Covering the Crisis: Evolution of Key Topics and Actors in COVID-19 News Coverage in Switzerland

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Objectives: The goal of this study is to map the share of COVID-related news articles over time, to investigate key subtopics and their evolution throughout the pandemic, and to identify key actors and their relationship with different aspects of the discourse around the pandemic.

Methods: This study uses a large-scale automated content analysis to conduct a within-country comparison of news articles (N = 1,171,114) from two language regions of Switzerland during the first 18 months of the pandemic.

Results: News media coverage of the pandemic largely mirrors key epidemiological developments in terms of the volume and content of coverage. Key actors in COVID-related reporting tend to be included in news articles that relate to their respective area of expertise.

Conclusion: Balanced news coverage of the pandemic facilitates effective dissemination of pandemic-related information by health authorities.

Keywords: coronavirus, pandemic, crisis communication, media coverage, automated content analysis, structural topic model

INTRODUCTION

The COVID-19 pandemic has marked an unprecedented global health crisis and communication in and about the pandemic has been a core challenge for health authorities, in which news media have played a pivotal role. From an individual perspective, they serve as a major source of information and are helping people comprehend the constantly changing evolution in all spheres of society [1, 2]. Seeking information can help people to cope with uncertainty and risks accentuated by these unprecedented times [3, 4]. Establishing what kind of information people encounter in their media environment on a daily basis presents a necessary first step to understanding a range of subsequent processes, such as knowledge acquisition or attitude formation [5], mental health and wellbeing [6], trust [7, 8], and attitudes towards specific measures to contain the spread of the virus [5, 9].

From an institutional perspective, journalistic mainstream media also help bridge the gap between science and health institutions on the one side and society on the other side [10, 11]. Health authorities rely on news media as a major channel for public outreach and means of strategic communication [12]. As the effectiveness of behavioral interventions (i.e., hand hygiene, wearing a mask, social distancing, stay-at-home orders) is mainly dependent on their population-wide adoption [13], having a reliable channel for their advocacy has been crucial for limiting the spread of the disease [1, 9]. Yet a detailed account of the structure and evolution of pandemic-

related media coverage is currently missing. Three aspects of coverage of the pandemic are of particular relevance.

First, tracking the evolution of the volume of COVID-related news presents an indicator of public attention [11]. Emerging terms like "infodemic" and rampant misinformation showcase that the relationship between the amount of communication about the pandemic and public attitudes may not necessarily be linear [14, 15]. It is, therefore, important to assess how much news coverage is dedicated to COVID-19 as the epidemiological situation evolves.

Second, the pandemic has substantially disrupted the normal course of life and has affected all systems within societies around the globe: The pandemic is initially medically relevant, but also has economic consequences that must be politically controlled and legally regulated; It affects education and training, and changes cultural and private life in society [e.g., 16, 17]. A longitudinal breakdown of news content can also reveal what aspects of the pandemic, including epidemiology, measures and political decisions, or social and economic consequences, receive particular attention and how attention shifts over time as the pandemic unfolds. Media attention to specific aspects of the pandemic signals their relevance for the public and within the public health discourse. One-sided prioritization of topics (i.e., consequently also systems) by the media may come at a cost, as public interest in information on COVID-19 is not limited to health concerns but includes a range of social, economic, and psychological dimensions as well [16, 18–20].

Third, news coverage constitutes a major arena for public discourse for key actors of the pandemic. Journalists must select which actors they include in which news story. There have been repeated accusations against journalists of reporting in a distorted and unbalanced way, thereby fostering the spread of conspiracy theories and misinformation [21]. This suggests a catch-22 that puts journalists in a "responsible but vulnerable position" ([22], p. 976). In addition to assessing to what extent journalists refer to which actors in their reporting, it is also important to investigate how these actors are associated with specific thematic contexts.

This article thus addresses this gap and aims to map the share of COVID-related media coverage over time (RQ1), to identify specific subtopics and their evolution throughout the pandemic (RQ2), and to shed light on key actors and their relationship with different aspects of the media discourse around the pandemic (RQ3).

METHODS

Whithin-Country Comparison: The Swiss Case

Swiss news coverage provides a compelling case for the study of COVID-19 reporting for two reasons. First, Switzerland reunites three main language regions—the German-speaking (66% of the population), French-speaking (24%), and Italian-speaking (9%) region—within a strong federalist national context [23]. Though not separate political or cultural spheres, the language regions constitute largely independent and fragmented media markets regarding news production, audiences, and influences from their respective linguistic neighbors [24]. The pandemic provoked an unprecedented centralisation of power in Switzerland that transformed "parliaments into speechless institutions and [usually autonomous] cantons into mere recipients of orders" by a national task force ([25], p. 124). The question of how the decentralized media landscape responds to such swift institutional changes and pressures is key for the understanding and planning of public health campaigns.

Second, approaching the individual region as the unit of analysis accounts for differences in the way that geographic areas within a single country (in this case Switzerland) respond to [26] or are affected by the pandemic [20]. One study of parents' experiences with COVID-related healthcare concludes that "[...] governments should consider recommendations for specific regions, rather than imposing public health broadly on the entire country" concerning COVID-related healthcare campaigns" ([27], p. 5). Whether public discourse in media reflects regional particularities or focuses on a universal national narrative remains an open question. In sum, the intra-national comparison of news coverage across language regions thus provides a unique opportunity to understand how official information flows from a national government to regional audiences in times of crisis [28].

Sample

To investigate the research questions, a large-scale automated content analysis of a representative sample of news media articles during the first 18 months of the pandemic, i.e., from 1 January 2020, until 30 June 2021, was conducted. The analysis focuses on print media for its high relevance in crises as an information source and a form of strategic communication. Unlike social media, journalistic content in print media is created in commitment to professional and ethical norms. The period covers the start of the pandemic before the first occurrence of confirmed cases in Switzerland (25.02.2020), the declaration of a state of "extraordinary situation" with emergency law by the Swiss government (16.03.2020), two lockdowns (16.03.2020 – 29.05.2020 and 11.12.2020 – 01.03.2021), and the start of a stabilization phase in spring 2021 with a partial relaxation of implemented measures due to the combined success in lowering incidence rates employing those measures in combination with rising immunization due to available vaccines [29]. News media articles were accessed through the Swissdox@LiRI (https://www.liri.uzh.ch/en/services/swissdox. html), a commercial, academic service that grants access to a database of over 250 Swiss national and regional print news media outlets from the German- and French-speaking region. However, the sub-sample of Italian-speaking region news outlets is very small and in no way representative of the regional media landscape, so we excluded the Italian-speaking region from our analysis. After removing duplicates, the total sample of media coverage included 1,171,114 articles, of which 78% are in German and 22% in French. Although the share of German-language articles is higher than the share of the German-speaking population, the relations between regions are
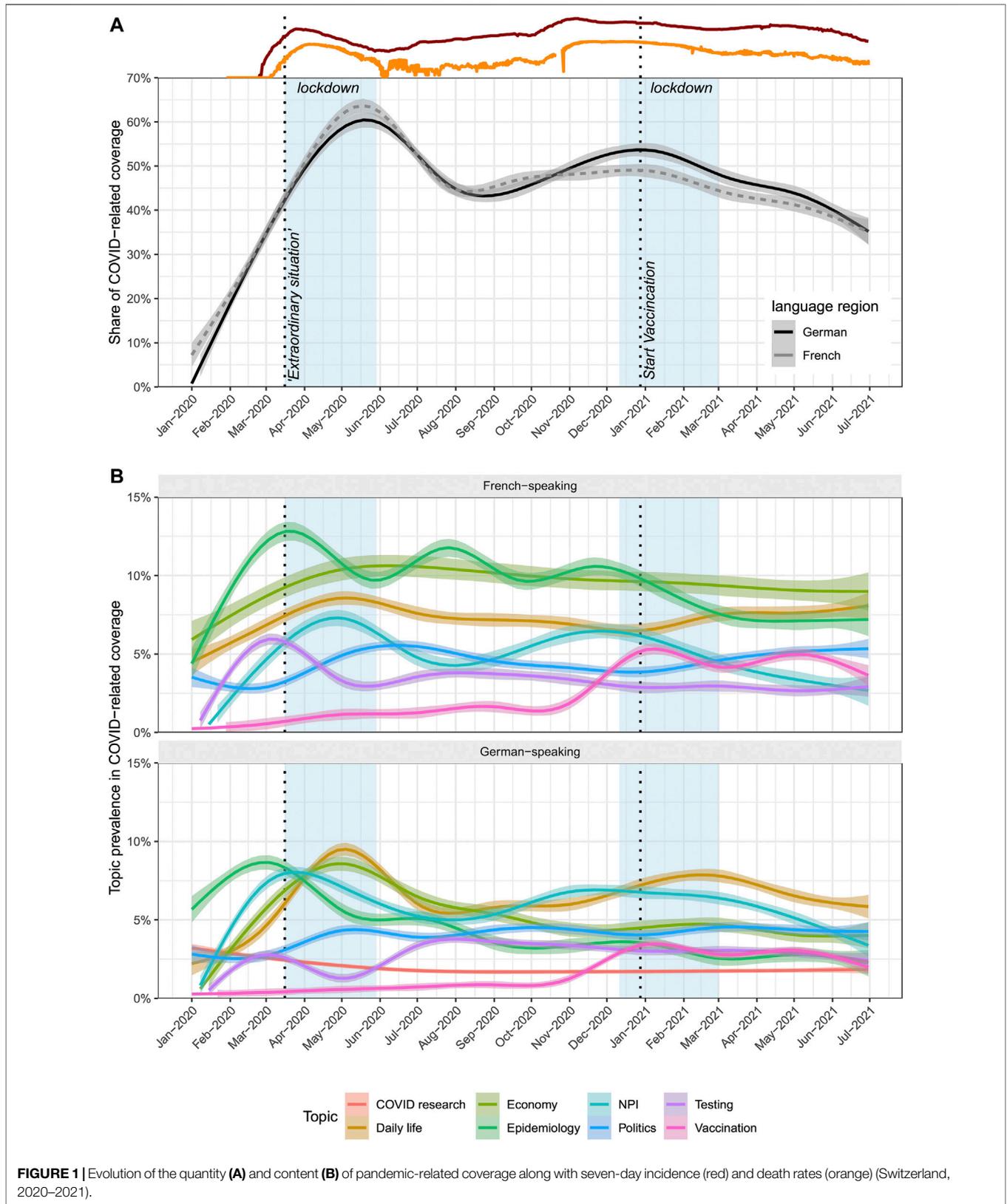
FIGURE 1 | Evolution of the quantity **(A)** and content **(B)** of pandemic-related coverage along with seven-day incidence (red) and death rates (orange) (Switzerland, 2020–2021).

TABLE 1 | Overview of topic content and prevalence in COVID-related media coverage (Switzerland, 2020–2021).

Topic Group	Prevalence (%)		Keywords (translated)
	German	French	
Testing	3.1	3.4	Test, positive, isolat, quarantine, person, canton, center, rapid, arrival
Vaccination	1.9	2.7	Vaccin, shot, dose, pfizer/moderna/biontech, first, approval, effect
NPIs	7.7	5.2	Measures, mask, lockdown, distance, now, home, mandatory, health, hygien
Epidemiology	6.4	10.2	Case, number, percent, death, infection, confirm, million, coronavirus, pandem, new
Covid Research	1.9	1.8	Stud, research, sample, symptom, infectio, resul, virus, percent
Daily life	9.9	7.5	Restaurant, school, allowed, event, home, cancel, close, customer, shop, product, parent, children
Politics	4.1	4.5	Parliament, vote, summit, conference, politic, crisis, federal, council, party, green, socialist
Economy	7.5	11.6	Econom, crisis, money, recess, quarter, billion, million, budget, job, trade

in line with their respective shares of the national journalistic market [24]. Every news article is annotated with metadata, including the date and medium of publication, the language, and a document ID. According to the strategies described below, the French and German text data were processed and analyzed separately and in parallel.

Analytical Strategy
Preprocessing and Descriptive Analysis
Preprocessing of the raw media data included three steps. First, minimal text processing steps included changing text to lowercase and standardizing language encoding. Second, the media data was merged with Swiss COVID-19 event data published by the John Hopkins University Center for Systems Science and Engineering (see [30]). Every day in the media data was complemented with the incidence and death rates as rolling seven-day averages as metadata. Third, all articles were either coded as COVID-related (= 1) or not (= 0) by searching the article texts with a string containing a combination of terms related to the pandemic (e.g., corona*, COVID*, pandem*, epidemi*, *vaccin*). To answer RQ1, the daily share of COVID-related news coverage for both language regions was calculated. Their evolution was analyzed over time, employing generalized additive models with a cubic shrinkage smooth term for the date ([31]; see **Figure 1A**).

Structural Topic Models
Following the example of existing research [e.g., 19], we identify thematic sub-aspects within COVID-related discourse as topics by running separate structural topic models (STM [32]) on the German- and French media data. Topic modeling is a widely used unsupervised machine-learning approach to automatically and inductively derive patterns of related words (i.e., topics) in large text corpora [33]. STM is a well-established extension that enables the incorporation of metadata in the probabilistic estimation of topics.

Topic estimation consisted of three main steps. First, raw media data were transformed into a text corpus (i.e., a document term matrix), removing punctuation, numbers, and stop words. We also removed words that were either too common (i.e., present in more than 90% of articles) or too rare (i.e., present in less than 1% of articles) to make a meaningful contribution. Second, model parameters were fine-tuned and specified in an iterative cross-validation

process. This process suggested 60 as the most reasonable number of expected topics (k), which is in line with recommendations in the literature on the type and size of text corpus at hand [32]. Moreover, the date of publication and type of media outlet were specified as model covariates, allowing words in the estimation of topics to vary over time and across media outlets. As a third step, the model output was manually inspected to label topics based on the fifteen most characteristic words. To enhance topic validity, the retained topics had to meet two criteria: 1) a clear connection to an aspect of the global pandemic and 2) an above-median performance in terms of semantic coherence (i.e., co-occurrence of words from the same topic in the same articles) and exclusivity (i.e., the tendency of words from the one topic to not occur in other topics) [see 32]. Topics with substantial semantic overlap were aggregated into a single larger topic. Two authors conducted the steps separately and resolved disagreements by discussion and a new round of labeling and aggregation. RQ2 will be answered by providing a breakdown of topic content and overall prevalence—that is, the probability of a topic within articles (see **Table 1**)—and their evolution over time (**Figure 1B**) using the same modeling strategy described above.

Named Entity Recognition
A final analytical approach includes identifying key actors in COVID-related coverage using named entity recognition (NER). NER is a technique based on natural language processing that enables the extraction of important entities—e.g., institutions and organizations, persons, places—from free text [34]. Because existing pre-trained NER algorithms show reasonably good performance [34], the well-benchmarked NER pipeline provided by spaCy for R [35] was applied. This procedure yields a computationally generated list of named entities along with counts of their occurrences. To identify key actors, the 150 entities with most frequent mentions (n) were extracted from the list ($n_{min -de} = 51$, $n_{min -fr} = 30$). This frequency cap was chosen to ensure the actors' relevance for public discourse by cutting off the lists' long tails with entities that are mentioned only in a few instances. Two authors manually classified key actors into four societal systems: politics (e.g., parties and parliamentarians), economy (e.g., banks, economic interest groups, experts), government (e.g., authorities and institutions and their representatives), or science (e.g., universities, academics, prominent epidemiologists). After transforming the list of
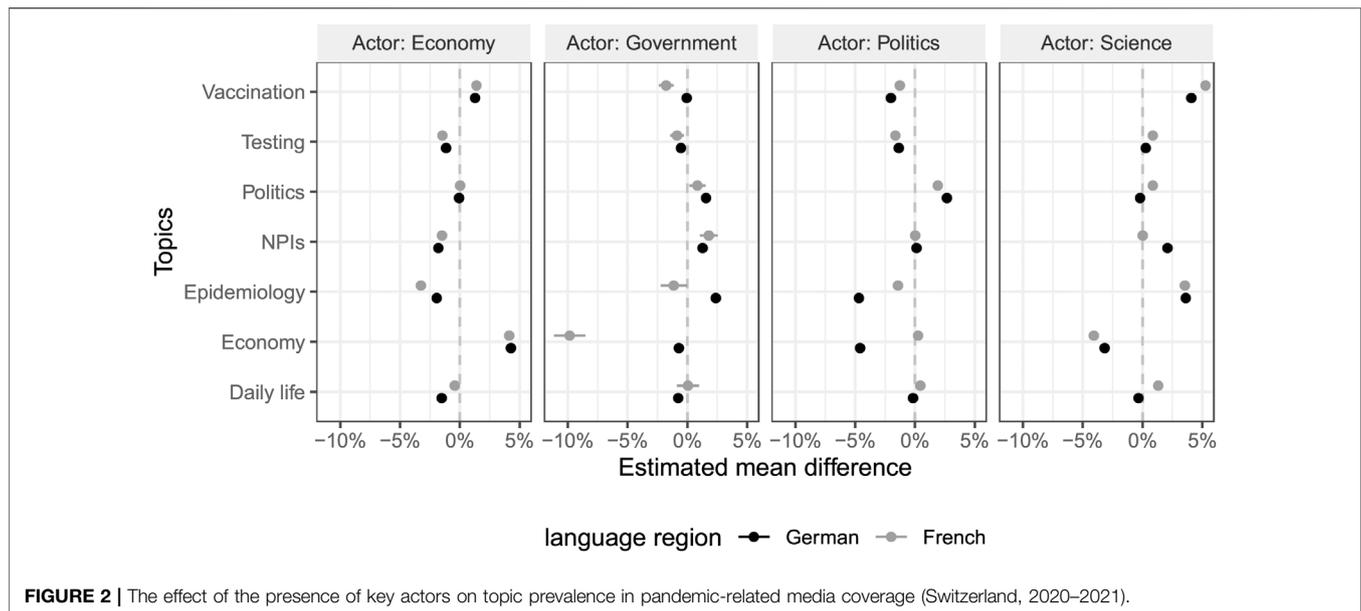
FIGURE 2 | The effect of the presence of key actors on topic prevalence in pandemic-related media coverage (Switzerland, 2020–2021).

named entities for each domain into separate search strings, all media articles were searched for the occurrence of a key actor from each search string (0 = not present; 1 = present). Generalized additive models (see above) with the prevalence of each topic as dependent variables and the presence of key actors as parametric predictors were used to answer RQ3 (31, see **Figure 2**).

RESULTS

Evolution of COVID-Related Coverage

News media mirror the relevance of the global pandemic. Nearly half (45.5%) of the over 1.1 million news articles published during the first 18 months of the pandemic discuss at least one aspect of COVID-19. This corresponds to roughly a thousand COVID-related news articles per day in Switzerland (German-language: M = 772, SD = 325.2; French-language: M = 201, SD = 71.2). **Figure 1A** depicts the evolution of the share of COVID-related coverage in parallel to the development of the pandemic. In the first 3 months, the coverage of COVID-19 quickly increased alongside rising numbers of new infections (red line) and deaths (orange line). Remaining at a high level throughout the pandemic, two peaks in COVID-related coverage emerge. The first peak in the number of articles centers around the first lockdown following the declaration of a nation-wide extraordinary situation. During these first weeks of lockdown, the share of COVID-related coverage reached 60% for the German-language region and 65% for the French-language region. A decrease in media attention to the pandemic is visible during the summer months, paralleling a somewhat less acute epidemiological situation of stagnating incidence and sinking death rates. A second but less pronounced peak in COVID-related media coverage emerges towards the year's end, coinciding with a second lockdown period. As vaccination

becomes available to larger parts of the population in spring 2021, both the actual epidemiological situation and its coverage in media enter what the government termed a stabilization phase [36]. In summary, media attention to the pandemic evolves largely in parallel to the general epidemiological situation. Considering different pandemic developments over time, this evolution of media coverage is remarkably identical in both the French- and German-language regions.

Topics in COVID-Related News Coverage

Table 1 provides a summary of the eight inductively generated core topics in media coverage about the pandemic, which are the focus of RQ2. The topics and their prevalence are interesting in three ways. First, they underline the all-pervasive character of the pandemic involving multiple societal systems. In addition to topics more closely related to dealing with public health emergencies (vaccination, testing, NPIs, epidemiology, research), other core aspects of media coverage include the impact of the pandemic on people's daily life, the economy, and politics. Second, topics that focus on the consequences of the pandemic tend to attract more attention from the media than the more directly virus-related aspects in terms of their overall prevalence. The high prevalence illustrates this attention to coverage of aspects revolving around people's daily lives, which captures the need to re-organize basic activities (e.g., eating in restaurants, shopping, and going to school) in light of changing restrictions. Third, the existence and distribution of topics are remarkably similar for both language regions. Given the unsupervised nature of structural topic models, this apparent convergence of topics from two separate models and text corpora is by no means evident.

Over time, the evolution of individual topics in COVID-related coverage is marked by a few shifts but remains stable overall (see **Figure 1B**). Epidemiological aspects of the pandemic are the dominant topic right from the beginning. They have

TABLE 2 | Predicting pandemic-related coverage with the presence of key actors (Switzerland, 2020–2021).

Key actor	German-language		French-language	
	OR (SE)	Z	OR (SE)	Z
(Intercept)	0.25 (.02)	−142.9	0.15 (.01)	−54.1
Government	2.01 (.02)	80.9	3.03 (.11)	31.6
Politics	1.28 (.01)	33.9	1.73 (.02)	61.9
Science	1.64 (.01)	81.4	2.03 (.03)	37.5
Economy	1.76 (.01)	123.2	1.39 (.01)	37.5

remained important throughout the global health crisis at a high (French-language) or a moderate (German-language) level. An almost opposite pattern emerges for media coverage of vaccination. Virtually absent in the early reporting on the global pandemic, news media adopt vaccination as a core topic of the pandemic only toward the end of 2020, as the first vaccines receive official approval and become increasingly accessible at the beginning of 2021. Notably, most shifts in media attention to individual topics happen in the early phases of the pandemic, while later phases appear more stable. This initial topic volatility underlines the novelty and rapidly drastic changing situations in the first responses to the pandemic. At the same time, the ensuing stability might indicate the beginning of routinizing processes of adjusting to the "new normal" [17]. However, media coverage taking the pandemic's impact on people's daily lives into consideration remains frequent as the pandemic evolves. Few notable differences between language regions emerge. One pertains to the prioritization of specific topics. While epidemiology, economics, and everyday life remain the three issues attracting the most attention in French-language reporting, coverage of NPIs and political aspects play a comparatively more prominent role in German-language news media.

Key Actors in COVID-Related Coverage

Finally, RQ3 focuses on how key actors from four societal systems receive coverage in COVID-related news articles. **Table 2** summarizes logistic generalized additive models with the presence of the four actors as predictors of COVID-related coverage. In both language regions and for all key actors of the pandemic—unsurprisingly—there is a correspondence between articles discussing specific aspects of COVID-19 and the key actors occurring in those articles. Interestingly, however, this association is strongest for governmental actors whose presence in an article makes a connection to the pandemic twice as likely in German-speaking (OR = 2.01; Z = 80.9) and three times as likely in French-speaking coverage (OR = 3.03; Z = 31.6). Combined with relatively strong effects for the group of scientific actors, this finding highlights journalists' tendencies to rely on trusted and official sources.

Moreover, journalists aim to match an article's content and the key actors' expertise. **Figure 2** depicts the relationships between key actors and core topics in COVID-related coverage. Indeed, there seems to be a general actor-topic alignment. For example, economic actors are positively related to economic news content

but are unlikely to appear in articles dealing with NPIs, epidemiology, or testing strategies. Likewise, political actors co-occur with political aspects in pandemic discourse. In contrast, scientific actors are most strongly present in articles discussing science-oriented issues, such as vaccination, epidemiology, and—in German-language articles—NPIs. Governmental actors do not appear to be related to a single topic or aspect of the pandemic. However, they are somewhat more likely to appear in articles revolving around NPIs. While generally vital journalistic sources, governments do not seem to have a distinct thematic specialization in COVID-related media coverage.

Finally, the pattern of association of key actors with their respective expert topics is similar in both language regions, except in two instances. On the one hand, there seems to be a disconnect between governmental actors and the economy in French-language but not German-language coverage. The prevalence of a focus on the economy is 10% lower when an article mentions a governmental actor. On the other hand, a similar disconnect emerges in the German-language media coverage of political actors whose presence in a news article is negatively associated with a focus on economy and epidemiology. Though striking, the overall pattern of similarities outweighs these regional differences.

DISCUSSION

The present study aimed to (1) map the share of COVID-related media coverage over time, (2) investigate specific subtopics as well as their evolution throughout the pandemic, and (3) identify key actors and their relationship with different aspects of the media discourse around the pandemic. The results of a large-scale automated content analysis of one and a half years of Swiss news coverage from January 2020 to June 2021 can be seen as a proxy underlining the central role of news media in such a health crisis. However, fulfilling this central role involves making challenging journalistic decisions that are reflected in overall and topic-specific quantity as well as the selection of sources.

Considering the volume of news articles and in line with other research [19], data shows that the pandemic received an initial peak followed by substantial and persistent coverage over time. This finding indicates the relevance of the pandemic as a key event that affects multiple societal systems and meets journalistic criteria for the selection and dissemination of information. This high-rate coverage, however, comes with a particular challenge for news media. On the one hand, through the constant and expansive dissemination of COVID-related information, news media meet their systemic role as agents of mass communication; they satisfy the public's high need for information and enable exchange between social systems [16]. On the other hand, this increased coverage must be counterbalanced with other socially relevant information. Otherwise, non-pandemic-related news is at risk of being pushed aside.

Moreover, research on issue fatigue—that is, "[...] an individual's negative state that emerges because of overexposure to an issue that news media cover extensively

over a long period" (37, p. 1790)—demonstrates that excessive coverage can lead to adverse emotional and cognitive reactions and promote reactance and avoidance behavior [37]. These potential adverse effects are critical in public health emergencies such as the COVID-19 pandemic, as responses to the pandemic depend on people continually knowing about the latest measures and adopting them into their daily lives. Moreover, the fact that the analysis yielded a daily average of roughly one thousand news articles related to the pandemic raises the question of at what point necessary reporting turns into an "infodemic" overwhelming the audience with too much information [14]. Therefore, future research could try to link data on news coverage with survey results to generate insights into this sensitive balance and pinpoint desirable effects with potential adverse effects resulting from such a dominant focus on a single issue.

The analysis of content provides insight into the thematic structure of news coverage of the pandemic. The analyzed news media outlets cover most key societal systems. Therefore, journalists rise to the challenge of dealing with the multi-system character of such a national and global event [38]. Next to established news coverage topics, such as politics or economy, epidemiology—characterized by writing about numbers related to the spread of the virus—seems to emerge as a "new" and dominant journalistic topic [22, 39]. Regarding the evolution of topics over time, it becomes evident that the prevalence of topics in the COVID-19 coverage is sensitive to developments in two ways. First, key events such as the introduction of new NPIs (e.g., lockdown) or the beginning of mass vaccination affect what topics are more prevalent in news coverage. Second and more generally, the fluctuation in media attention mirrors societal adjustments to the pandemic. Just like people are adapting to the "new normal" in their everyday lives [17], the evolution of topics changes from initial chaos and high topic volatility to more stable patterns (i.e., in topic prevalence), which might indicate the emergence of new journalistic routines.

Concerning the selection of key actors in COVID-related news media coverage, the results give cause for rather optimistic conclusions. Our data show a robust thematic alignment between topics and actors, indicating that journalists quote or refer to actors in thematic contexts where they are experts. Unlike previous research in the US [21], there are few empirical grounds for criticism accusing media of providing platforms to the wrong voices. Taking into account the variety in content across news coverage and the responsible selection of sources that match their area of expertise, journalists fulfill the normative demand of generating a well-balanced and diverse picture of public opinion. From a public theory perspective, this is a crucial contribution to discourse and shaping the public sphere [40]. In turn, this sustains the call to relieve journalists of their pandemic-induced vulnerability and provide collective support to avoid a growing precariat [10]. Governmental actors generally receive much attention across all topics. This finding underlines their role as thematic all-rounder linking different parts of and systems within society [41]. However, as this analysis does not allow for causal inferences, the details of the relationship between journalists and health institutions warrant further investigation,

although forms of cooperation seem most likely. Future research could shed light on these interactions through expert interviews with governmental and journalistic actors or comparative content analyses of press releases and news coverage.

Lastly, both language regions have similar quantity, content, and key actors in COVID-related news. The findings from this within-country comparison suggest that coverage of the pandemic parallels the institutional centralisation of decision-making by focusing on overarching, common aspects of the pandemic. This has implications for other national contexts marked by particularised structures, showcasing how uncharacteristic forms of centralized communication can effectively trickle down regionally. On a methodological note, the findings of this study highlight the recently suggested viability of topic modeling as a comparative research strategy [see 33].

Limitations

This study's limitations must be considered for the interpretation of results, their generalizability, and their implications. For one, this study focused on print news media outlets and did not include any content from online or audiovisual data. Even though newspapers still present a prime source of information in Switzerland [42], the chosen focus, as well as the fact that multi-modal sources and digital channels, such as online news or social media, are becoming more relevant sources of information (especially for younger audiences) limit the potential for transfer of our findings to other contexts and formats. To create a more comprehensive picture, it would also be interesting to link data on news coverage to digital behavioral data (e.g., information seeking, actual consumption of content) [43, 44]. This approach would also enable researchers to infer the impact of news coverage on people's COVID-19-related beliefs, attitudes, and behaviors. In terms of methodology, the chosen approach relies on unsupervised text analytic techniques. Although validated in their various contexts, these techniques were not explicitly designed to study COVID-related coverage. It is thus possible that some of the more subtle dynamics of news coverage about the pandemic were overlooked. A weakness of topic modeling is its data-driven approach. Though valuable for exploratory purposes, future research might extend the results of this analysis by combining automated with theory-driven approaches. Also, our approach could be applied to a broader selection of national contexts and, for example, compare news coverage in countries with different political, welfare, or healthcare systems [see also 19].

Conclusion

The present study contributes to understanding the crucial role of news media in times of global health crisis and the underlying temporal dynamics. By taking Switzerland as a case in point, this study contributes to the existing literature by offering important insights into the dynamics underlying COVID-related news coverage in times of swift institutional change. Overall, news media mirror the significance of the global pandemic. At the same time, emerging patterns indicate a shift in relevance between different aspects of the pandemic. The increasing stability in news coverage patterns indicates the establishment of new routines of how journalists cope with the crisis, particularly concerning information overload

(infodemic) [37] and the lack of other topics to report on [22, 39]. As news media, like all parts and individuals in society, need to adapt to such external shocks, health authorities must pay particular attention to communicating to the public clearly and consistently to avoid further confusion and chaos during these sensitive periods. If they succeed, public health authorities and institutions can indeed rely on news media to disseminate relevant information in a balanced way. From an institutional perspective, this offers great potential and distributes communicative responsibilities and burdens. However, journalists will be more likely to use information from public health experts and institutions in their coverage about where they attribute expertise to the respective sources. This is why it is important for public health to cooperate with other fields, such as economy, epidemiology, or law, and include them in important decision-making processes. The study thus also highlights that efforts of creating context-coherent spokesperson partnerships are a promising strategy for crisis communication. These partnerships are not only visible in media coverage but may also increase the chances of success for coordinated actions, which are crucial for effective navigation and management of public health emergencies, such as a pandemic. As a potential risk, public health authorities must navigate a fine line between making use of the status and credibility of such experts and making them prone to criticism as being (too) close to the government's agenda. Lastly, our investigation of patterns in overall coverage, topical focus, and key sources bridges the gap between existing research on journalistic decision-making and public responses to communication in and about the pandemic.

AUTHOR CONTRIBUTIONS

AO and TR contributed to the conception and design of the study. AO secured data access. TR and AO performed the statistical analysis. AO and TR wrote the first draft of the manuscript. SR and ND secured funding and provided feedback. AO and TR contributed to the manuscript revision. All authors read and approved the submitted version.

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CONFLICT OF INTEREST

The authors declare that they do not have any conflicts of interest.

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