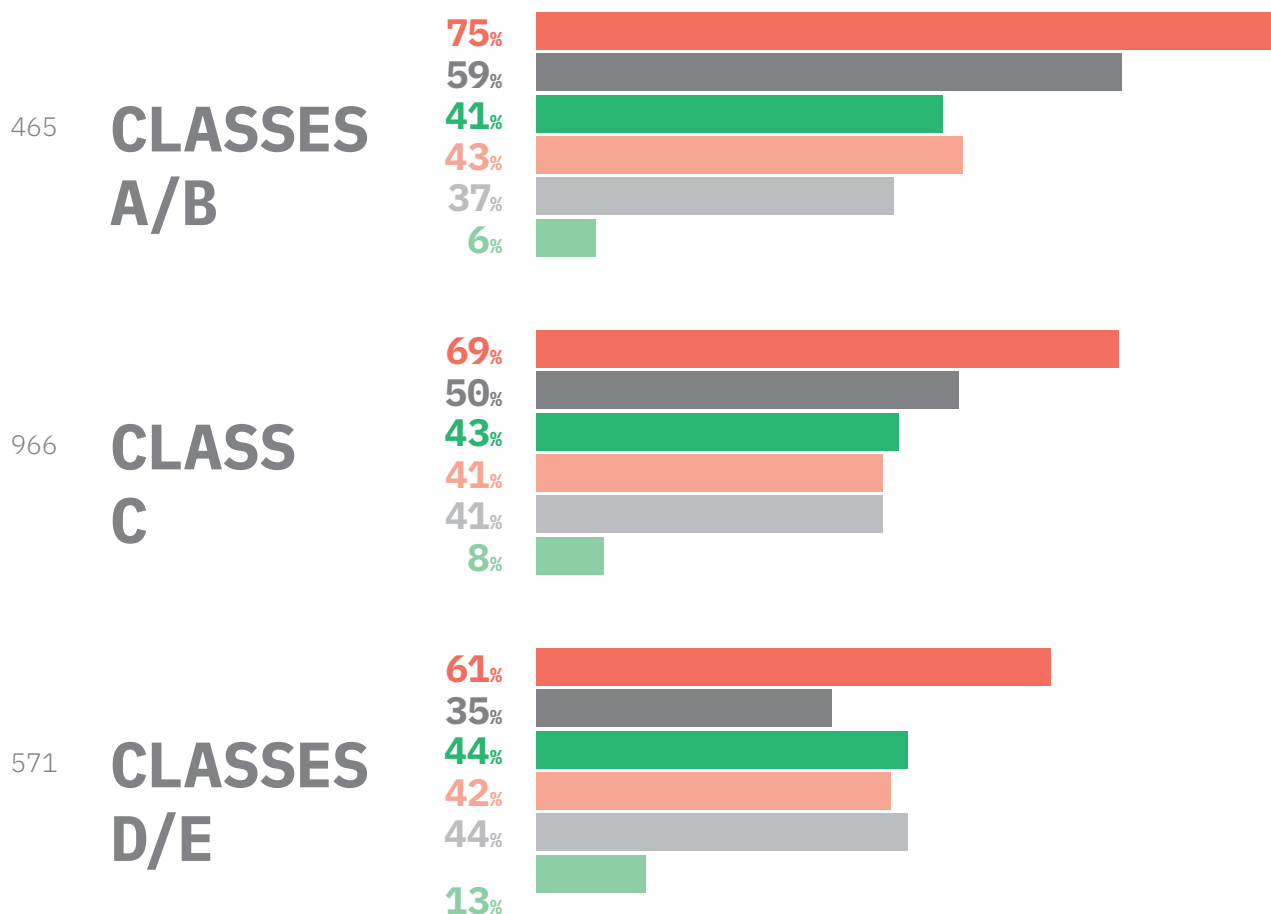
**UNIVERSITY
LEVEL**



■ Traditional Media
 ■ Social Media/ WhatsApp
 ■ Friends and family
■ Government/ Ministry of Health
 ■ Health professionals
 ■ Religious leaders/groups

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

TOTAL



Geography is a major factor here, however. According to poll findings: social networks have less penetration in the countryside (45%), in small sized cities (46%) and among the poorest (39%).

SOURCES OF INFORMATION IMPACT ABILITY TO SPOT MISINFORMATION ABOUT VACCINES

It is impossible to measure the exact causation between people receiving their vaccine information on social media and messaging apps, and people's attitudes and actions about vaccinations. This gets more complex when considering that 43% of interviewees say they get informed about vaccination through conversations with family and friends, meaning people might talk to each other about what they read online and influence each-other's opinions.

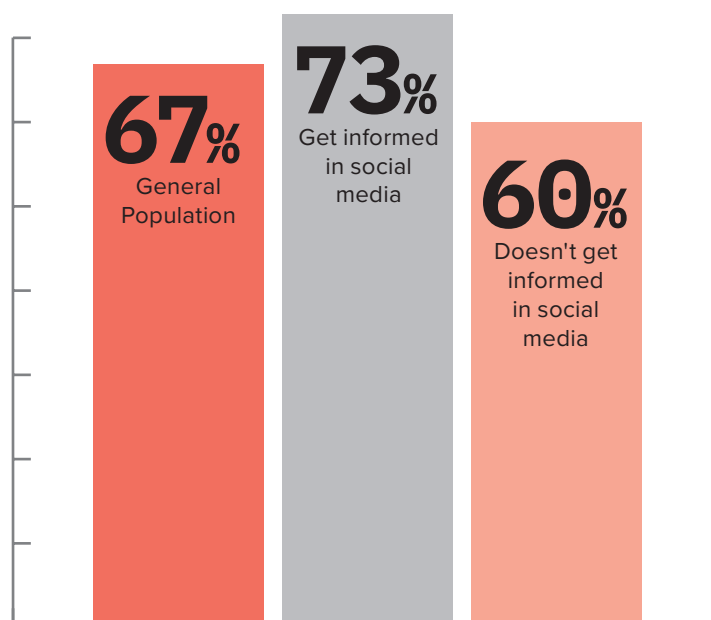
■ Traditional Media
 ■ Social Media/ WhatsApp
 ■ Friends and family
■ Government/ Ministry of Health
 ■ Health professionals
 ■ Religious leaders/groups

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

However, the frightening reality is that **67% of Brazilians believe at least one piece of false information regarding vaccinations. And the results are even higher for those who use social media and messaging apps** as a source of vaccination information. For that population, 73% believe at least one piece of misinformation.

SOURCE OF INFORMATION X BELIEF IN MISINFORMATION ABOUT VACCINES

Believe in at least one piece
of misinformation about vaccines



Knowledge about vaccines, tested by presenting several false statements to respondents, is limited and portrays the country's inequality. Only 22% correctly identified that all statements about vaccines in the poll were factually inaccurate. They were mostly women (25% against 19% of men); people residing in the Southeast (26%) or in the capitals (27%); and those with higher education (35%), reaching 34% of those in Classes A/B¹⁴ against only 16% of those classified as D/E classes.

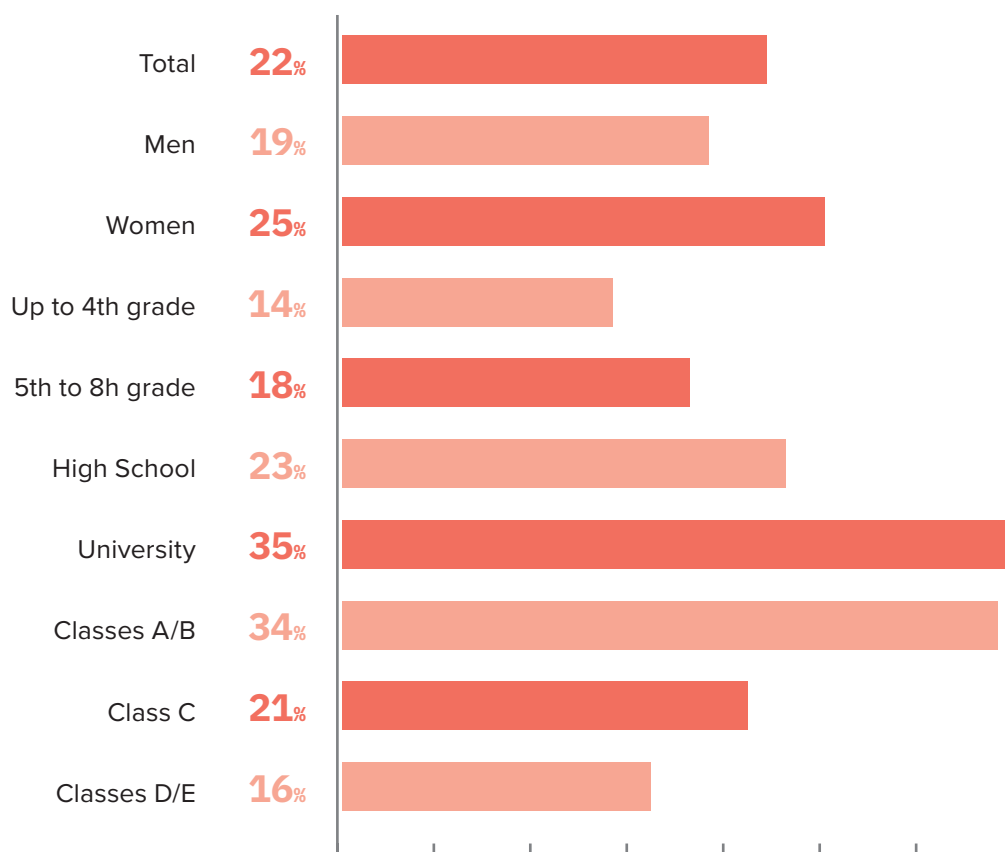
¹⁴ Here we use Criterio Brasil (<http://www.abep.org/criterio-brasil>) 187/5000 methodology used to stratify socioeconomic classes taking into account tenure of durable goods, housing conditions, use of services, and education of the head of household. It puts those with better standards of living in classes A/B and the worse in classes D/E, with class C being the people in the middle of the societal pyramid.

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

It appears the profiles of people who can better spot inaccurate information are also the same people that rank reliable sources of information, such as traditional media, as their top sources for vaccination information. Observing data on education level and class, we can conclude that the greater the access to reliable sources of information, such as traditional media, the greater the possibility of checking the veracity of news and stories.

It also appears that men are the most averse to vaccination. According to the data in the poll, men appear to be the most uninformed (only 19% were able to spot all misinformation presented), the ones that feel most unsafe (only 49% said they think vaccines are totally safe, against 57% of women), the most forgetful (45% against 30% of women), the ones who most claim difficulties in accessing facilities (24% against 15% of women), and the ones who least perceive the need for vaccination (39% against 23% of women).

PROFILE OF THOSE WHO GOT ALL ANSWERS RIGHT

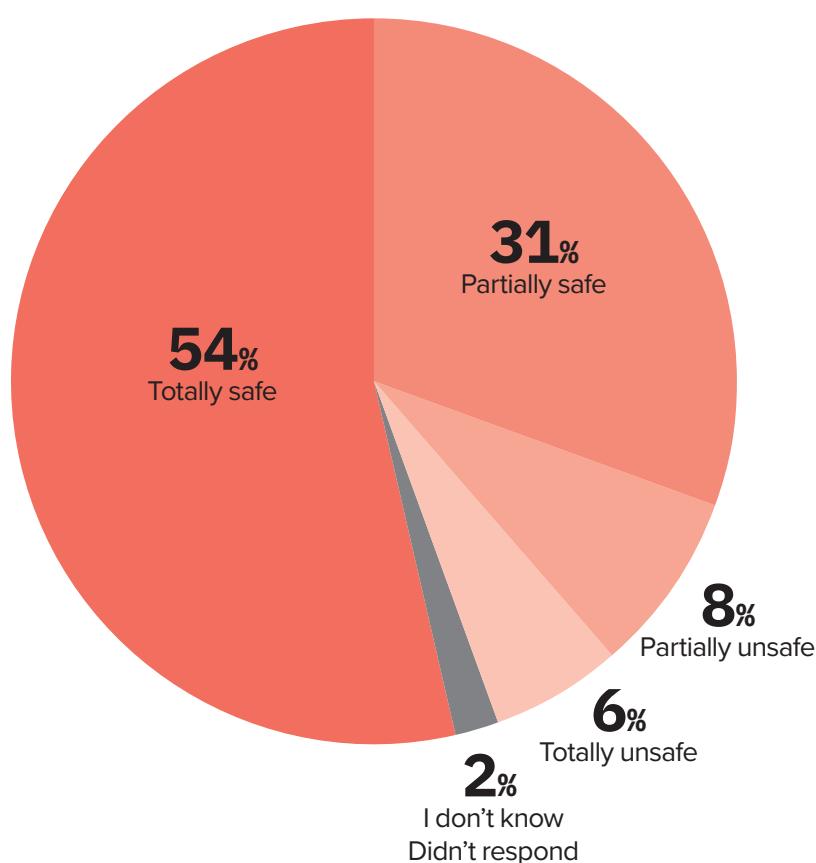


1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

SOCIAL MEDIA & MESSAGING APPS & PERCEPTION OF VACCINES SAFETY

Looking at the general population, the majority (54%) consider vaccines to be totally safe while 45% feel some level of unsafety about vaccines. And the way people get informed about vaccines seems to be a factor in determining their overall stance on how safe or unsafe they consider vaccines to be. Those who cite social media/messaging services as a source of information feel less safe about vaccines than those who don't get informed in these means (51% versus 39%). Put another way, those who do not cite social media and messaging services as a source of information feel more secure in relation to vaccines than those who do cite such sources (58% and 49% respectively state that they are totally safe).

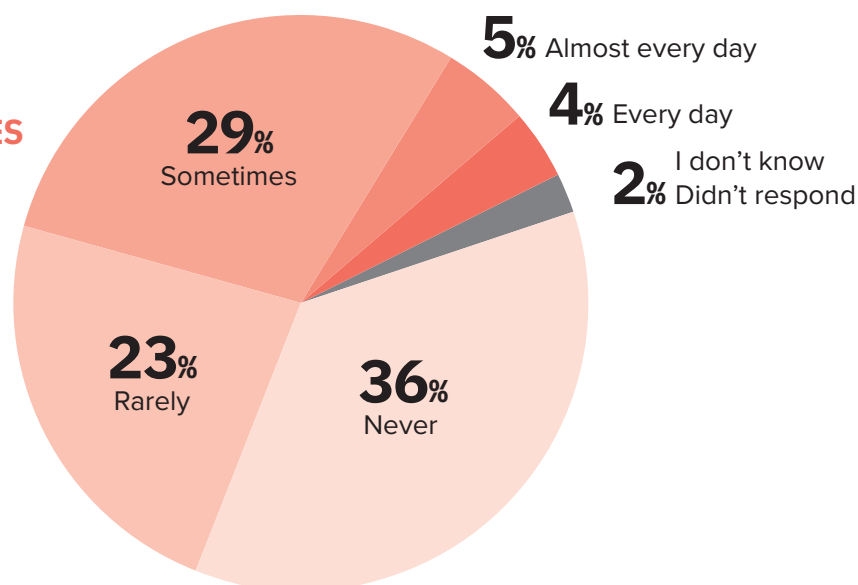
VACCINE SAFETY - GENERAL POPULATION (STIMULATED - %)



1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

Respondents were also asked about the frequency with which they receive negative messages on vaccines through social networks (Facebook, YouTube, Instagram, etc.) or WhatsApp. For example, 38% of Brazilians claim to have contact with this type of message with some frequency (from every day to every now and then). For 23%, contact with negative messages concerning vaccines is rare and for 36% it never occurs.

FREQUENCY OF CONTACT WITH NEGATIVE MESSAGES ON VACCINES (STIMULATED - %)



Those who **cite social networks and/or WhatsApp as one of their top sources of information receive negative messages about vaccines more frequently by these means**: half of them receive these kinds of messages with some frequency. On the other hand, among those who cite sources of information other than social networks and/or WhatsApp, about seven out of ten (68%) say they never or rarely have received negative messages on vaccines, as you can see on the table below.

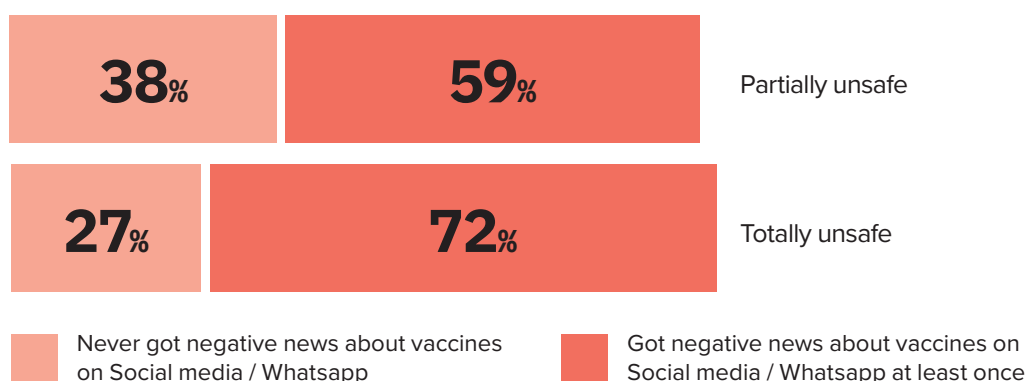
FREQUENCY OF CONTACT WITH NEGATIVE MESSAGES ON VACCINES THROUGH SOCIAL MEDIA OR WHATSAPP (STIMULATED - %)

	TOTAL	INFORMATION SOURCES ON VACCINES	
		Get informed in SM/WA	Doesn't get informed on SM/WA
Receive negative information with some frequency in social media and WhatsApp	38%	50%	30%
Rarely or never receive negative information in social media and WhatsApp	59%	50%	68%

1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

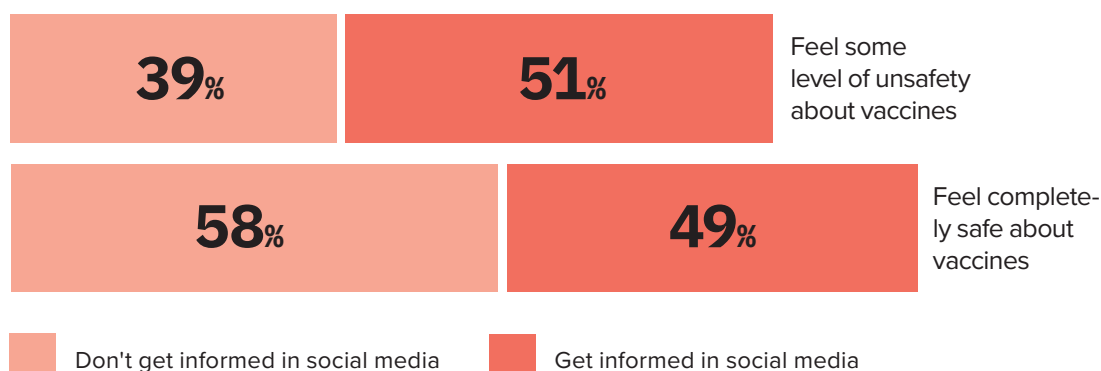
In addition, 72% of those who think vaccines are partially unsafe and 59% of those who think vaccines are totally unsafe have gotten negative news about vaccines on their social media and messaging services.

PEOPLE WHO THINK VACCINES ARE PARTIALLY OR TOTALLY UNSAFE



BASE	GENERAL POPULATION	CITED SOCIAL MEDIA OR WHATSAPP AS A SOURCE OF INFORMATION ABOUT VACCINES	DIDN'T CITE SOCIAL MEDIA OR WHATSAPP AS A SOURCE OF INFORMATION ABOUT VACCINES
Totally safe	54	49	58
Fell some unsafety (from partially safe to totally unsafe)	45	51	39

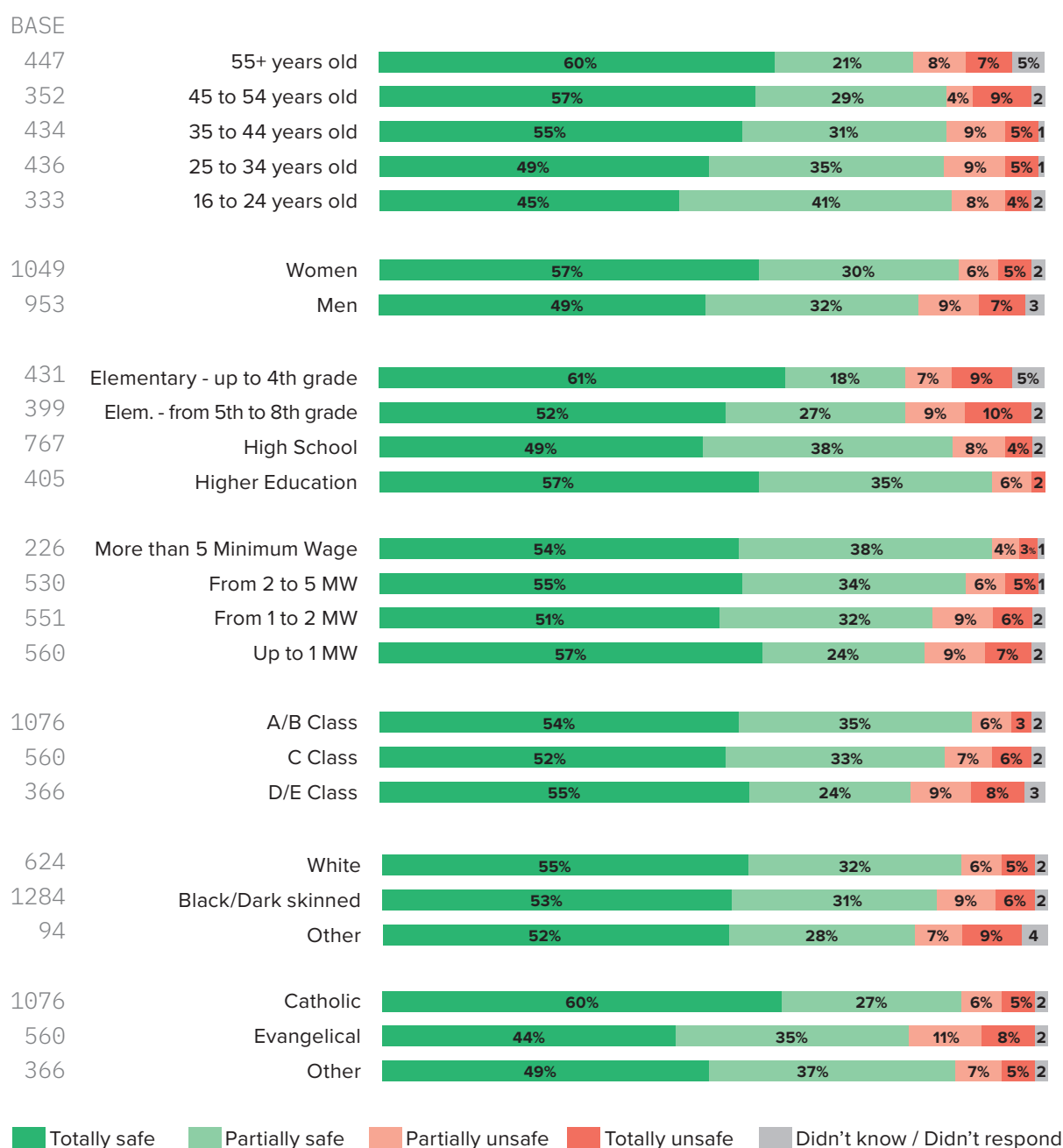
PERCEPTION OF SAFETY IN VACCINES X SOURCES OF INFORMATION ABOUT VACCINES



1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

Avaaz/SBIm were able to profile the type of individual that tends to feel unsafe about vaccines in a bit more detail: they're usually male, and have some access to diverse sources of information, had an intermediate level of formal education (5th grade to high school), are young, and usually are not close to health professionals nor question the credibility of the vaccine information they get.

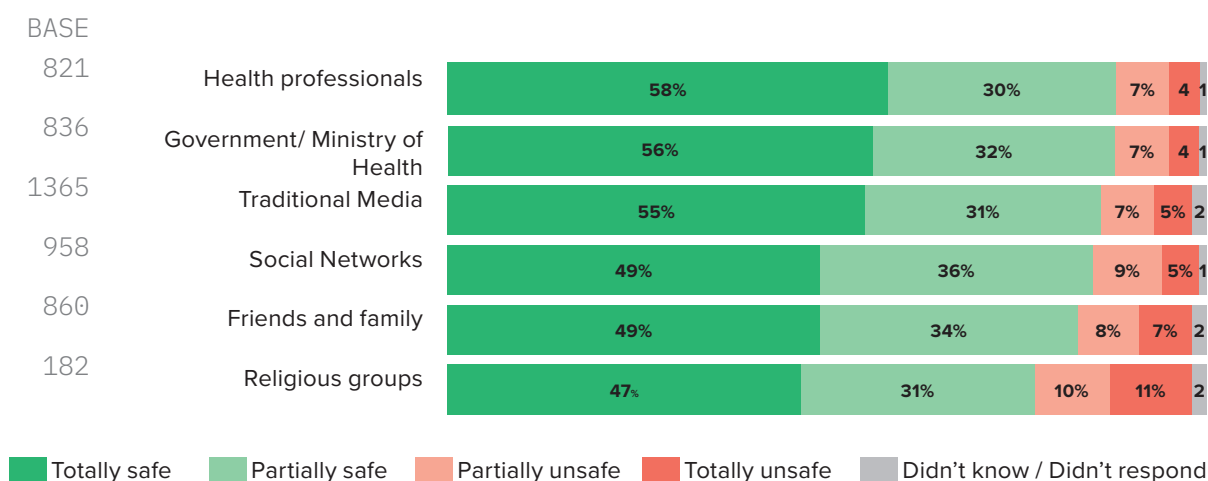
NÍVEL DE SEGURANÇA DAS VACINAS X PERFIL DOS RESPONDENTES



1.2 ATTITUDES ABOUT VACCINES: POLL FINDINGS IN DETAIL

We observed a positive impact of health professionals and other official sources of information on perceptions about vaccines. In this poll, the respondents showed more confidence when they had more formal and technical information on the subject.

NÍVEL DE SEGURANÇA DAS VACINAS X FONTES DE INFORMAÇÃO



It's critical to note that lack of information, lack of planning and lack of access to health facilities are also critical factors in the vaccination behavior of those who get informed in social media and messaging apps - 24% said they had hard access to vaccination posts, 27% said they lacked information about campaigns, and 41% said they forgot about it or lacked planning. This is a double edged sword -- lack of access to vaccination clinics and vaccination information makes it harder to vaccinate oneself and/or a child in one's care, and it also makes it harder to fact check any misinformation or disinformation one comes in contact with.

PHASE II:

ANALYSING THE MOST COMMON VACCINE-RELATED MISINFORMATION ON SOCIAL MEDIA

After our poll showed clear evidence that misinformation about vaccines was having an influence on Brazilians, Avaaz found the need to conduct an investigation to uncover what this misinformation looked like and where it was coming from.

2.1

METHODOLOGY

MISINFORMATION DEFINITION:

The definition of misinformation we have used is content that is “*incorrect or misleading information*”¹⁵. It is important to note that not all anti-vaccination content (content that put vaccines in a negative light) is considered misinformation. In this report there is a range of content from anti-vaccination content to content that may be intentionally created to deceive the public. Given that our investigation did not delve into intent of content creators, we strictly focused on vaccine misinformation (factually inaccurate content confirmed as such by SBI and other credible sources such as certified independent fact-checkers, the WHO and traditional media) and negative content on vaccines.

DATE OF FIELD WORK:

Content posted between 2016 and 2019. On Youtube, we included all videos of significant reach (over 10,000) that had interactions during the time of study (2016-2019).

SAMPLE AND DATA COLLECTION:

The Original Sample -misinformation previously debunked by fact checking agencies -

30 fact-checked articles comprised of:

- 8 vaccine misinformation stories fact-checked by the Brazilian Ministry of Health website [Health Without Fakes \(Saúde Sem Fake\)](#) - which includes all the fact-checked news on the subject by this service;
- 22 vaccine misinformation stories fact-checked by doctor Drauzio Varella’s website, Lupa, Aos Fatos, Fato ou Fake (G1), Boatos.org, E-farsas and Uol Confere - which includes all the fact-checked news on the subject on these pages;

¹⁵ <https://www.merriam-webster.com/dictionary/misinformation>

¹⁶ It is impossible to measure the reach of WhatsApp messages due to the private nature of these conversations.

2.1 METHODOLOGY

■ We found out that the original misinformation debunked by these 30 fact-checking articles was shared on multiple platforms: YouTube, Facebook, WhatsApp, the web itself.

■ TOTAL REACH on social media that was possible to measure¹⁶: 2.4 million views on YouTube, 23.5 million views on Facebook (videos only), 578,000 shares in Facebook (considering only the main link, not its various replications).

Facebook pages

Using the social media monitoring platform CrowdTangle, we monitored 67 Facebook pages with 944 anti-vaccination posts and 33 Facebook groups with 2,400 anti-vaccination posts - with a total of 3,344 posts with anti-vaccination content, which generated over 1 million reactions (likes, shares or comments) since 2016. We fact-checked 10% of this sample randomly and found that approximately 84% (83,78%) of it was misinformation. So we have a rough estimate that the general content might follow the same pattern - which means 2,805 posts might contain misinformation. We identified these pages and groups in two phases:

1. Selecting pages and groups that shared at least one of the original 30 misinformation pieces debunked by fact-checkers.

2. We then started growing the number of Facebook pages and groups, little by little. Once we got in contact with a new anti-vaxx article link, we checked which other Facebook pages and groups shared that link and added those pages to our CrowdTangle analysis. In other words: each page led us to pages that shared similar content.

■ Filtering the results, we selected only the publications by those pages that used the word “vaccine”

YouTube videos

Our sample was 69 YouTube videos on anti-vaccination, all with more than 10,000 views each, totaling 9.2 million views and 40,000 comments. These are comprised of:

- The videos identified by the fact-checkers in the original sample;
- Videos obtained in a search on the key word “vaccine” through an incognito window and selecting those with significant reach (more than 10,000) that had interactions during the time of study. We watched each video and found, through a fact-checking effort of our own¹⁷, that 63 contained misinformation - around 90%. The other 5 were opinions, real cases of people who believe to be victims of serious vaccination side-effects and/or inconclusive (because they were taken offline before we could fact-check.)

¹⁷ We classified each video as misinformation in a manual fact-checking effort of our own. All the videos were watched by doctors affiliated with SBIm. The criteria used by them is: content that clearly contradicted what was vastly considered to be true by the scientific community and the WHO and/or made accusations that were unfounded or not cited by credible sources

2.1 METHODOLOGY

Articles

Using programs developed by us for the purpose of this study, [we collected 1,613 links of anti-vaccine articles](#) published in websites. This is how we got to them:

- We analysed the 3,340 Facebook posts with anti-vaccination content and selected the 8 websites that we found published and/or produced most of the posts. Our program then made a database with all articles those 8 sites¹⁸ ever published with the word “vaccine”. The result was a [database of 1,613 anti-vax articles](#).
- This database was already shared with the University of São Paulo’s (USP) research group “Monitor do Debate Político no Meio Digital”, who analysed it using the CrowdTangle API. According to them, what was originally 1,613 articles had a reach of **489,000 shares on Facebook**.
- This database includes title of article, date of publication, category, content, link of each publication and a screenshot of the full page. Avaaz will make this database available to institutions, scholars and government officials. We hope it will encourage further studies into the matter and help the government design communication campaigns to provide the best and most accurate information for Brazilians.

OTHER METHODS

Journalist methods of investigation, such as interviews with experts and involved parties were also used in order to make conclusions.

18 The websites were: A Nova Ordem Mundial, Notícias Naturais, Coletividade Evolutiva, Sempre Questione, Por Trás da Mídia Mundial, Verdade Mundial, Prepare for Change (PT) and Info Vacinas.

2.2

FINDINGS

We discovered that **almost half of the original sample of misinformation analysed (the 30 anti-vaccine articles or videos debunked by Brazilian fact-checkers) was translated verbatim or based on information originally published abroad in English in the United States. The website “Natural News” is the original source of 32%¹⁹ of our initial sample and represents 69% of the non Brazilian content in that sample.** The other 15 pieces of content were Brazilian-native.

In this process we also found out that vaccine misinformation content travelled through multiple social media channels before being spotted and fact-checked. Sometimes one piece of misinformation was adapted to different formats in order to fit the platform, from videos on YouTube to plain texts on Whatsapp. This also means that a vast number of people who saw the content will probably never see the fact check.

Unfortunately, we found the reach of fact-checks is currently low. While Facebook’s most shared anti-vaccination post in our sample, a [video against the HPV vaccine](#), had almost 20 million views and generated 762,000 reactions, the [Health Ministry post](#) saying the content was misinformation had only 10 shares. Additionally, this video against the

HPV vaccine is illustrative for a second reason: it shows the correction process is occasionally incomplete and doesn’t actually explain what’s incorrect in the video.

At least half of the 30 misinformation pieces analysed were shared on WhatsApp, according to the fact-checking websites, indicating that the app is a relevant source for spreading anti-vaccination content. However, this is just a glimpse into the problem: it is not possible to establish all the content that circulated in WhatsApp, nor its reach, due to the private, encrypted nature of the conversations that take place in the app. But there are some indications of how relevant the app is in the distribution of anti-vaccination content. In only 14 months, for example, the WhatsApp number of the project Health Without Fakes by the Ministry of Health received 17,530 messages of people requesting health fact-checks according to them.

“Once the fake news is born, we don’t have any idea about its tracks on WhatsApp. We can find the fake news factories, but we can’t identify all links in its transmission chains on WhatsApp. We don’t know who is sending, who is sharing, who is receiving the message,” says Ugo Braga, the Head of Communications at the Ministry of Health.

¹⁹ Analysing the fact-checking articles we found out 3 of them were based on the same misinformation video. Therefore, 28 different fake-stories were fake-checked in 30 different articles. This percentage was calculated based on the sources of disinfo and not the articles themselves.

2.2 FINDINGS

From Crowdtangle and YouTube, we gathered that there are certain commonalities that characterize the the groups and webpages that share vaccine misinformation and/or negative content about vaccines:

Pages that preach that there is a plan to create a “new world order”. According to this notion, there is a **secret collusion to dominate and control society, with vaccination being part of the plot**. From our analysis, these were the majority of the sites and groups that spread vaccine misinformation in Brazil. On Facebook, for example, 2 out of 3 anti-vaccination posts analysed were published by pages discussing known conspiracies.

“Healthy lifestyle”, “Natural lifestyle” and “Alternative Medicine” thematic pages that sell products side by side with articles about the negative effects of vaccines.

Groups where people share testimonies of bad experiences about vaccines, defend that the body should find its own way to build up immunity and that people should have the freedom to choose whether to be vaccinated or not - these appear to have a smaller reach.

It is important to stress that the link between anti-vaccination content and conspiracy theories is not unique to Brazil. International studies indicate that this is also the case in many countries, [from the United States](#) and the [United Kingdom](#) to [Pakistan and Nigeria](#).

Some of the **recurring anti-vaccination misinformation we observed during this investigation included:**

- A. real and rare cases of serious side-effects or death following vaccination;
- B. the belief that mandatory vaccines are a secret and evil plan by the “new world order” to dominate society;
- C. relationships between vaccines and autism;
- D. allegations that harmful metals such as mercury are present in vaccines in high dosage;
- E. claims that vaccines are an attempt to control the world population that has been already confessed by Bill Gates;
- F. arguments that vaccines harm the body, while therapies and natural products would be the true way to prevent disease;
- G. the argument that elites and doctors do not vaccinate their children;
- H. beliefs that diseases were already diminishing before vaccines were widespread;
- I. and, cases of supposed doctors who have confessed “the truth” about how dangerous vaccines really are.

2.2 FINDINGS

The anti-vaccination content analysed had a long life on the internet. Many of the messages debunked by the Ministry of Health or fact-checking agencies were first published on the web over two years ago - in some cases they date from four or five years ago and were published in another country (*please, see section “below on the path of misinformation for more details”).* In fact, one of the most viewed anti-vaccination videos on Facebook from our sample is from 2010.

Another feature of antivax content that comes from abroad is that after being published in Portuguese, **it is often replicated word by word on multiple pages or channels on YouTube.** So, the exact same content can be found on more than one page - in fact, one of the pieces of misinformation analyzed was published on seven different websites. This will be described with more details below.

Ugo Braga, the Head of Communications at the Ministry of Health views these two phenomena as conducted by two sorts of people: “I would split them into two large anti-vaccine groups. First, there are the people who believe that a well-nourished human body do not succumb to disease. It gets sick, makes antibodies and heals. So nobody needs a vaccine. These I call the ‘anti-vaccine in good faith’ group. Equally dangerous, but in good faith - which means, basically, that they believe in these ideas. And there is a second anti-vaccine group, ‘in bad faith’, these are the horror movie villains. They believe in one big lie - vaccines are the product that the political establishment wants to use to reduce the world’s population. And because they believe that, they keep making up lies to say that vaccines are a bad thing. People who get this information have no idea

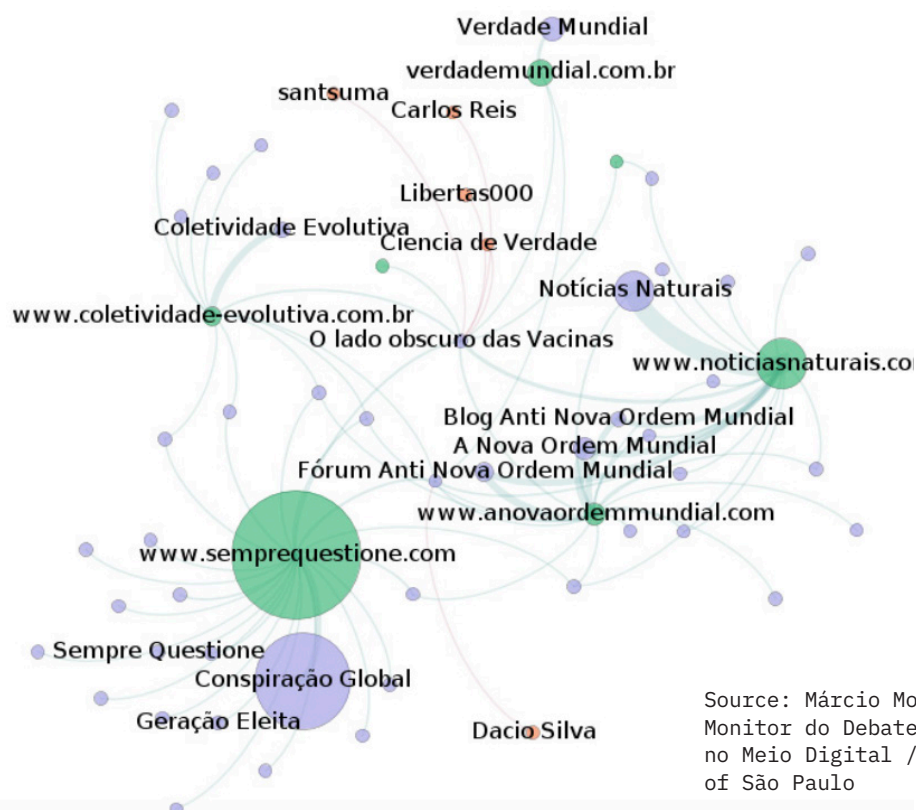
what the source of those lies is. And the source is usually crazy, the motivation of the message is crazy. But without knowing the motivation (or the source), only the message, the receiver ends up believing it.”

Additionally, we found Facebook pages that deal exclusively with anti-vaccine topics have little engagement - the top five pages of this kind analysed by us accounted for only 8,400 interactions since 2016. In contrast, anti-vaccination posts on wider subject matter pages, from healthy-living to known conspiracy theories, have accumulated nearly 1 million reactions on anti-vaccination posts during this same period.

2.3

A CONNECTED UNIVERSE OF ANTI-VACCINATION SITES AND PAGES

Avaaz shared the 1,613 anti-vaccine articles gathered on the web with the University of São Paulo's (USP) research group "Monitor do Debate Político no Meio Digital", who analysed it using the CrowdTangle API. According to them, the articles were shared by 381 different Facebook pages or groups, in a total of 489,000 shares. Using this information, the research group has also created a diagram (see below) of the relationship between the sites and the Facebook pages. The diagram shows five main ecosystems, organized around the main websites: Sempre Questione; A Nova Ordem Mundial; Notícias Naturais; Coletividade Evolutiva; Verdade Mundial. A Nova Ordem Mundial and Notícias Naturais are very close to each other, meaning they share content. Sempre Questione is the most shared webpage, connected with the Facebook page "Conspiração Global". The Facebook group "O Lado Obscuro da Vacina", despite not being so influential, connects all the ecosystems.



2.4

THE PATH MISINFORMATION ON VACCINES TAKES

Below, we detail how we traced the origin of three misinformation pieces from our original sample. They were chosen randomly from the sample.

1) 10 REASONS WHY YOU SHOULDN'T VACCINATE YOUR CHILDREN

(736 shares on Facebook and impossible to measure reach on WhatsApp)

US websites (VacTruth and Natural News) → Brazilian website (Notícias Naturais) → Facebook pages (Notícias Naturais, Pensadores contra o Sistema and O lado obscuro das vacinas) → Whatsapp → Ministry of Health

Our research traced the first instance of this post to **VacTruth in the USA** on December 12th 2014, under the title “[10 Reasons Not To Vaccinate](#)”. The text is signed by **Michelle Goldstein**, who defines herself as a “clinical social worker who is passionate about holistic health and healing,” who writes “for two major, highly respected holistic health websites,” - VacTruth and Natural News.

Three days after its publication by VacTruth on December 15th 2014, Michelle Goldstein’s “10 reasons” went through small changes in words and paragraph order and was published on the **Natural News website**, titled “[10 reasons why you shouldn’t vaccinate your children](#)”. This time the content was signed by **Ethan A. Huff, who has a long list of anti-vaccination articles on several US sites.**

In Brazil, searches in different platforms indicate that the content was first published on February 3rd 2015 (therefore 53 days after its publication on VacTruth) on **Notícias Naturais** titled “[10 Reasons Why You Shouldn’t Vaccinate Your Children](#).” The article is a **literal translation of the Natural News version**, without mistakes, which indicates that it is not an automated translation.

2.4 THE PATH MISINFORMATION ON VACCINES TAKES

The link published by Notícias Naturais was then **shared by three Facebook pages** between 2015 and 2019: “Notícias Naturais”, “Pensadores contra o Sistema (Thinkers Against the System)” and “O lado obscuro das vacinas (The Dark Side of Vaccines)”. In addition, the text was reproduced on at least seven other sites and **ended up in WhatsApp**.

03/02/2015 - <http://forum.noticiasnaturais.com/>
03/02/2015 - <http://forum.antinovaordemmundial.com/>
03/02/2015 - <https://curaquanticaenergeticaespiritual>
23/05/2015 - <https://aumagic.blogspot.com/>
23/05/2015 - <https://longidade.blogspot.com/>
24/05/2015 - <https://oavisodedeus.blogspot.com/>
27/04/2016 - <https://a-nova-realidade.blogspot.com/>
20/09/2016 - <https://sejasaudaveloutravez.blogspot.com>
(short and modified version of the text)

On February 5th 2019, the Ministry of Health fact-checked a WhatsApp text, labeling it as misinformation: “[10 reasons why you should not vaccinate your child is misinformation](#)”.

2) MANDATORY VACCINATION - WHAT'S BEHIND IT? (1,100 shares on Facebook)

US website “Natural News” → blog “Um novo despertar” → the religious book “Os Ceifadores XV” → Jaime Bruning’s website → several blogs including [Rainha Maria](#) → Ministry of Health

In 2012, Mike Adams, editor of Natural News, wrote the article “The Great Culling has begun: Will your genetic lineage survive?”. The Brazilian blog “A New Awakening” (Um Novo Despertar) translated it and republished it. Then, a book called “The Grim Reapers XV - The Prophecies for the Times Now” (Os Ceifadores XV - As profecias para os tempos de agora), from a Christian sect of Santa Catarina cited an excerpt of the text from this blog.

On March 4th 2016, Jaime Bruning's website published a text signed by Jaime himself referring to this book. In the material, Bruning, who calls himself a “natural therapist”, states that “A NEW WORLD ORDER is being organized” with “the use of vaccines”. “Those who routinely take vaccines are naturally stupid. Eliminating stupid people - or useless mouths from the genetic leap is one of the goals of global controllers. Thus vaccination pro-

2.4 THE PATH MISINFORMATION ON VACCINES TAKES

paganda serves as the perfect filter to remove ‘stupid’ genes from human genetic leap. This is undoubtedly the reason why globalists push vaccines so aggressively towards low-income families and the elderly.” This year, the post has been removed from Jaime Bruning’s website, but can still be accessed through web archives: [“Mandatory Vaccines - What’s Behind It?”](#)

Next, the text was **copied on several blogs**. Among them, at [Rainha Maria](#) - the site that was eventually debunked by the Ministry of Health on September 3rd: [“Compulsory Vaccines: What’s Behind It? Are they reliable?”](#)

3) VACCINES STILL CAUSE AUTISM AND GOVERNMENTS KNOW IT (63 SHARES ON FACEBOOK)

US website “GreenMedInfo” → Brazilian website “Prepare For Change” → several blogs including “Senhora de Sirius” and “Infovacinas” → Ministry of Health

On September 24th 2018, the Ministry of Health warned that the text [“New vaccines still cause autism and governments know it”](#) was misinformation.

Our research traced the first instance of this post to February 10th 2017, in the **US website GreenMedInfo**, titled [“New Vaccines Still Cause Autism and the U.S. Government Knows It.”](#) It was then copied to several other US sites.

On March 21st 2017, the same text was **published in Portuguese by the site “Prepare For Change”**: [“As Novas Vacinas ainda causam Autismo e os Governos Sabem”](#) (New Vaccines Still Cause Autism and Governments Know). “Prepare For Change’s” self declared goal is to prepare for the “Event” of planetary liberation.

In addition to “Prepare for Change”, other sites also published the text in Portuguese: [Senhora de Sirius](#) and [Infovacinas](#). Finally, the text was fact-checked by the Ministry of Health.

2.5

EXAMPLES OF THE MOST COMMON OUTLETS AND CONTENT

ON FACEBOOK:

Since 2016 we found that the pages and groups that have generated the most engagement on their misinformation or anti-vax content amongst our sample include:

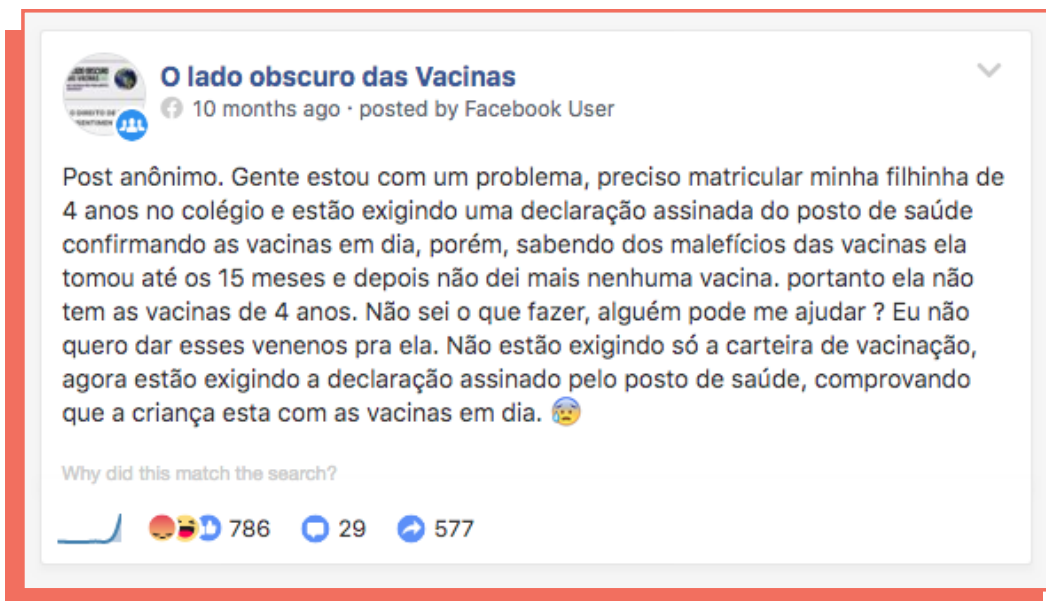
- 1) Crusade For Freedom (Cruzada Pela Liberdade) - 762,000 interactions / 350,000 followers;
- 2) Group The Dark Side of Vaccines ([O Lado Obscuro das Vacinas](#)) - 64,000 interactions / 13,000 members / over 1,970 posts;
- 3) Against New World Order (Contra Nova Ordem Mundial) - 54,000 interactions / 22,000 followers;
- 4) Global Conspiracy (Conspiração Global) - 53,000 interactions / 719,000 followers;
- 5) Natural News (Notícias Naturais) - 16,000 interactions / 119,000 followers;
- 6) World Truth (Verdade Mundial) - 11,000 interactions / 182,000 followers.

Among them, the only public groups is The Dark Side of Vaccines ([O Lado Obscuro das Vacinas](#)). It was created in 2017, and it appears to be managed by a woman who claims to be from the Brazilian State of Maranhão who lives in Europa. It appears the same woman also manages an older group, [Sou contra a Vacina HPV](#) (In English, I'm against the HPV vaccine). Avaaz sent a message asking for an interview with her, but we didn't receive a response.



Screenshot of the most shared, viewed and commented antivax post on Facebook
<https://www.facebook.com/cruzadapelaliberdade/posts/1217874621652070>
(Archived link:
<http://archive.is/jQYZg>)

2.5 EXAMPLES OF THE MOST COMMON OUTLETS AND CONTENT



Screenshot of the post with more interactions in the group "O Lado Obscuro das Vacinas", as of December 3, 2018
<https://www.facebook.com/groups/1541114232797859/permalink/2188486844727258>



Post of the administrator of the "O Lado Oculto da Vacina" group raising suspicions against vaccines <https://www.facebook.com/groups/1541114232797859/permalink/2402967426612531>
 (Archive link: <http://archive.is/boF67>)

2.5 EXAMPLES OF THE MOST COMMON OUTLETS AND CONTENT

ON YOUTUBE:

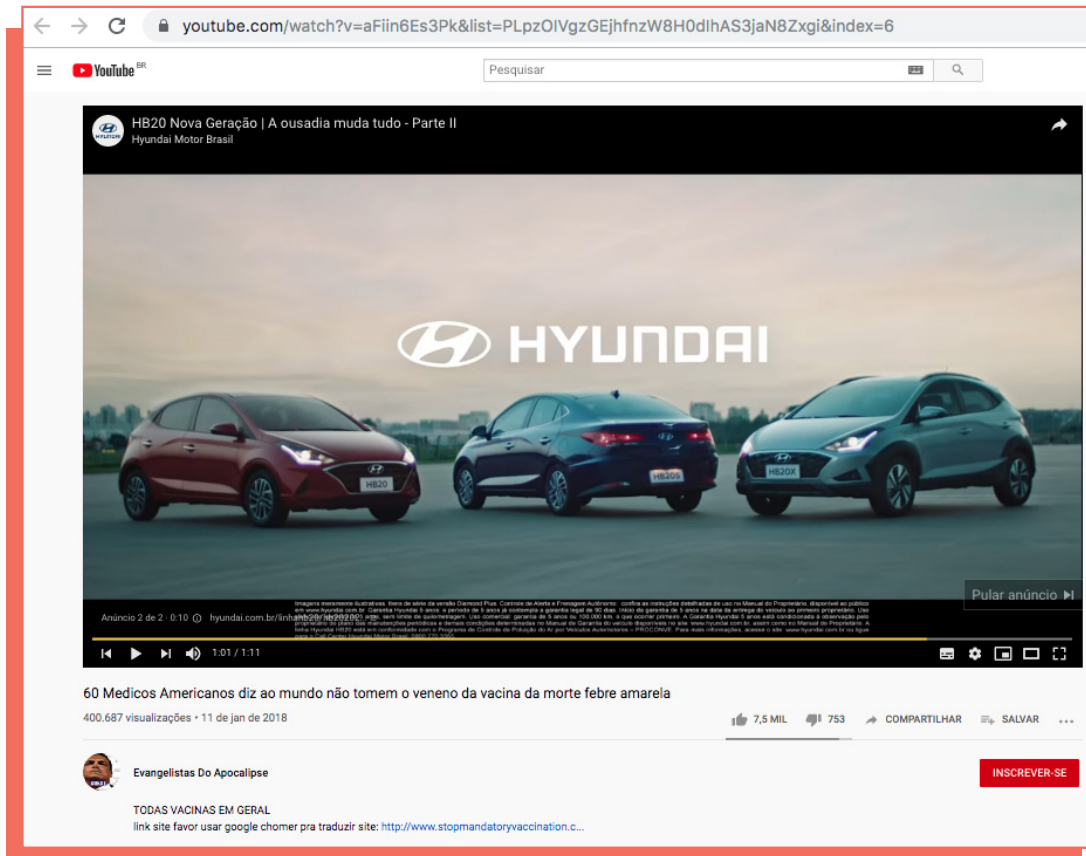
We observed that anti-vaccination content is getting more traction online in the past three years. From the 69 videos with significant reach we identified on YouTube, for example, 75% were published since 2017. This means that 7.5 million out of 9.2 million views are from recent videos.

The most popular anti-vaccination videos we identified in Brazil are from Jaime Bruning. Among all the 69 videos analysed by Avaaz, the two Bruning videos we analyzed were the only ones with over one million views. In addition to being successful on YouTube, at least one of his videos was shared on WhatsApp - as reported by the Ministry of Health when it classified it as misinformation.

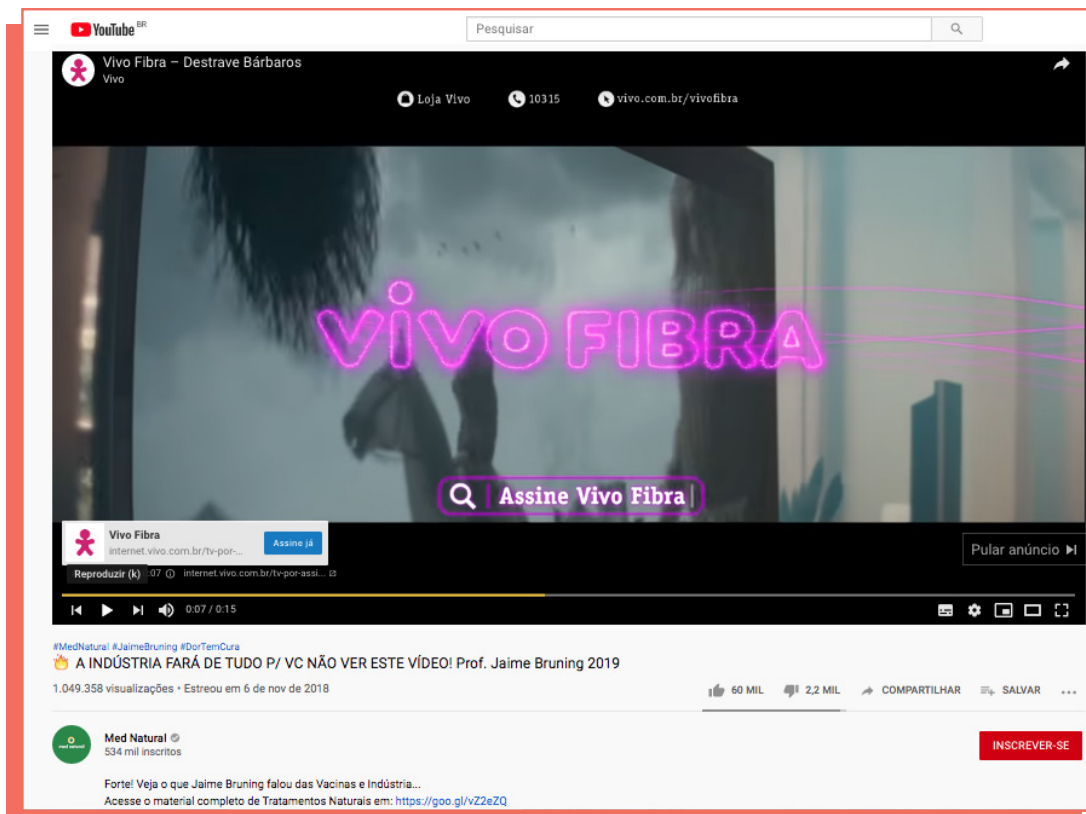
Another prominent anti-vaccination channel on YouTube is [Science of Truth](#). The channel has 20 anti-vaccination videos with over 10,000 views each. In total, they add up to 1.3 million views and 14,000 comments. Science of Truth also has a series of videos claiming that the earth is flat. Other YouTubers with prominent anti-vaccination videos are [Romulus Maraschin](#) and [Evangelists of the Apocalypse](#) (recently removed by YouTube).

In addition, some of the videos are monetized, with advertisements running alongside the content. It is possible the brands running these ads are unaware that they are sponsoring anti-vaccination content and/or misinformation. **We spotted automobile company Hyundai and phone company Vivo, for example, as two prominent brands running ads alongside anti-vax information, as shown in the images below.**

2.5 EXAMPLES OF THE MOST COMMON OUTLETS AND CONTENT



Screenshot - 18th October 2019



Screenshot - 22nd October 2019

2.5 EXAMPLES OF THE MOST COMMON OUTLETS AND CONTENT

SPOTLIGHT ON NOTÍCIAS NATURAIS: THE LARGEST PRODUCER OF ANTI-VACCINATION CONTENT ON FACEBOOK & THE WEB:

Among our original sample, the page that we found to be producing the largest amount of anti-vaccination content (both with Facebook posts and website articles) in Brazil was www.noticiasnaturais.com. According to a review of the site, Notícias Naturais published more than 400 different anti-vaccination content pieces over a decade (between 2009 and 2019). In the last 12 months alone there have been 61 stories - on average 5 per month. The **site translates much of its anti-vaccination content from US sites, primarily from www.naturalnews.com**, and calls itself a news outlet for healthy living and promotion of the use of natural products. On Facebook, Notícias Naturais has 119,000 followers.

Notícias Naturais is also linked to the “New World Order” and a “natural products” store, as we will show in the next section.

Other sites that stand out in the production of anti-vaccination content in Brazil are:

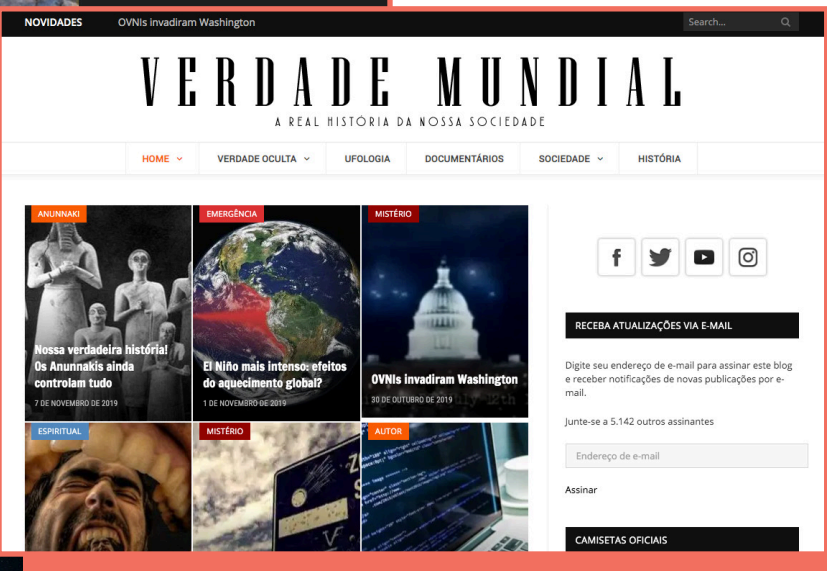
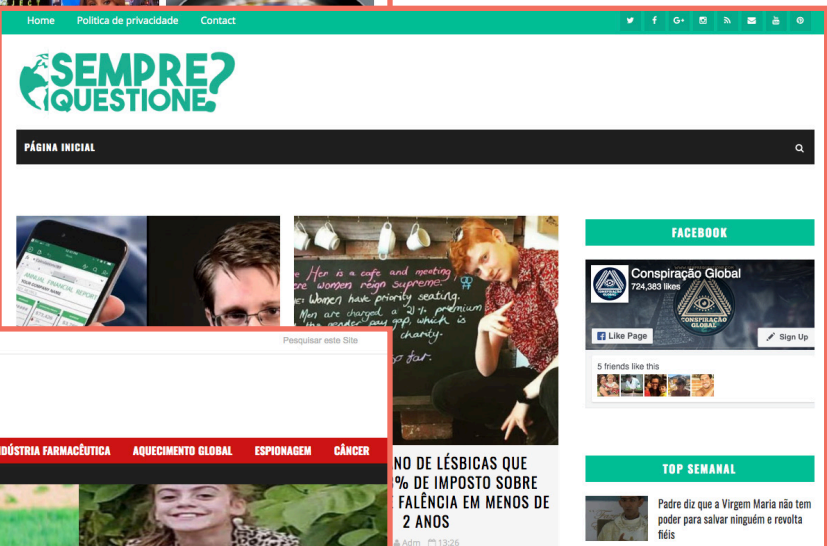
<https://www.coletividade-evolutiva.com.br/>

<http://www.semprequestione.com/>

<https://portrasmidiamundiall.blogspot.com/>

<https://verdademundial.com.br>

<https://pt.prepareforchange.net/>



Screenshot
7th November 2019

PHASE III:

UNCOVERING
WHO IS BEHIND
ANTI-VACCINE
CONTENT AND
MISINFORMATION

CASE STUDY ONE -

MIKE ADAMS & THE AMERICAN WEBSITE NATURAL NEWS

One of the most widely known anti-vaccination content websites is the the American Natural News website by Mike Adams, which had 3 million followers in June of 2019²⁰. **Natural News had its reach reduced on Google in 2017 and vanished entirely from Facebook** in 2019, two months after the platform “**vowed** to crack down on pages that spread medical misinformation—such as anti-vaccination content—by reducing the distribution of such pages in the Facebook news feed.”²¹ **YouTube** and **Twitter** have also removed Natural News’s accounts²².

However, Natural News’ articles are still being translated into Portuguese and widely distributed in Brazil²³. **Natural News is the original source of 32% of the anti-vaccine content debunked in Brazil.**

It was created by Mike Adams in 2003 and also seems in our analysis to have inspired several Brazilian copycat websites. Its main focus is the promotion of “alternative” medicine and the fight against science-based medicine - vaccines are among its main enemies. In ad-

dition to disputing the science behind vaccinations, Adams also sells alternative treatments and products in the site’s online store.

In addition to content about “health” and natural living, Natural News publishes articles denying global warming, opposing transgenders, “globalism” and the United Nations. The New York Times has already defined Adams as “**a right-wing blogger who is known for his promotion of pseudoscientific conspiracy theories**”. In the extensive biography of Adams published in Natural News, he is presented as an investigative journalist, director of a scientific laboratory and a programmer.

Next to articles with tips for a “healthy” lifestyle, Natural News publishes alleged stories praising the products that it sells²⁴. Over the last month it published around 15 articles a day. It includes a mixture of benign articles about natural foods and remedies, political opinion/commentary, and misinformation. Below, you can find a mix of links to different kinds of articles from Natural News as of October 9, 2019:

20 <https://www.fastcompany.com/90361870/natural-news-vanished-from-facebook-calls-tech-ceos-evil>

21 Ibid

22 Google, YouTube, Facebook and Twitter didn’t specify the reasons for reducing the reach of Natural News or even blocking the site’s accounts

23 <https://gizmodo.com/natural-news-suspended-on-facebook-founder-calls-for-p-1835367529>

24 Here you can find the search page for “goji berry”, with numerous stories about its benefits: <https://www.naturalnews.com/SearchResults.asp?query=goji+berries&pr=NN>. In Natural News homepage there is a banner to buy goji berries, that directs to this link: <https://www.naturalnews.com/WBA-4728.html>

CASE STUDY ONE - MIKE ADAMS & THE AMERICAN WEBSITE NATURAL NEWS

- [Why you should drink more ginger turmeric tea: Facts, benefits](#)

- [Useful AND pretty: 5 Health benefits of parsley that prove it's more than just a garnish](#)

- [Cannibalism gone mainstream: Parents who agree with vaccines are injecting their children with the COMPLETE human genome of another dead baby](#)

- [China is killing ethnic minorities in order to harvest their organs, but globalists say America is bad for using plastic straws](#)

In response to the loss of reach on Google and social media, Adams accused the platforms of censoring Natural News as part of a global conspiracy. "Silencing Natural News is all part of the globalist "script" for the enslavement of a population kept ignorant of reality (...) In effect, censorship of Natural News is part of the establishment's war on humanity which includes depopulation measures (Bill Gates), covert infertility vaccines, corporate-run media disinfo campaigns and a full-on assault against scientific truth and free speech conducted in the public interest," Adams wrote on [February 22, 2017](#) (archive link: <http://archive.is/DZ1So>).

In addition, Adams is trying to promote a public "diaspora" to its own communication channels. He has created Natural News' own [social network](#), [search engine](#) and [wiki](#). He also promotes the use of Gab (the far-right social network) instead of Twitter and [Brighteon](#) instead of YouTube.

Facebook bans all content on vaccine awareness, including facts about vaccine ingredients, vaccine injury and vaccine industry collusion

Friday, March 08, 2019 by: Mike Adams

Tags: Censorship, deception, disinfo, dogma, evil, Facebook, lies, propaganda, Social media, tech giants, vaccines, zuckerberg

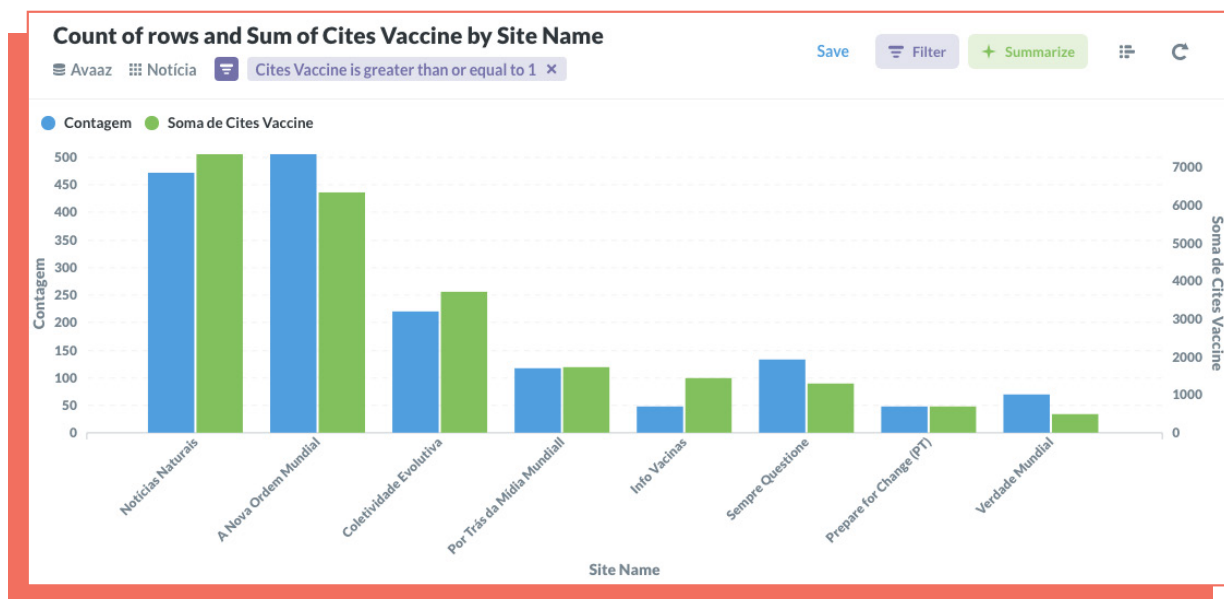
      **100K**
VIEWS



[Post on Natural News, on March 08, 2019](#)
(archive link: <http://archive.fo/4NgR3>)

CASE STUDY TWO - NOTÍCIAS NATURAIS: THE BRAZILIAN NATURAL NEWS

Among the anti-vaccine Facebook pages monitored by Avaaz, [Notícias Naturais](#) (in English, Natural News) stands out as the one that posted the most content since 2016 - 108 articles. In addition, the database set up by Avaaz points out that among the eight main anti-vaccine sites assessed, Notícias Naturais was the site that most used the word “vaccine”. In total, there were 473 different articles, with 7,350 mentions of “vaccine”.



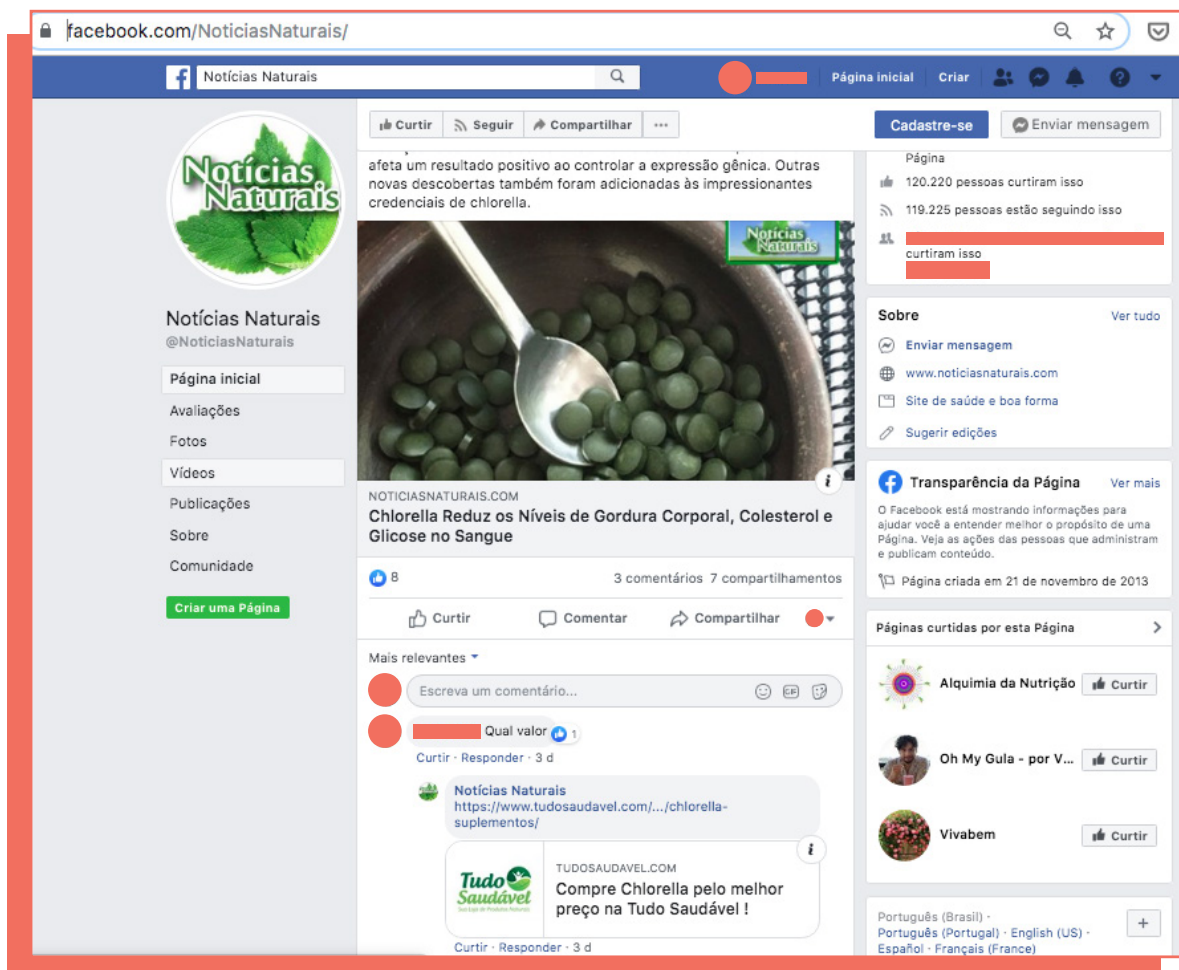
Counting - Sum of Vaccine Cites

Green bars show the number of times the word “vaccine” appears in each site’s posts. Blue bars show the number of different links with the word “vaccine”.

CASE STUDY TWO - NOTÍCIAS NATURAIS: THE BRAZILIAN NATURAL NEWS

On Facebook and on the web, Notícias Naturais is the main producer of Brazilian anti-vaccine content identified by Avaaz. And they are not only named after Natural News, but also publish word-by-word translations of the site's articles - and also seems to sell products and cures alongside their content as Natural News does.

Notícias Naturais presents itself as a healthy lifestyle page with the "aim of disseminating information and news that is important to our health, information that is often suppressed by the billionaire pharmaceutical market that wants to keep their high profits". The site has only one fixed advertiser: the online store Tudo Saudável (All Healthy) with headquarters in Florianópolis. Avaaz's investigation found evidence that indicates Notícias Naturais's editor or forum admin may have a business arrangement with Tudo Saudável and is receiving profits from the sale of its featured products on the Naturais site.



Screenshot of Notícias Naturais's post about the benefits of "Chlorella", followed by the link to buy the product on Tudo Saudável's store.

CASE STUDY TWO - NOTÍCIAS NATURAIS: THE BRAZILIAN NATURAL NEWS

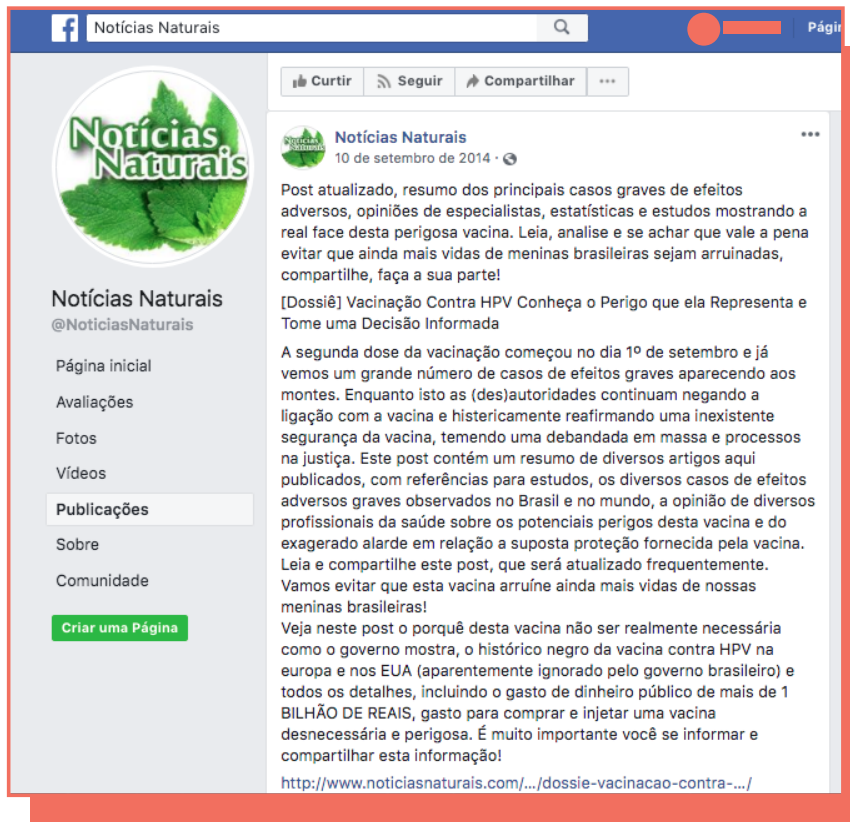
There are also several indications that the Notícias Naturais page is managed as a network with [Anti Nova Ordem Mundial](#) (in English, Anti New World Order) to boost each other's content: on the "about" section of the website, Notícias Naturais is listed as an associated site.



Screenshot of the Anti-New World Order page, with Tudo Saudável advertisements and icon for Notícias Naturais and Notícias Naturais Fórum associated sites <http://archive.is/71X70>

Both sites started posting in April 2009. Out of the 473 vaccine news items published by Notícias Naturais, 203 were also published under the same title at Anti Nova Ordem Mundial. In addition, many of the articles are posted on both Facebook pages within minutes of each other. On September 10, 2014, for example, the two pages posted a long text against the HPV vaccine. At Notícias Naturais, the posting took place at 10:00 am, and had 612 shares. At Anti Nova Ordem Mundial, at 10:05 am the exact same post was published, with 88 shares. The reach of Notícias Naturais is much higher - 119,000 followers, against 39,000 for Anti Nova Ordem Mundial - but it appears there is coordinated behavior happening here.

CASE STUDY TWO - NOTÍCIAS NATURAIS: THE BRAZILIAN NATURAL NEWS



Captura de tela da publicação do Notícias Naturais no Facebook, em 10 de setembro de 2014, às 10h <http://archive.is/3hDpC>



Captura de tela da publicação do Anti Nova Ordem Mundial no Facebook, em 10 de setembro de 2014, às 10h05 <http://archive.is/cYjAd>

CASE STUDY TWO - NOTÍCIAS NATURAIS: THE BRAZILIAN NATURAL NEWS

Another indication that the pages are likely part of a coordinated network is that they both have discussion forums, equipped with the same technology and layout. The administrator of both forums is also the same, and presents himself as the “creator, founder and administrator of the Anti-NOM Forum and the blog Anti Nova Ordem Mundial”. **Lastly, our investigation found that Nova Ordem Mundial has the same sole advertiser as Notícias Naturais: Tudo Saudável.**

Tudo para sua saúde e bem-estar
você encontra pelo melhor preço na **Tudo Saudável**

ANTI NOVA ORDEM MUNDIAL O mundo não é bem como nos contaram

Bate-papo Tópicos Importantes Pesquisar Membros Ajuda Parceiros Regras

Bem Vindo, Visitante! (Entrar - Registrar) Horário atual: 24-10-2019, 01:32 AM

LEIAM: Dicas para Criar Tópicos Mais Atraentes!!! - Mantendo seus lindos tópicos
Regras - Traduzir Artigos Inglês->Português - Guernilha da Informação Anti-NOM
Novatos: você tem realmente um tópico que vale a pena postar?

[ANÚNCIO] Novo Fórum: Notícias Naturais

ATENÇÃO: Reafirmação da Proposta e Compromisso Ideológico da Comunidade Anti NOM

Fórum Anti Nova Ordem Mundial / Perfil de admin

admin
(Administrador)
★★★★★

Data de Registro: 28-09-2009
Data de Nascimento: Não Informado
Horário Local: 24-10-2019 - 01:32 AM
Status: Offline

Informações do Fórum de admin	
Registrado:	28-09-2009
Última Visita:	26-06-2019 04:20 AM
Respostas:	6.300 (1.85 por dia 2.42% do total) (Todos os Tópicos - Todos as Respostas)
Total de Agradecimentos Feitos	12,328 (0 por dia 0 percentagem do total) (Localizar todos os tópicos agradecidos - Localizar todos Posts Agradecidos)
Total Agradecimentos Recebidos	20,510 (0.01 por dia 0 percentagem do total) (Localizar Todos os Tópicos Agradecidos por - Localizar Todos os Posts Agradecidos por)
Tempo Total Online:	1 Mês, 1 Semana, 5 Dias, 15 Horas, 4 Minutos
Reputação:	102 [Detalhes]

Informações Adicionais sobre admin	
Sex:	Undisclosed
Location:	
Bio:	Idealizador, fundador e administrador do Fórum Anti-NOM e do blog http://www.anovaordemmundial.com

Assinatura de admin
O Blog Sobre A Nova Ordem Mundial

Detalhes de Contato de admin

Website: <http://www.anovaordemmundial.com/>
Mensagem Pessoal: Enviar uma MP para admin
Número de ICQ:
Nome de Tela AIM:
ID do Yahoo:
Endereço MSN:

Entre em Contato | Fórum Anti Nova Ordem Mundial | Voltar ao Topo | Voltar ao Conteúdo | Modo Leve (Arquivo) | Feed RSS |
Outil: Ajuda a manter este Fórum | Blog Anti Nova Ordem Mundial | Blog A Nova Ordem Mundial | Site Notícias Naturais | Registro Brasileiro de Emissão Adversos das Vozes | Loja Tudo Saudável | Fórum Notícias Naturais

Screenshot of the profile of the administrator of the Anti-Nova Ordem Mundial Forum, in which he says, that he is “creator, founder and administrator of the Anti-NOM Forum and the Anti Nova Ordem Mundial blog”
<http://archive.is/3hDpC>

Receitos Para Secar EM 30 DIAS

FÓRUM Notícias Naturais A Su Fórum Notícias Naturais de Notícias

Bate-papo Pesquisar Membros Ajuda Parceiros Regras

Bem Vindo, Visitante! (Entrar - Registrar) Horário atual: 24-10-2019, 01:28 AM

LEIAM: Dicas para Criar Tópicos Mais Atraentes!!! - Mantendo seus lindos tópicos
Regras - Traduzir Artigos Inglês->Português
Novatos: você tem realmente um tópico que vale a pena postar?

Fórum Notícias Naturais / Perfil de admin

admin
(Administrador)
★★★★★

Data de Registro: 28-09-2009
Data de Nascimento: Não Informado
Horário Local: 24-10-2019 - 01:28 AM
Status: Offline

Informações do Fórum de admin	
Registrado:	28-09-2009
Última Visita:	22-10-2019 02:55 AM
Respostas:	1,634 (0.44 por dia 9.26% do total) (Todos os Tópicos - Todos as Respostas)
Total de Agradecimentos Feitos	5,263 (0 por dia 0 percentagem do total) (Localizar todos os tópicos agradecidos - Localizar todos Posts Agradecidos)
Total Agradecimentos Recebidos	7,483 (0 por dia 0 percentagem do total) (Localizar Todos os Tópicos Agradecidos por - Localizar Todos os Posts Agradecidos por)
Tempo Total Online:	1 Mês, 3 Dias, 15 Horas, 31 Minutos, 24 Segundos
Reputação:	87 [Detalhes]

Informações Adicionais sobre admin	
Sex:	Undisclosed
Location:	
Bio:	Idealizador, fundador e administrador do Fórum Anti-NOM e do blog http://www.anovaordemmundial.com

Assinatura de admin
Sua Fonte Natural de Informação

Detalhes de Contato de admin

Website: <http://www.anovaordemmundial.com/>
Mensagem Pessoal: Enviar uma MP para admin
Número de ICQ:
Nome de Tela AIM:
ID do Yahoo:
Endereço MSN:

Entre em Contato | Fórum Notícias Naturais | Voltar ao Topo | Voltar ao Conteúdo | Modo Leve (Arquivo) | Feed RSS | Site Notícias Naturais | Loja Tudo Saudável

Português do Brasil OK

Tradução: MyBB Brasil - MyBB, © 2002-2019 MyBB Group.

Screenshot of the profile of the administrator of the Anti-Nova Ordem Mundial Forum, in which he says, that he is “creator, founder and administrator of the Anti-NOM Forum and the Anti Nova Ordem Mundial blog”
<http://archive.is/3hDpC>

CASE STUDY THREE - JAIME BRUNING: BRAZIL'S ANTI-VAX YOUTUBE STAR

Our analysis of anti-vaccine videos on Brazilian YouTube showed that the most popular figure is Jaime Bruning. Bruning presents himself as a professor who produces and spreads content about natural and healthy lifestyles. Together, his videos with messages against vaccination (published on his own channel or replicated in other channels) have more than 3 million views. The only Brazilian anti-vaccine videos that surpassed the 1 million-view-threshold in our Youtube sample are his.

In one of his videos, Bruning looks at the camera and says: *"The vaccines. It's another thing that we have to be extremely careful about. Getting vaccinated can be a big danger. Do you think what I'm talking about is weird? Then pay attention. A new world order is emerging. (...) A great extermination will happen in the world. Everything is prepared. (...) There are 3 powerful weapons to achieve this goal. Forcing the population to eat transgenic food, drink water with fluoride, and vaccinating the people. It has to terminate the weak, the poor, the old, the ugly, the stupid. So they say. And those who get vaccinated regularly are the stupid ones, they say. They're putting cancer viruses, cancer fungus in vaccines".*

In the video, Bruning also recommends that people replace the yellow fever vaccine for a tea made of cabbage, apple, garlic, lemon and honey. And he closes by advertising his own book: *"I have a book called A Saúde Brota da Natureza (in English, The Health Sprouts of Nature) (...) This book gives an overview (...) then it moves on to the practical part: causes, symptoms and treatments of diseases. An infinity of diseases (...) Treatment is always with water, plants, clay, exercises, right food... the result is spectacular by just sticking to the natural. This book is on the internet, you can buy it".*

On Jaime Bruning's website, the book "[A Saúde Brota da Natureza](#)", first published in 1984, is sold at prices ranging from 67 to 97 BRL (17 to 24 USD). "Achieve the Best Health in the World with Natural Therapies! Tested and approved by thousands of people!", says the book's ad. The site also sells "remote bioenergetic treatments," for 110 BRL (about 30 USD). Bruning claims to be able to identify diseases and select "the right treatments" with teas, clay, charcoal, food and baths - all sold by him.

CASE STUDY THREE - JAIME BRUNING: BRAZIL'S ANTI-VAX YOUTTUBE STAR

In recent years, Bruning also began to disseminate messages from the conservative Christian sect “Reapers” of the Brazilian state of Santa Catarina, whose doctrinal books also address the “new world order” and anti-vaccine content - including translations of Natural News.



Subtitles for the image: A Saúde Brota da Natureza (in English, The Health Sprouts of Nature) - Natural solution for more than 200 diseases. E-book on natural treatments by Prof. Jaime Bruning. The industry will do anything to prevent you from seeing this video. Prog. Jaime Bruning 2019

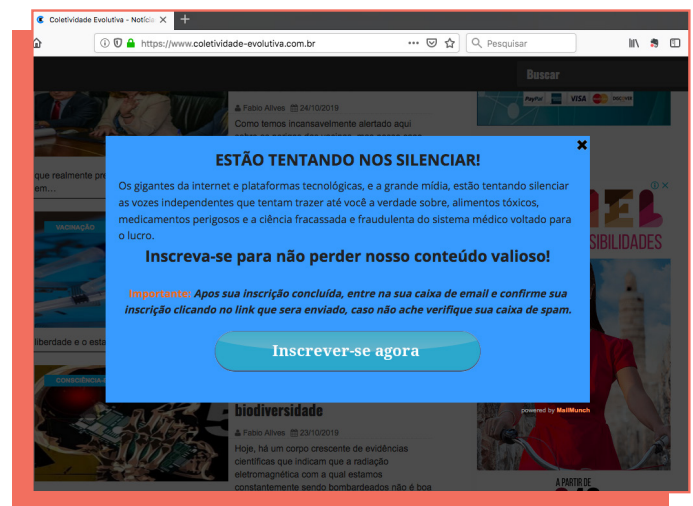
Screenshot of the video in which Jaime Bruning speaks against the yellow fever vaccine, with more than 1 million views; in the end, he advertises his book.

CASE STUDY FOUR - COLETIVIDADE EVOLUTIVA (EVOLUTIONARY COLLECTIVITY)

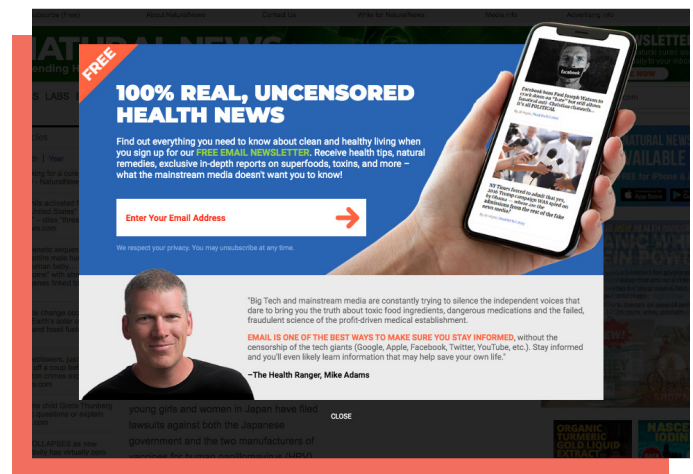
After Notícias Naturais and its partner site A Nova Ordem Mundial, Coletividade Evolutiva is the website that we saw publishing the most anti-vaccine content - more than 200 different links. It is also filled with automatic ads, besides having a special call for new advertisers: “Coletividade Evolutiva has now advertisement opportunities for qualified advertisers. Check the following information to access which option is better for your business”. In addition, Coletividade Evolutiva asks for donations: “Support independent journalism by Coletividade Evolutiva”. The site appears to be registered under the name of Fabio Alves Pereira.

When it comes to vaccines, one of the most common topics is on how vaccination is used by elites to decrease the world’s population. For example, an article titled *“The proof that vaccines are being used to cause infertility in women all around the world: document reveals which infertility chemical is secretly put into vaccines”*, from February 2018, says: “I explain how the chemical ‘weaponizes the wombs’ of black women, turning the bodies of mothers into biological weapons against their own unborn children...”. The narrator in this case is not from Coletividade Evolutiva, but Mike Adams from Natural News himself. The article was translated from Natural News only one day after its publication.

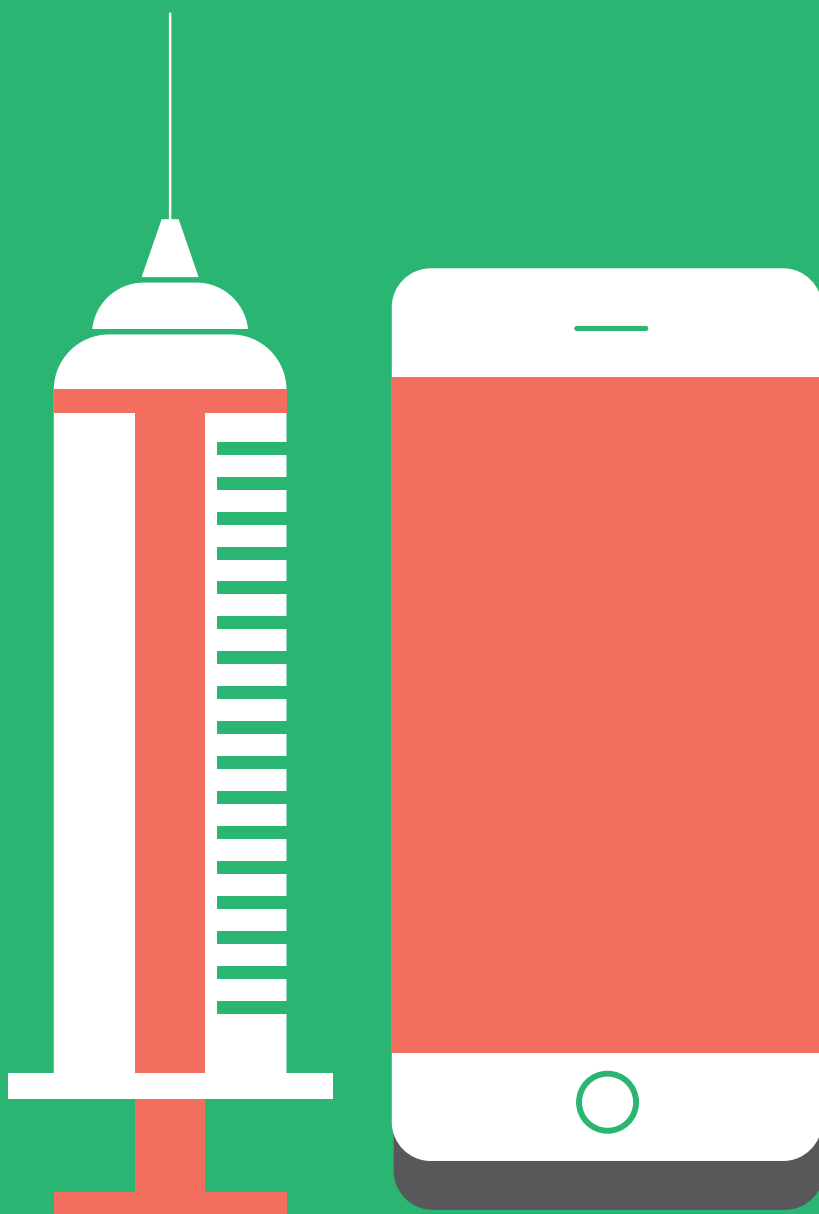
Another similarity with Natural News’s website is that when you first access its homepage, a pop up window says: “They are trying to shut us up. The giants of the internet, tech platforms and big media are trying to shut up the independent voices that try to show you the truth about toxic food, dangerous medicines and failed and fraudulent science from a medical system dedicated only to profit. Subscribe in order to save our precious content”.



Screenshot of Coletividade Evolutiva's pop up window saying "They are trying to shut us up. Subscribe not to lose our precious content"



Screenshot of Natural News' pop up window asking to subscribe: "100% real, uncensored health news".



FINAL CONCLUSIONS

We are living in an epidemic of vaccine misinformation in Brazil. It is no exaggeration: if any disease infected 7 out of 10 Brazilians we would call it exactly that.

Like an epidemic, this virus only spreads because it finds a host whose defenses are weak - the different platforms of social media - and it spreads infecting other hosts. Misinformation travels from websites to Facebook, YouTube, and Instagram and hides itself in the privacy of Whatsapp.

We fight a misinformation epidemic in the same way we fight a regular one: by making medicine and treatment available and stopping the vectors of the disease. In this case, reliable information is the medicine that counteracts the infection - seeing corrections online for inaccurate information, mainstreaming reliable communication campaigns on vaccines online and in print, and having access to doctors, clinics and other trustworthy medical support.

Data analysis also indicates that **the vaccine misinformation epidemic in Brazil is not only a Brazilian problem alone. It is a global issue and can be most effectively addressed with a global strategy.** Much of the content spread in Brazil is translated or based on information originally published abroad, in English, mostly in the United States. Further research needs to be done to assess the impact of vaccine misinformation in the global south, since it seems to be a relatively new phenomenon here. This study is not final but an invitation for more research, more public conversations, and more action.

The misinformation discussion is often mired in political partisanship. Misinformation about our health and public safety, however, is not partisan, it's about our lives. This is a public health crisis that can be fixed, but only if governments and social media platforms work together to contain the misinformation epidemic that is ravaging Brazil.



ABOUT AVAAZ

Avaaz's anti-misinformation team plans to detect, make public and deter misinformation on social networks and release studies internationally similar to those it conducted in the lead up to the EU elections here: https://secure.avaaz.org/campaign/en/disinfo_network_report/.

Avaaz reports openly on what it finds, so it can alert and educate social media platforms, regulators, and the public, and so it can more effectively advocate for smart solutions to defend the integrity of elections, our democracies and public health information from misinformation.

This report aims in part to investigate, analyze, and expose misinformation on social media. The report summarizes an investigation to: identify and track misinformation content on social media to assess its reach/impact; identify and track groups/channels in order to urge platforms and governments to investigate and take action.

ANNEX

ANNEX I:

LIST OF 30 FACT-CHECKED ARTICLES ABOUT VACCINES, PRODUCED BY THE MINISTRY OF HEALTH OR BRAZILIAN FACT-CHECK AGENCIES

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
MPF proíbe vacina contra HPV	Ministério da Saúde	http://www.saude.gov.br/fakenews/44143-mpf-proi-be-vacina-contra-hpv-fake-news	https://www.facebook.com/cruzadapelaliberdade/posts/1217874621652070	-	Brazil	Facebook: 19.9 million views
Vacina contra HPV causa paralisia nos adolescentes	Uol Confere	https://noticias.uol.com.br/confere/ultimas-noticias/2017/12/06/vacina-de-hpv-pode-causar-paralisia-ela-pode-passar-o-virus.htm	https://www.facebook.com/477176199080970/posts/1359922910806290	-	Brazil	Facebook: 3.6 million views
Vídeo Jaime Bruning vacina faz mal (sentado 9'20")	Ministério da Saúde	http://www.saude.gov.br/fakenews/45153-vacina-faz-mal-fake-news	https://www.YouTube.com/watch?v=SzSc1Dv2QQg&list=PLpzOIVgz-GEjhfzW8H-0dlhAS3jaN8Zx-gi&index=3	https://www.naturalnews.com/036756_depopulation_agenda_eugenics_survivor.html	US website Natural News → Brazilian blog (Um novo despertar) → Brazilian religious book (Os Ceifadores XV) → Brazilian YouTube channel (Jaime Bruning) → Debunked by the Ministry of Health	YouTube: 1.1 million views (3 different channels)
Muita atenção! A Ordem Mundial está matando a população com as vacinas para reduzir a população como eles querem	Boatos	https://www.boatos.org/saude/vacinas-reduzem-populacao-virus-cancer.html	https://www.YouTube.com/watch?v=SzSc1Dv2QQg&list=PLpzOIVgz-GEjhfzW8H-0dlhAS3jaN8Zx-gi&index=3	https://www.naturalnews.com/036756_depopulation_agenda_eugenics_survivor.html	US website Natural News → Brazilian blog (Um novo despertar) → Brazilian religious book (Os Ceifadores XV) → Brazilian YouTube channel (Jaime Bruning) → Debunked by Boatos.org	YouTube: 1.1 million views (3 different channels)

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
Vacina do H1N1 destroi imunidade das pessoas e dá câncer	Boatos	https://www.boatos.org/saude/vacina-h1n1-destroi-imunidade-cancer.html	https://www.YouTube.com/watch?v=SzSc1Dv2QQg&list=PLpzOIVgz-GEjhfnzW8H-0dlhAS3jaN8Zx-gi&index=3	https://www.naturalnews.com/036756_depopulation_agenda_eugenics_survivor.html	US website Natural News → Brazilian blog (Um novo despertar) → Brazilian religious book (Os Ceifadores XV) → Brazilian YouTube channel (Jaime Bruning) → Debunked by Boatos.org	YouTube: 1.1 million views (3 different channels)
Bill Gates diz que vacinas servem para esterelizar, matar e reduzir a população mundial	Boatos	https://www.boatos.org/saude/bill-gates-vacinas-reduzir-populacao.html	https://www.YouTube.com/watch?v=o6M-Q8Qlsy6w&list=PLpzOIVgz-GEjhfnzW8H-0dlhAS3jaN8Zx-gi&index=4	https://www.naturalnews.com/029911_vaccines_bill_gates.html	US website Natural News → Brazilian YouTube channel (Rômulo Maraschin) → Debunked by Boatos.org	YouTube: 841.000 views
60 médicos americanos diz ao mundo não tomem o veneno da vacina da morte febre amarela	Ministério da Saúde	http://www.saude.gov.br/fakenews/44129-vacina-febre-amarela	https://www.YouTube.com/watch?v=aFii-n6Es3Pk	https://www.stopmandatoryvaccination.com/	US website (Stop Mandatory Vaccination) → Brazilian YouTube channel (Evangelistas do Apocalipse) → Debunked by the Ministry of Health	YouTube: 400.000 views
Depois de vacinarem 40 mi de pessoas descobriram que VACINA DA FEBRE AMARELA É UM VENENO MORTAL.	G1	http://especiais.g1.globo.com/fato-ou-fake/2018/banco-de-boatos/#!/vacina-de-febre-amarela-e-veneno-mortal-fake	http://www.semprequestione.com/2016/04/urgente-depois-de-vacinarem-48-milhoes.html#.WF7APkrLIU	https://www.naturalnews.com/045418_flu_shots_influenza_vaccines_mercury.html	US website Natural News, on the flu vaccine → Brazilian website (Por Tras Midia Mundiall) → More than 10 blogs in Brazil → Shorter version published on a different Brazilian website (Sempre Questione) → New version on social media replacing the flu vaccine for the yellow fever vaccine → Debunked by É Fato ou Fake (G1)	Facebook: 206.000 shares in “Sempre Questione” website

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
Veneno mortal: vacina da gripe tem mercúrio superior 25.000 vezes o nível máximo permitido e não há ensaios controlados	Boatos	https://www.boatos.org/saude/alerta-falso-vacina-contr-a-gripe-tem-nivel-de-mercurio-letal.html	https://portas-midiamundial.blogspot.com/2015/05/a-vacina-da-gripe-tem-mercúrio-superior.html	https://www.naturalnews.com/045418_flu_shots_influenza_vaccines_mercury.html	US website Natural News → Brazilian website (Por Tras Midia Mundiall) → More than 10 blogs in Brazil → Shorter version on a different Brazilian website (Sempre Questione) → 4 different versions spread throughout at least 18 websites and blogs → Debunked by Boatos.org	Facebook: 148.000 shares in “Libertar” website
Médicos que descobriram enzimas do câncer em vacinas são encontrados mortos	Boatos	https://www.boatos.org/saude/medicos-enzimas-cancer-vacinas-mortos.html	https://www.sempre-questione.com/2018/05/medicos-que-descobriram-enzimas-do.html	https://www.naturalnews.com/050553_Dr_Bradstreet_GcMAF_cancer_therapy.html	US website Natural News → Brazilian website (Sempre Questione) → Debunked by Boatos.org	Facebook: 101.000 shares
Médico quebra o silêncio: “A vacina contra a gripe é o que está causando um surto mortal de gripe”	Lupa	https://piaui.folha.uol.com.br/lupa/2018/05/15/-verificamos-surto-gripe-vacina/	http://www.sempre-questione.com/2018/04/medico-vacina-contr-a-gripe-alerta.html	http://archive.is/nmccH	US website (Your News Wire) → Brazilian website (Sempre Questione) → Debunked by Lupa	Facebook: 68.000 shares
O zika vírus foi criado e patenteado pela família Rockefeller e seu objetivo é matar milhões de pessoas, além de lucrar com a venda de vacinas.	Aos Fatos	https://aosfatos.org/noticias/virus-zika-nao-foi-criado-pelos-rockefeller-nao-tem-patente-e-nao-gera-lucro-com-vacinas/	http://www.sempre-questione.com/2016/02/o-zika-virus-foi-criado-e-patenteado.html	https://web.archive.org/web/20160203091029/http://www.conspiracyclub.co/2016/02/02/zika-virus-rockefeller/	US website (Conspiracy Club) → Brazilian website (Sempre Questione) → Debunked by Aos Fatos	Facebook: 51.000 shares

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
Uma jovem de 17 anos morreu por causa da vacina da febre amarela?	E-farsas	http://www.e-farsas.com/uma-jovem-de-17-anos-morreu-por-cao-da-vacina-da-febre-amarela.html	Web: https://www.ivinoticias.com.br/noticia/73544/jovem-de-17-anos-morre-apos-tomar-vacina-contr-febre-amarela Facebook: https://www.facebook.com/jornaldestaque-baixada/posts/-800393200-161979/	-	Brazil	Facebook: 2.100 shares
Vacinas obrigatórias: o que há por trás disso? Elas são confiáveis?	Ministério da Saúde	http://www.saude.gov.br/fakenews/44248-vacinas-obrigatorias-o-que-ha-por-tras-disso-elas-sao-confiaveis	https://web.archive.org/web/20190-129014901/http://www.jaimebruning.com.br/blog/vacinas-obrigatorias-o-que-ha-por-tras-disso/	https://www.naturalnews.com/036756_depopulation_agenda_eugenics_survivor.html	US website Natural News → Brazilian blog (Um novo despertar) → Brazilian religious book (Os Ceifadores XV) → Brazilian website (Jaime Bruning's website) → several Brazilian blogs (including Rainha Maria) → Debunked by the Ministry of Health	Facebook: 1,100 shares
10 razões pelas quais não deveria vacinar seu filho	Ministério da Saúde	http://www.saude.gov.br/fakenews/45183-10-razoes-pelas-quais-nao-deveria-vacinar-seu-filho-e-fake-news	https://www.noticiasnaturais.com/2015/02/10-razoes-pelas-quais-voce-nao-deveria-vacinar-seus-filhos/	https://www.naturalnews.com/048151_vaccination_dangers_children_Big_Pharm.html	US websites (VacTruth and Natural News) → Brazilian website (Notícias Naturais) → Facebook pages (Notícias Naturais, Pensadores contra o Sistema and O lado obscuro das vacinas) → Whatsapp → Debunked by the Ministry of Health	Facebook: 736 shares

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
As novas vacinas ainda causam autismo e o governo sabe	Ministério da Saúde	http://www.saude.gov.br/fakenews/44429-vacinas-causam-autismo-fake-news	https://pt.prepareforchange.net/2017/04/21/as-novas-vacinas-ainda-causam-autismo-e-os-governos-sabem/	https://www.globealresearch.ca/new-vaccines-still-cause-autism-and-the-u-s-government-knows-it/5573951	US website (GreenMedInfo) → Brazilian website (Prepare For Change) → several blogs (including Senhora de Sirius and Infovacinas) → Debunked by the Ministry of Health	Facebook: 63 shares
Vacina gripe deixa buraco no braço em São Vicente	Ministério da Saúde	http://www.saude.gov.br/fakenews/45625-vacina-contragripe-causa-buraco-em-braco	http://archive.fo/YFFxz	-	Brazil	Facebook: 59 shares
Vacina da febre amarela engravida noiva em Marabá e deixa cidade em pânico	Boatos	https://www.boatos.org/brasil/garota-irgema-engravada-vacina.html	http://www.amplitude-news.com.br/noticia/5382/vacina-da-febre-amarela-engravada-noiva-no-para-e-deixa-cidade-em-panico	-	Brazil	Facebook: 58 shares
Japão: vacia contra o HPV sob julgamento devido seus terríveis efeitos colaterais	Ministério da Saúde	http://www.saude.gov.br/fakenews/44144-japao-vacina-contrao-hpv-sob-julgamento-de-vido-a-horriveis-efeitos-colaterais-fake-news	https://verdademundial.com.br/2017/03/japao-vacina-contrao-hpv-sob-julgamento-devido-seus-horriveis-efeitos-colaterais/	https://www.naturalnews.com/2017-02-28-japan-hpv-vaccine-on-trial-for-its-horrifying-side-effects.html	US website (Natural News) → Brazilian website (Verdade Mundial) → Debunked by the Ministry of Health	Facebook: 33 shares
Fiocruz diz que mutações do vírus afetam eficácia da vacina contra a febre amarela	G1	http://especiais.g1.globo.com/fato-ou-fake/2018/banco-de-boatos/#!/fiocruz-diz-que-mutacoes-do-virus-afetam-eficacia-da-vacina-contraa-febre-amarela-fake	WhatsApp	-	Brazil	WhatsApp: impossible to measure

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
RECEITA IMUNIZAÇÃO FEBRE AMARELA Ingredientes 1 Folha de couve 1 maçã 1 dente de alho Suco 1/2 limão 1 colher de sopa de mel 1/2 copo de água	G1	http://especiais.g1.globo.com/fato-ou-fake/2018/banco-de-boatos/#!/receita-natural-imuniza-contr-a-febre-amare-la-ou-cura-a-do-enca-fake	WhatsApp	-	Brazil	WhatsApp: impossible to measure
Alerta aos pais: MPF proíbe a vacina contra o HPV	G1	http://especiais.g1.globo.com/fato-ou-fake/2018/banco-de-boatos/#!/mpf-proibiu-vacina-contr-hpv-em-todo-o-pais-fake	WhatsApp	-	Brazil	WhatsApp: impossible to measure
Diretor do HC (Hospital das Clínicas) de SP preocupado com a nova gripe que vai matar muita gente... orienta chá de erva doce	G1	http://especiais.g1.globo.com/fato-ou-fake/2018/banco-de-boatos/#!/e-fake-que-diretor-do-hc-mandou-mensagem-com-dicas-para-evitar-gripe-e-que-tamiflu-e-feito-de-erva-doce	WhatsApp	-	Brazil	WhatsApp: impossible to measure
Esse casal pegou a gripe h2n3 aí em Rio Claro	G1	https://g1.globo.com/fato-ou-fake/noticia/2018/07/30/novo-virus-h2n3-tem-provocado-mortes-no-brasil-fake.ghml		-	Brazil	WhatsApp: impossible to measure
Funcionária do Instituto Butantã desaconselha vacina contra febre amarela	Boatos	https://www.boatos.org/?s=vacina+perigo	WhatsApp	-	Brazil	WhatsApp: impossible to measure

FAKE NEWS	WHO FACT-CHECKED IT	LINK TO FACT-CHECK	BRAZILIAN SOURCE	FOREIGN SOURCE	FOLLOWING THE TRACK	REACH
Vírus da febre amarela sofreu uma mutação e vacina não protege mais: “Está confirmada suspeita. O vírus já mudou. A vacina atual pode não proteger”	Boatos	https://www.boatos.org/saude/virus-febre-amarela-mutacao.html	WhatsApp	-	Brazil	WhatsApp: impossible to measure
Vacina contra febre amarela paralisa o fígado, segundo médico de Sorocaba: “A minha prima Simone mora em Sorocaba o marido dela é médico...”	Boatos	https://www.boatos.org/saude/vacina-febre-amarela-figado-sorocaba.html	WhatsApp	-	Brazil	WhatsApp: impossible to measure
Febre amarela farsa criada pelo governo para vender vacina	Boatos	https://www.boatos.org/saude/febre-amarela-farsa-governo.html	WhatsApp	-	Brazil	WhatsApp: impossible to measure
“Não adianta brigar comigo: vacinas causam autismo. Tá na bula”	Lupa	https://piaui.folha.uol.com.br/lupa/2019/02/18/verificamos-bula-autismo/	Facebook (unidentified link)	https://www.naturalnews.com/053469_vaccines_autism_FDA_documents.html	US website Natural News → Facebook → Debunked by Lupa	-
Alumínio presente em vacinas causa autismo	Drauzio Varella	https://drauziovarella.uol.com.br/videos/drauzio-news/aluminio-pre-sente-em-vacinas-causa-autismo-drauzio-news-26/	Thematic fact-check, not related to a single story)	-	-	-

TOTAL REACH that was possible to measure: 2.4 million views in YouTube, 23.5 million views in Facebook (videos only), 578,000 shares in Facebook (considering only the main link, not its various replications).

ANNEX II:

MOST POPULAR ANTI-VACCINATION POSTS ON FACEBOOK PAGES WITHIN AVAAZ'S SAMPLE

Selected from analysis of 67 pages with anti-vaccination content, only in posts that mentioned “vaccine” and had a negative approach towards vaccination, from 2016 to 25th October 2019. In total, there were 944 posts with 991,000 interactions. The top 5 posts listed below were responsible for 86% of the total interaction.

PAGE NAME	CREATED	TOTAL IN-TERACTIONS	TYPE	TOTAL VIEWS (VIDEO ONLY)	MESSAGE
Crusade for Freedom (Cruzada Pela Liberdade)	2017-09-19 12:05:05 EDT	761,642	Native Video	19,876,426	Parent Alert: MPF bans the HPV vaccine, which can leave your children debilitated for life or even kill them because it contains heavy metals, transgenic viruses and preservatives, and destroys the individual's natural capacities. DO NOT VACCINATE YOUR CHILD AGAINST HPV because behind it there's a mafia that only aims to make profit from it.
Against the New World Order (Contra Nova Ordem Mundial)	2018-05-08 17:00:02 EDT	50,533	Native Video	2,823,062	Totally healthy child dies after second dose of H1N1 death vaccine
Global Conspiracy (Conspiração Global)	2018-04-28 17:16:00 EDT	18,442	Link		Doctor breaks the silence: "The flu vaccine is the cause of the deadly flu outbreak"
Global Conspiracy (Conspiração Global)	2018-12-24 16:34:00 EST	16,742	Link		Trump warns: "Flu Vaccines Are the Biggest 'Fraud' in Medical History"
Ordem Dourada Do Brasil (Brazilian Golden Order)	2017-08-07 00:39:49 EDT	4,844	Native Video	110,248	HPV VACCINE - Attorneys' Office asks for vaccine to be forbidden in all Brasil

MOST POPULAR ANTI-VACCINATION POST IN FACEBOOK GROUPS

Selected from analysis of 33 groups with anti-vaccination content, only in posts that mentioned “vaccine” and had a negative approach towards vaccination, from 2016 to 25th October 2019. Resulting in a total of 2,396 posts with 77,000 interactions.

GROUP NAME	CREATED	TOTAL IN- TERACTIONS	TYPE	MESSAGE
The Dark Side of Vaccines (O Lado Oscuro das Vacinas)	2018-12-05 06:44:18 EST	1.392	Status	Anonymous post: "I have a problem, I need to register my 4-year-old daughter in school and they are requiring a signed statement from a health center confirming she took all the vaccines. Knowing the harm vaccines cause, I stopped vaccinating her around 15 months old. Therefore she didn't take all of them. I'm not sure what to do, can anyone help me? I don't want to give her these poisons. Not only they are requiring the vaccination card, they are now demanding the statement signed by the health center, proving that the child has the vaccines up to date.

ANNEX III:

MOST POPULAR ANTI-VACCINATION BRAZILIAN VIDEOS ON YOUTUBE

Selected from analysis of 69 videos with anti-vaccinate content and more than 10,000 visualizations, totalling together 9.2 million of visualizations and 40,000 comments.

TITLE	CHANNEL NAME	VIEWS	DATE
Yellow fever: watch it before you get the vaccine! (Jaime Bruning)	New Generation! Commitment with the Truth! (Nova Geração! Compromisso com a Verdade!)	1.3 million	01- 10 - 2018
THE INDUSTRY WILL MAKE EVERYTHING TO STOP YOU FROM WATCHING THIS VIDEO! Prof. Jaime Bruning 2019	Naturalmed (Med Natural)	1 million	11- 06 - 2018
VACCINATION: Population Reduction, Transgenic Mosquitoes, Georgian Guide Stones, Bill Gates & NOM	Rômulo Maraschin	840,000	05- 12 - 2018
URGENT! DOCTOR ALERTS THAT H1N1 VACCINE DESTROYS YOUR IMMUNITY AND CAUSES CANCER. IS IT POSSIBLE???	Evangelical Fatherland of God (Pátria Evangélica de Deus)	661,000	05- 03 - 2019
60 North American Doctors tell the world not to get poisoned by the lethal yellow fever vaccine	Apocalypse's Evangelists (Evangelistas Do Apocalipse)	401,000	01- 11 - 2018
266- The 2019 Epidemic we can avoid!!!	Truth Science (Ciencia de Verdade)	392,000	07- 30 - 2018
H1N1 VACCINE- DON'T TAKE IT OR YOU WILL DIE AFTER 2 YEARS	Dacio Silva	370,000	05- 05 - 2010
DON'T TAKE THE H1N1 VACCINE, SAYS DAVID ICKE	apocalipseyootube	281,000	08- 25 - 2009
VACCINE H1N1- RESEARCH BEFORE TAKING IT! VACINA H1N1 - NAO TOME, PESQUISE ANTES!	The Truth Will Set You Free (VerdadeLibertaVoce)	239,000	10- 14 - 2009
How will vaccines kill millions of Brazilians?	Apocalypse's Evangelists (Evangelistas Do Apocalipse)	227,000	02- 06 - 2018



AVAAZ

NOVEMBRO, 2019