

# THE EUROPEAN DISCOURSE ON MEASLES-MUMPS-RUBELLA (MMR) VACCINATION

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## ABSTRACT

At the end of 2018, the World Health Organization (WHO) announced mistrust in vaccines being among the ten biggest world health threats for 2019 and compared to the previous year. A 300% worldwide increase in measles cases was estimated. Following these premises, the present study has covered the online issues of three important publications in the U.K, France, and Romania, countries in different stages of measles epidemics. The research method was content analysis and included all the articles published in *The Guardian* (U.K.), *Le Figaro* (France), and *Adevărul* (Romania) in 2019, with the primary objective of identifying the approach each party had regarding MMR vaccination.

The results have shown a clear difference between the Western countries (France and the U.K.) and the Eastern one (Romania) concerning the orientation on international aspects versus local ones, but with a consensus in a pro-vaccination attitude. An important finding was the lack of representation of specific topics and countries where the measles outbreaks are present, each country showing their geographic interest by the representation in the news of different parts of the world. News about the side effects of measles came to balance the constant unproved association between MMR vaccine and autism, but unfortunately not in all countries.

**Keywords:** *MMR vaccination, immunization, European discourse, mass media.*

## INTRODUCTION

At the end of 2018, the WHO (World Health Organization) predicted that in 2019, measles cases in Europe would top 60,000 – more than double those in 2017 and the highest number this century and the vaccines being among the ten biggest world health threats for 2019.

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Studies offer data about vaccine hesitancy, where the media is blamed as one of the factors that influence the decision of denying or postponing vaccination. In a survey conducted by a group of Romanian researchers in the summer of 2019 in Cluj-Napoca, MMR vaccine was indicated as the one to which patients had more reserve and mass media was pointed out as factor of influence, among “leaders and lobbies, perception of the pharmaceutical industry, individual and group influences, such as belief, knowledge, perceived risks, and benefits or healthcare practitioners.” (Miko et al. 2019, 282)

Over the years, a vast literature has been dedicated to the MMR vaccine presentation in media. Some of the aspects pointed out was the public’s mistrust in mass media when it comes to presenting accurate information about vaccination (Guillaume and Bath, 2008), next to questions raised about how news media covers such a significant health issue and if the message is communicated correctly to the public (Holton et al., 2012). The studies focuses also on how the news media put the spotlight on the MMR vaccination and the frames there are used in presenting it (Strekalova and Krieger 2017), the false balance between the quantity of information and its relevance (Clarke 2008) and the influence of Social Media in popularizing anti-vaccination messages (Kang et al. 2017).

Mass media is responsible not only for spreading information but also for setting the public agenda (McCombs 1972, 176) and for framing the facts in a certain way (Holton et al. 2012, 690). The *agenda-setting* theories have shown that media has an essential role in directing the population's attention in one direction or another (McCombs 1972, 176).

This paper aims to present the way media frames the measles outbreaks in three different countries and which are the main topics each approach when it comes to a health issue that becomes a global warning. The novelty of the study consists of the comparative analysis of the Romanian media with some relevant Western publications from France and the U.K., countries with a relevant history when it comes to MMR vaccine hesitancy.

## 1. BACKGROUND

In 1998, a study published by the English publication *The Lancet* claimed the causes for autism are childhood jabs, specifically the MMR vaccine (Wakefield et al. 1998, 637). Although soon afterward withdrawn and denied by part of its authors and the publication, the article very soon gained popularity (Clarke 2008, 77), and numerous studies have indicated a direct connection between this paper, the decrease of vaccination rates and measles outbreaks (Brieger et al. 2017; Burgess et al. 2006; Chang 2018; Evans et al. 2001; Fleischmann 2004; Holton et al. 2012; Madsen et al. 2002; Middleton and Baker 2003; Mills et al. 2005; Sobo 2015; Wolfe and Sharp 2002).

A systematic review of qualitative studies exploring parental belief and attitudes toward MMR vaccination identified among the most common barriers the parents have in front of MMR vaccination being “the risk of adverse effects, concern that vaccinations are painful, distrust in those advocating vaccines (including belief in conspiracy), belief that vaccination should not occur when the child has a minor illness, unpleasant staff or poor communication, and lack of awareness of the vaccination schedule.” (Wolfe and Sharp 2002, 430).

### 1.1. ROMANIA

Before the introduction of the MMR vaccine in Romania in 1979, the incidence of measles cases was high, records indicating an occurrence of 120 cases per 10.000 people, between 1960 and 1980. After several vaccination programs, the number of people infected with the virus decreased to almost none (1990; 1996). In 2005 the double dose of MMR vaccine was introduced, and the vaccination rates stood high, above 95%, as the World Health Organization (WHO) recommends. Since 2010, the vaccination coverage has begun to decrease, reaching 89,6% (I dose) and 80,9% (II dose), in 2018. (CNSCBT 2018, 7) This decrease in vaccination led to the increasing number of measles occurrences, several epidemics of measles, the last one started in 2016 and still ongoing. At the end of 2019, in Romania, 18 908 cases of measles were registered, among which 64 deaths since the beginning of the measles epidemic in 2016. (CNSCBT 2018, 1)

Wellcome Global Monitor, a large study about the perception of people all over the world about science and health challenges, shows a specific trait for Eastern European countries, respectively, the lack of confidence in vaccination safety. According to this study, only 50% of the Ukrainians agree that vaccines are safe, 75% of the Romanian, and 49% of the Moldavian. These are also East European countries where measles outbreaks were reported in 2019 (Wellcome Global Monitor 2018, 110).

### 1.2. FRANCE

According to the same study, in France, one in three people shows a lack of trust in vaccines (Wellcome Global Monitor 2018, 114), the highest percentage of mistrust in the world. This has led to one of the highest increases in measles cases in the world in 2018, according to a UNICEF report published in February 2019 (UNICEF, February 2019). France has a long history with measles, and from 1945 to 1986, it was a notifiable disease.

The introduction of measles vaccination in 1983 led to a decrease of cases to 0.1 cases/100.000 inhabitants) which placed the incidence below the WHO threshold for measles elimination, and from now on, the reporting becomes mandatory (Antona et al. 2013, 357). The decrease in vaccination rates led to a new

measles epidemic that lasted between 2008–2011, the majority of cases being among children <1 year, reaching up to 135 cases/100.000 infants, and ten deaths registered. (Antona et al. 2013, 357)

### 1.3. THE UNITED KINGDOM AND NORTHERN IRELAND

After numerous attestations of the lack of validity of Wakefield's study and the unethical circumstances in which it was published, the association between MMR Vaccine and autism remains the most recurrent association with the vaccine in mass media (Clarke 2008, 77). In the U.K., the vaccination rates registered a significant decrease after Andrew Wakefield published his study in *The Lancet* in 1998 (Guillaume and Bath, 2008). Vaccination rates decreased to 84.5% in the following years after the publishing of the controversial paper (Brown et al. 2012, 1855). The WHO recommends 95% to obtain herd immunity and prevent other measles outbreaks [28]. This decrease was the parent's conscious decision in 75% of the cases (Brown et al. 2012, 1855).

A qualitative analysis of the U.K. parents' decision-making about MMR vaccine ten years after the MMR-autism controversy (Brown et al. 2012, 1855) revealed a sympathetic attitude towards Wakefield even from some of those who approved MMR vaccination. During the study, in a series of interviews with parents of children aged between 11 months and 3.5 years, the parents mentioned Andrew Wakefield's controversial findings spontaneously, showing the direct association they make with the MMR vaccination. The parents against MMR vaccination stated that they feel judged and rejected by the other parents, but they also criticize the other parents' decision to vaccinate their children. The researchers evaluate "this explicit tension between parents across and within decision groups [...] may reflect a shift (perhaps precipitated by a changing media perspective toward MMR non-vaccination becoming socially unacceptable." (Brown *et al.* 2012, 1855). This change in the mass media attitude towards the MMR non-vaccination might have led to the public's orientation to other sources of information, most of them popularized via New Media that has registered a significant expansion after the search engine Google was launched in 1999, shortly after Andrew Wakefield's study was published.

## 2. AIM AND OBJECTIVES

In this context, the main objective of this study was to identify some patterns in the presentation of the MMR vaccine and measles outbreaks in three relevant European publications and compare them. The media outlets selected for the present study are the online versions of some top news publications in Romania, France, and the U.K. The central hypothesis of the study is that mass media

presents only one perspective of the MMR vaccination, its importance in the context of measles outbreaks, and less or none of its possible side effects. The study has as objective a general overview of the representation of the subject in mass media in these countries that have a history of measles outbreaks and are also representative parts of Europe, the Eastern and the Western, the francophone, and the Anglo-Saxon culture.

**Research questions:**

Q1: What are the main themes covered by the European media about the MMR vaccination?

Q2: Which are the differences between the Romanian, French, and British media in presenting the topic?

Q3: On which themes do each country focus on reporting about the MMR vaccination?

Q4: What is the predominant interest of each publication? In internal or external news about MMR Vaccination?

### 3. METHODOLOGY

Mapping the news about measles in media outlets from representative parts of Europe was the first step of the study, in order to identify some distinctive patterns in a further stage. From the start, the different history with measles epidemics each country had influenced the selection of countries: in 2019 the U.K. lost its status as country where measles was eradicated, France registered one of the highest increases in the world in number of measles cases compared to the previous year, and Romania was in the third year of continuous epidemic. Although each country had a different status, the announcement made by WHO at the end of 2018, that lack of trust in vaccines is one of the ten most significant threats in 2019, was a good premise for transforming the MMR vaccination into a focus for media all over the world.

The research method selected was content analysis, “one of today’s most extensively employed analytical tools” (Zhang and Wildermuth 2018, 318), with a qualitative approach, “a research method for the subjective interpretation of the content of text data through the systematic classification of coding and identifying themes or patterns” (Hsieh and Shannon 2005, 1277). Initially, the content meant to be analyzed and coded was represented by only the titles of the articles, in order to obtain a general overview of the topics predominate in each publication, but this was not possible until the end. Although the titles of the articles published by *Le Figaro* and the *Guardian* offered complete information, and this method could have been viable, this was not the case with *Adevărul*, where the titles missed essential information and the entire articles should be read in order to code it correctly.

### 3.1. DATA SELECTION

The choice for Romania, France, and the U.K. was made considering each country's history with measles epidemics and MMR vaccination coverage, but also their representativity for different cultural spaces. Nonetheless, language accessibility was an important factor in choosing publications from these three countries.

There were selected the online news publications with the highest traffic, excluding the tabloids. The quality press was chosen because it targets an educated public, respectively, the segment of the population where the highest vaccine hesitancy was identified (Chang 2018, 1043). A study about the relationship between information, education, and health behaviors, in the U.S., concludes that “[...] the educational gap is greater in states where there was greater media attention devoted to the controversy. This is consistent with the health allocative efficiency hypothesis whereby part of the education gradient in health outcomes is due to more-educated individuals absorbing and responding to health information more quickly”. (Chang 2018, 1043)

For Romania, it was selected *Adevărul*, the top online news publication, according to BRAT (Romanian Joint Industry Committee for Print and Internet). The online registered traffic of Adevarul is of 731.260 unique visitors<sup>1</sup>.

For the U.K., the Guardian was chosen, with 1,607,359 unique daily browsers<sup>2</sup>. For France, *Le Figaro*, which reports 88.000 paid memberships<sup>3</sup> and 1.212.200 unique daily visitors.

### 3.2. STUDY PROCEDURE

The analysis covered the online editions of the Guardian, Le Figaro, and Adevărul for the entire year 2019. The search for the “ROR vaccine”<sup>4</sup> keywords showed only one result in the database of *Adevărul*, the Romanian publication. Considering measles as the first consequence of missing the MMR vaccine, the search was redone using the word “measles” in all three databases<sup>5</sup>. The search results showed 50 articles in the *Guardian*, 78 in *Le Figaro*, and 57 in *Adevărul*.

The study was conducted inductively, gathering information, and coding the first series of data, in cumulative coding cycles. In the first cycle, *initial coding* was chosen, which has the property “to remain open to all possible theoretical

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<sup>1</sup> SATI (Studiul de Audiență și Trafic Internet), available online [https://www.brat.ro/sati/rezultate/type/site/c/custom/letter/toate/period\\_type/day/period\\_filter/2019-12-31/category/all/editor/all/order\\_by/clients/order/desc/page/1](https://www.brat.ro/sati/rezultate/type/site/c/custom/letter/toate/period_type/day/period_filter/2019-12-31/category/all/editor/all/order_by/clients/order/desc/page/1), (accessed on 20 December 2019)

<sup>2</sup> The Guardian. The audience, available online <https://image.guardian.co.uk/sys-files/Guardian/documents/2013/01/25/GuardianKeyAudienceStats.pdf> (accessed on 20 December 2019)

<sup>3</sup> L'Alliance pour Les Chiffres de la Presse et des Médias, available online <https://digiday.com/media/french-newspaper-le-figaro-trouve-son-valeur-casual-readers/>, (last accessed December 2019)

<sup>4</sup> „MMR vaccine” in Romanian

<sup>5</sup> “Rujeolă” in Romanian and “rougeole” in French

directions indicated by your readings of the data.” (Charmaz 2006, 46). [...] The *initial coding* helps the researcher “to see the directions in which to take its study” (Glasser 1978, 56) [...] Saldaña recommends this initial coding for a “microanalysis of the corpus (Strauss & Corbin, 1988, p. 57) or what is colloquially referred to as data “splitting” (Saldaña 2009, 96).

The *initial coding* covered the articles in *Le Figaro*, the most consistent corpus of data, and was then applied to the other publications, the *Guardian*, and *Adevărul*. When new occurrences appeared in the *Guardian* or *Adevărul*, they were added to the general coding scheme, and the entire process was redone. The materials were not split by criteria such as the type of article, lengths, or other formal characteristics, but only by their theme, most of the time revealed by the title itself. The *initial coding* scheme split the corpus into three categories: local news, international news, and scientific approach, thus responding to the fourth research question: What is the predominant interest of each publication? In internal or external news about MMR vaccination? Although the first categories, local versus international news, suggest a *versus coding*, these categories were not preestablished, they came up after the initial scrutiny of the corpus. Furthermore, a new category came up – articles based on scientific studies – that excluded this kind of coding process.

In the *second cycle* of coding (Saldaña 2009, 149), the first macro-categories were subdivided into other subcategories. The subcategories were defined in an inductive manner, observing occurrences and finally transforming them into a series of *pattern codes*, “explanatory or inferential codes, ones that identify an emergent theme, configuration, or explanation. [...]. Pattern Coding is a way of grouping those summaries into a smaller number of sets, themes, or constructs.” (Miles and Huberman 1994, 69).

The *pattern codes* identified in the second cycle are:

1. *Anti-vaccination movement*. Label attached to all the materials showcasing information about the anti-vaccination movement and its results, the decrease of the vaccination rates.

2. *Awareness campaign*. All the articles presenting active actions of local or international organizations like WHO, Unicef, or the local Ministry of Health, meant to raise awareness of the risk of measles epidemics.

3. *Call for vaccination*. All the articles that are announcing a public call to vaccination from a local representative. Most of the articles published by *Adevărul* about the measles outbreak in Romania also contain a formal call to vaccination, but, if the message was subsidiary to another code, it was not counted.

4. *Death cases*. Materials about people who have died from measles complications.

5. *Legislation*. Legislative initiatives about the MMR vaccination becoming mandatory.

6. *Measles outbreak*. The occurrence of measles cases.

7. *Overall analysis*. Materials presenting the MMR vaccination broadly or/and reasons for a measles outbreak.

8. *New findings*. Materials revealing new findings of the side effects of measles, information that was not previously associated with measles.

9. *Personal story*. The story of someone who has experienced measles.

These codes led to the development of themes, and their predilection was observed onto the three initial categories: local, international, and materials based on scientific studies. All the data was collected in Excel sheets, which also helped to extract the graphics and generate statistics. The study shows the relative frequencies converted into percentages.

#### 4. FINDINGS

The results show a distinct discrepancy in orientation towards the local versus the international news in the three publications. The most significant number of articles were published by *Le Figaro* (n=78) in France, followed by *Adevărul* (n=57), in Romania, and the *Guardian* in the U.K. (n=50). The Western media, represented by the French and British publications, showed a clear interest in international news versus the local ones. In Romania, the opposite situation occurred, with more interest shown in the local news. The country where the materials based on scientific studies predominated was France (n=15).

The Romanian publication *Adevărul* dedicated 74% (n=42) of the articles to local news, 23% (n=13) to international news, and 3% (n=2) to materials describing scientific studies concerning the measles epidemic and MMR vaccination.

At the opposite pole, the *Guardian* dedicated 84% (n=42) of its articles to international news and only 12% (n=6) to local news. The materials which present scientific data represent 4% (n=2) of the entire corpus.

*Le Figaro* showed a more balanced approach, with 60% (n=47) of the news dedicated to international topics, 23% (n=18) to local ones, and 17% (n=13) to scientific studies. The coding from the second cycle showed that, out of the total corpus of 78 articles published by *Le Figaro* between the 1st of January – 31 of December 2019, the vast majority was dedicated to measles outbreaks, 39% (n=30).

Most of the news about the measles outbreak published in *Le Figaro* is dedicated to the local situation, 35% (N=18), and the measles outbreak in the U.S., 31% (N=16). Other major global measles epidemics, like the one in Samoa, 8% (N=4), and the one in Congo 6% (N=3), are also covered. Other represented parts of the world are the Caribbean and Costa Rica, with 4% each (N=2), and Germany, Israel, Italy, Netherlands, Switzerland, and the U.K. with 2% each (N=1).

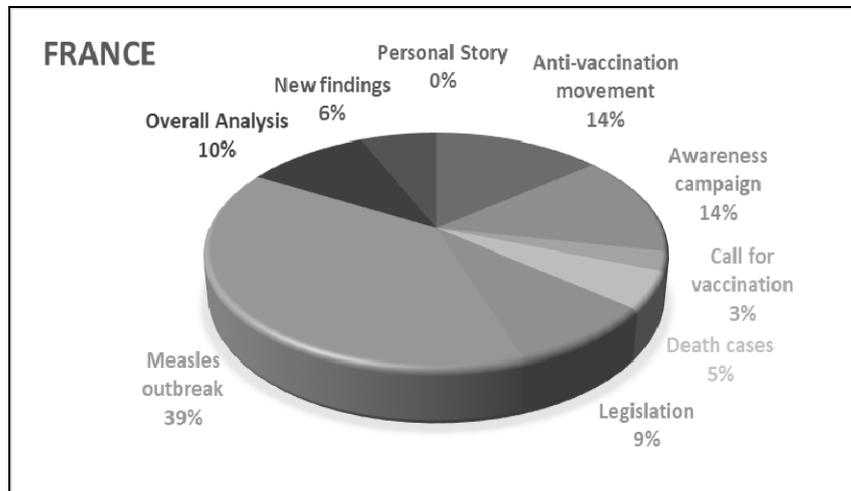


Fig. 1. Representation of the occurrence of themes in *Le Figaro*

The topics that hold the second place are the *anti-vaccination movement* and the *awareness campaigns*, with 14% equally (n=11). The *anti-vaccination movement* is presented in 22% (n=4) of the local news, in scientific studies 38% (n=6), and internationally 2% (n=1). This shows a clear interest concerning the local increase in measles cases, a quest for explanations, and possible solutions.

The same interest is shown by the *overall analysis* that could explain the MMR vaccination rate decrease and measles outbreaks, category that represents 10% (n=8) of the general corpus, 17% (n=3) of the local news, 31% (n=5) of the ones based on scientific studies and none dedicated to the international situation.

The *awareness campaigns*, the category that included all the announcements made by international health monitoring forums, such as the World Health Organization or Unicef, represents 14% (n=11) of the entire corpus and 25% of international news, indicating subordination to the authorities in title to release information about measles situation.

The other topics covered the French publication are the ones concerning *legislation* with 9% (n=7), *new findings* represent 6% (n=5) of the entire corpus, 5% (n=4) refer to *death cases*, and *call for vaccination* 3% (n=2). The category *personal story* is represented with 0% and, although it is represented in the entire corpus only by one article, in the Guardian, its lack of representation is considered to be worth mentioning, and to be a „symbolic annihilation” (Gerber and Gross 1976, 173). This observation can be a good starting point for further researches about what is presented and what not when it comes to MMR vaccination.

The structure of the titles indicates a clear orientation towards information and reveal the editorial politics of the publication. A significant part of the titles

starts with a word that indicates the main directions followed by the publication when it comes to measles:

*Measles: 70 deaths in Samoa, the epidemic continues*<sup>6</sup>

*Measles: 1184 cases since January, the majority were sick or not vaccinated*<sup>7</sup>

*United States: more than 1000 measles cases after the beginning of the year*<sup>8</sup>

Even the titles without this keyword at the beginning reveal concisely, the complete information the articles present:

*A vast study denies one more time the connection between the vaccine and autism*<sup>9</sup>

*The measles has killed 140.000, people last year, complains WHO*<sup>10</sup>

In the *Guardian* also the predominant topic in 2019 was the *measles outbreak*, with 44% (n=22) of dedicated news. The next most discussed topics were the *anti-vaccination movement* 16% (n=8), the *awareness campaigns* 14% (n=7), *death cases* 10% (n=5), *legislation* 10% (n=5), and the *overall analysis, new findings* and a *personal story* with 2% (n=1) each. The call for vaccination was not a dedicated theme, although the message was included in several articles, among other major themes.

In the U.K., the distribution of news about measles outbreaks was split between fewer countries than in *Le Figaro*, with a predilection for the U.S. 30% (n=6). The situation in Samoa was covered by 35% of the articles (n=7), New Zealand 15% (n=3), Congo, and the Caribbean 10% each (n=2). News dedicated to the local outbreaks covered only 9% (n=2) of the entire corpus, although the subject was mentioned in several articles with other predominant themes.

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<sup>6</sup> Original title: "Rougeole: 70 morts aux Samoa, l'épidémie continue de se propager". Available online: <https://www.lefigaro.fr/flash-actu/rougeole-70-morts-aux-samoa-l-epidemie-continue-de-se-propager-20191209>

<sup>7</sup> Original title: „Rougeole: 1184 cas depuis janvier, la majorité était mal ou pas vaccinée”. Available online: <http://sante.lefigaro.fr/article/rougeole-1184-cas-depuis-janvier-la-majorite-etait-mal-ou-pas-vaccinee/>

<sup>8</sup> Original title: "Etats-Unis: plus de 1000 cas de rougeole depuis le début de l'année". Available online: <https://www.lefigaro.fr/flash-actu/etats-unis-plus-de-1000-cas-de-rougeole-depuis-le-debut-de-l-annee-20190606>

<sup>9</sup> Original title: "Une vaste étude dément une nouvelle fois le lien entre vaccin et autisme." Available online: <http://sante.lefigaro.fr/article/une-vaste-etude-dement-une-nouvelle-fois-le-lien-entre-vaccin-et-autisme/>

<sup>10</sup> Original title: "La rougeole a tué 140.000 personnes l'an dernier, déplore l'OMS". Available online: <https://www.lefigaro.fr/flash-actu/la-rougeole-a-tue-140-000-personnes-l-an-dernier-deploire-l-oms-20191206>

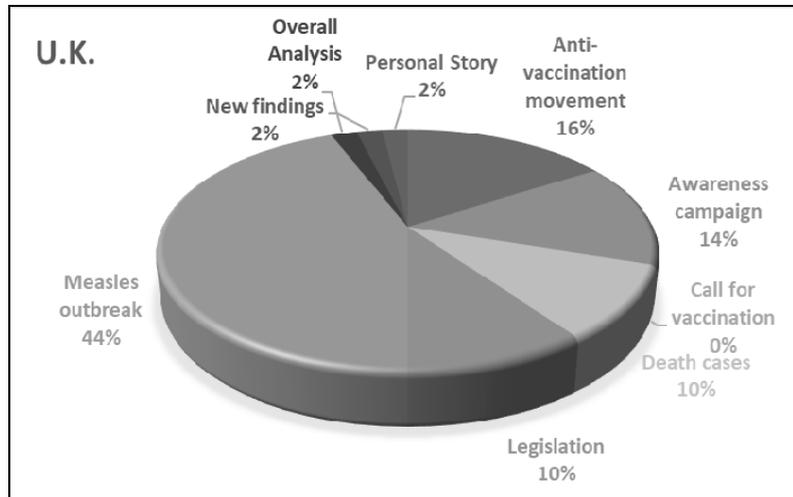


Fig. 2. Representation of the occurrence of themes in the *Guardian*.

A comparative analysis of themes distributed locally, internationally, and grounded on studies show a predominant interest in *measles outbreaks* internationally, 46% (n=21), and *anti-vaccination* 40% (n=2) topics locally. The articles based on scientific studies are split in half, 50% (n=1) between *the anti-vaccination* movement and the *new findings* of measles side effects.

This split shows a clear interest in the global health issue that measles become but with a focus on the former colonies of Great Britain, the U.S., New Zealand, and Australia. An essential lack of representation is the fact that the country lost its status as a country where the measles was eradicated in 2019. This message was found only as a subsidiary one in a general overview of the situation in Europe.

The titles of the publication show the same concise resume of the article and mirror the structure of the editorial approach.

*MMR vaccine: one in seven five-year-old in England may not be immunized*<sup>11</sup>

*Measles: WHO says cases have jumped 50%*<sup>12</sup>

*Measles cases hit 25-year high in US amid anti-vaxx movement*<sup>13</sup>

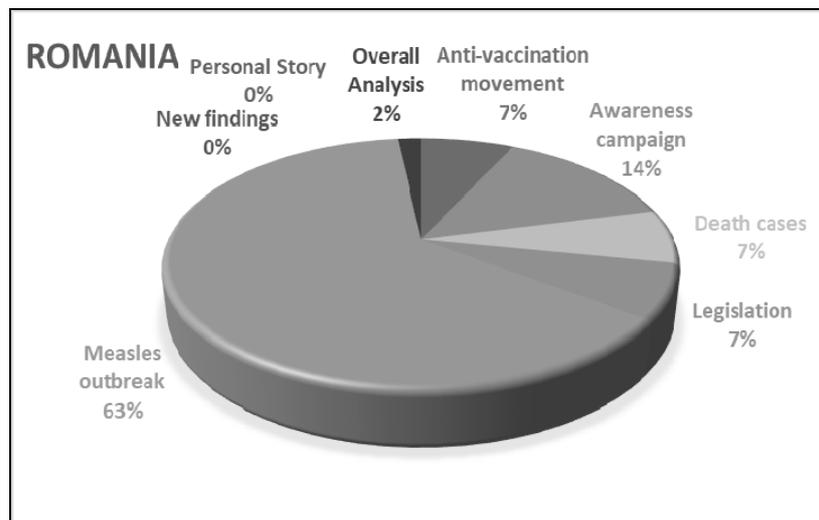
<sup>11</sup> Available online: <https://www.theguardian.com/society/2019/aug/19/mmr-vaccine-one-in-seven-five-year-olds-in-england-may-not-be-immunised>

<sup>12</sup> Available online: <https://www.theguardian.com/society/2019/feb/15/measles-who-warns-cases-have-jumped-50>

<sup>13</sup> Available online: <https://www.theguardian.com/us-news/2019/apr/24/measles-cases-25-year-high-anti-vaxx-vaccine>

*Measles death in Germany prompts calls for mandatory vaccinations*<sup>14</sup>

In Romania, the publication *Adevărul* also focused on the news about measles outbreaks – 36% (n=36), but this time the majority is dedicated to local cases – 63% (n=33). The other geographical areas of interest are in the next proximity, respectively Moldova and Ukraine, with 3% each (n=1). An important fact is the absence of any news about significant measles outbreaks in other parts of the world, such as Samoa or the U.S. Only one article (3%) is based on scientific studies, another significant difference with the other two countries.



**Fig. 3.** Representation of the occurrence of themes in *Adevărul*.

The other themes covered by the Romanian publication *Adevărul* are the *awareness campaigns* – 14% (n=8), the *anti-vaccination movement*, *death cases*, and *legislation*, each with 7% (n=4). The *overall analysis* covers 2% (n=1). *Personal stories* or news about *new findings* do not appear at all.

The comparative distribution of themes shows a predilection for news about measles outbreaks locally – 79% (n=33) and in articles based on studies – 50% (n=1). Internationally, the focus is on the awareness campaigns – 39% (n=5), and the legislation about vaccination becoming mandatory in Germany and Italy – 31% (n=4).

Although the prevalence of news about the internal measles outbreaks is low by comparison with the coverage of the local situation, this could be explained by the ongoing epidemic in Romania. The limited number of articles dedicated to

<sup>14</sup> Available online: <https://www.theguardian.com/world/2015/feb/23/german-health-official-mandatory-measles-vaccinations-child-dies>

scientific studies shows a certain attitude towards the information and its transformation in breaking news. Almost all the materials about the local situation refer to the weekly statistics from the CNSCBT (The National Center of Surveillance and Control of Transmissible Diseases). However, the data is raw, it lacks interpretation and context, like this one, where nowhere it is mentioned the starting point of counting the measles cases:

*The number of children with measles grows day by day, reaching alarmingly 17.000*<sup>15</sup>

None of the articles about the measles epidemic in Romania mention that the counting of cases started three years ago. Moreover, some affirmations are fake, like stating that "Romania is the country with the worst epidemic of measles in Europe," which was not the case at the time the article was published and it is nowhere mentioned when this situation did occur:

*The patients with chronic diseases are launching an informative campaign regarding vaccination: "Romania is the country with the worst epidemic of measles in Europe"*<sup>16</sup>

The titles have a teasing component, a more tabloid approach than an informative one:

*Explosion of measles cases in Europe. The WHO warning*<sup>17</sup>  
*The number of measles cases has tripled. Ukraine, one of the suppliers*<sup>18</sup>

By comparing the titles each publication has given for one specific news, the introduction of the mandatory vaccination in Germany, we could notice the different approach between the three publications more clearly:

<sup>15</sup> Original title: "Numărul copiilor cu rujeolă crește de la zi la zi, apropiindu-se alarmant de 17.000. Available online: [https://adevarul.ro/news/societate/numarul-copiilor-rujeola-creste-zi-zi-apropiindu-se-alarmant-17000-1\\_5cdf9af8445219c57ec456a8/index.html](https://adevarul.ro/news/societate/numarul-copiilor-rujeola-creste-zi-zi-apropiindu-se-alarmant-17000-1_5cdf9af8445219c57ec456a8/index.html)

<sup>16</sup> Original title: "Pacienții cu afecțiuni cronice lansează o campanie de informare privind vaccinarea: „România e țara cu cea mai gravă epidemie de rujeolă din Europa." Available online: [https://adevarul.ro/news/societate/pacientii-afectiuni-cronice-lanseaza-campanie-informare-privind-vaccinarea-romania-e-tara-cea-mai-grava-epidemie-rujeola-europa%201\\_5ca49453445219c57e0a2224/index.html](https://adevarul.ro/news/societate/pacientii-afectiuni-cronice-lanseaza-campanie-informare-privind-vaccinarea-romania-e-tara-cea-mai-grava-epidemie-rujeola-europa%201_5ca49453445219c57e0a2224/index.html)

<sup>17</sup> Original title: "Explozie de cazuri de rujeolă în Europa. Avertizamentul OMS". Available online: [https://adevarul.ro/news/societate/explozie-cazuri-rujeola-europa-avertizmenul-oms-1\\_5d6be119892c0bb0c6318140/index.html](https://adevarul.ro/news/societate/explozie-cazuri-rujeola-europa-avertizmenul-oms-1_5d6be119892c0bb0c6318140/index.html)

<sup>18</sup> Original title: "Numărul de cazuri de rujeola s-a triplat. Ucraina, unul dintre rezervoare". Available online: [https://adevarul.ro/sanatate/politici-bani/numarul-cazuride-rujeola-s-a-triplat-ucraina-unul-rezervoare-1\\_5d5535b1892c0bb0c6920e32/index.html](https://adevarul.ro/sanatate/politici-bani/numarul-cazuride-rujeola-s-a-triplat-ucraina-unul-rezervoare-1_5d5535b1892c0bb0c6920e32/index.html)

France: “Measles: mandatory vaccination in the German schools”<sup>19</sup>

U.K.: “Measles death in Germany prompts calls for mandatory vaccinations”<sup>20</sup>

Romania: “The country where the anti-measles vaccination becomes mandatory”<sup>21</sup>

### LIMITATIONS

The coding process was limited to only two codes per article, in order to obtain just a general overview of the mass media landscape in 2019 concerning measles outbreaks in France, the U.K., and Romania.

An in-depth analysis could reveal new findings and more nuances, but this was not the purpose of this specific study.

### CONCLUSIONS

The analysis of the materials published by the three publications – *Adevărul*, the *Guardian*, and *Le Figaro* - about measles showed a clear pro-vaccination position expressed by the mass media in each country. The study responds to all the research questions and reveals some findings necessary for future investigations. The most important of these findings is the lack of representation of specific topics. An essential omission by the Western media is the measles outbreaks in the Eastern European countries, showing a predilection to other continents than Europe, especially the British publication, the *Guardian*, which only has some subsidiary notes about the measles outbreaks in Macedonia and Ukraine. *Le Figaro* has a more balanced approach and presents some situations in other parts of Western Europe, but not in the Eastern part.

A critical absence in the Romanian press is the lack of mentions about the new findings regarding the side effects of measles, a topic insufficiently discussed and that could counterbalance the association between MMR vaccine and autism, an unproved claim that persists in the MMR representation in the media. This constant mention of the unproved study that connected the MMR vaccination with

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<sup>19</sup> Original title: “Rougeole: vaccination bientôt obligatoire dans les écoles allemandes”. Available online: <https://www.lefigaro.fr/flash-actu/rougeole-vaccination-bientot-obligatoire-dans-les-ecoles-allemandes-20190717>

<sup>20</sup> Original title: “Measles death in Germany prompts calls for mandatory vaccinations”. Available online: <https://www.theguardian.com/world/2015/feb/23/german-health-official-mandatory-measles-vaccinations-child-dies>

<sup>21</sup> Original title: “Țara din UE în care vaccinarea anti-rujeolă devine obligatorie”. Available online: [https://adevarul.ro/international/europa/vaccinarea-anti-rujeola-devine-obligatorie-tara-ue-1\\_5dce3c085163ec4271097e1a/index.html](https://adevarul.ro/international/europa/vaccinarea-anti-rujeola-devine-obligatorie-tara-ue-1_5dce3c085163ec4271097e1a/index.html)

autism creates a “false balance” (Clarke 2008, 77) that comes for one specific trait of the journalistic approach, the equal representation of the facts, no regarding their importance of relevance. That is why it might be essential to find in mass media more information about the measles side effects, not only about the MMR vaccine perils.

The way influential news media outlets in each country, Romania, France, and the U.K., approached the topic of measles outbreaks and MMR vaccination could reveal a general attitude towards MMR vaccination that could transfer to the audience: in France, in a serious preoccupation for the subject; in the U.K., in an interest shown towards the situation abroad and less to the internal one; in Romania, in a superficial and not well-documented presentation of the subject.

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