

Biomedicalization processes in a comparative perspective Examining the ways of addressing health press coverage in Russia and Brazil

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Introduction

This study aims to compare the ways of addressing health news coverage in both Brazil and Russia. For this, we start from the concept of biomedicalization, as proposed by Briggs and Hallin (2016). For the authors, it is a process of representing health in society, whose actors are both health professionals, as well as market agents, political movements and also journalists.

What is implicit in this thesis is that there is no way to think about health without discussing the references, discourses and narratives that cross the media, whether they are mass media or digital media, social networks, etc. In this study, we specifically focus on how health is represented in news coverage in both Russia and Brazil, over a decade (2010-2020), in the period before the Covid pandemic, since the exceptionality of the context would bring substantial changes results.

Briggs and Hallin (2016) developed an analytical hypothesis for the understanding of the biomedicalization process, with an emphasis on how journalists address their audience on the issue of health. The working hypothesis is based on four figures: 1) Patient-Consumer model; 2) Citizen model; 3) Investor model; 4) Professional model.

The first is the Patient-Consumer model, in which information is packaged to be useful to readers in the management of their "wellness." The second Citizen model addresses issues related to health as questions of political decisions. The third Investor model provides information to readers interested in business-related information. The fourth Professional model provides information of use to insiders to the biomedical community.

Hallin et al. found that the patient-consumer model is prominent in health news in Norwegian, Spanish, the U.K. and the U.S. And also the Investor target audience is substantially more common in the U.S., compared with Europe (2020). However, as Hallin et al. pointed, during the period of his study, health policy was a major political issue in the U.S. (Hallin et al. 2020). This shows that the addressing modes will change according to local contexts (Hallin et al. 2013).

In our study, we test Hallin's set of measures for Russian and Brazilian mass media. The dataset includes news reports from 2010 to 2020 collected using health and medicine-related keywords from Russian newspapers "Rossiyskaya Gazeta" and "Kommersant", and Brazilian "O Globo" and "Estado de S.Paulo".

Dataset and methods

The general method employs bilingual text-mining, based on LDA for Python, and term statistics. The dataset was collected automatically for the period from 2010 to 2020 from two prominent Russian newspapers, "Rossiyskaya Gazeta" ("RG") and "Kommersant", and two Brazilian newspapers, "O Globo" and "Estado de S.Paolo". They are selected by criteria including size, scope, ownership patterns and political leaning. So, "RG" is a newspaper published by the Government of Russia as the official gazette, while Kommersant is a private newspaper, one of the five biggest and most reliable media houses in Russia.

O Globo and Estadão (nickname do State of São Paulo) are, respectively, the second and third largest newspapers in the country. But O Globo belongs to the most powerful media corporation in the country, and, among the largest newspapers, Estadão is the oldest, with 125 years of existence.

The texts were collected automatically from databases "Integrum" for Russian and "Lexis Nexis" for Brazilian newspapers, based on the mentions of medicine and health-related terms: medicine, health, health care (health protection), medicine (drug), hospital – in Português and Russian languages. In total, it comprised more than 3000 Russian and 8000 Brazilian texts of news stories published each December.

This month was chosen because it represents a "summary" of the year, and it was also in December until 2016 that the annual Presidential Address to the Federal Assembly took place where national healthcare matters were covered. In Brazil, traditionally, December, in the press, is a month of the balance of the year and retrospective, as well as projections for the following year

Since texts are collected using a predefined set of keywords, the final sample contains two types of texts. The first type includes texts that discuss medicine and healthcare-related issues. In the second type, the mentions provide an indirect association with the topic: these texts contain spans related to work, criminal incidents, holidays and so on. To capture the relevant topics we extract paragraphs that include keywords for further analysis.

All paragraphs from the final dataset were lemmatized and tagged with parts of speech using "PyMystem" for the Russian language, and "spaCy" lemmatizer for Português. The top thousand words in each country were checked manually to eliminate the words, which are most related to each Hallin's model:

The Patient-Consumer model contains advice to readers, use of the second person "you," providing basic explanations of scientific knowledge or procedures of health institutions, and recounting the experience and perspective.

The Citizen model relates to public policy or, more broadly, to social choice (as, for example, in reports about genetic engineering that may be framed in terms of ethics).

The Investor model relates to businesses and information on their stock prices, market share and fundraising, and the use of business analysts as sources.

The Professional model provides information of use to insiders to the biomedical community, or readers interested in biomedical science for its own sake. Indicators of this model include the use of technical language, providing information about research methodology, reference to decisions that will be made by professionals about, for example, the best way to treat a particular condition, and also references to developments that will affect the working conditions and privileges of biomedical professionals.

According to these models next keywords were identified. A list of keywords presents in the Table.

| Português language | English language | Russian language | |
|------------------------|------------------|------------------|--|
| Patient-Consumer model | | | |
| Caro | Expensive, cost | Затраты | |
| Plano | Plan | План | |
| Contrato | Contract | Договор | |

¹ https://pypi.org/project/pymystem3/

² https://spacy.io/api/lemmatizer

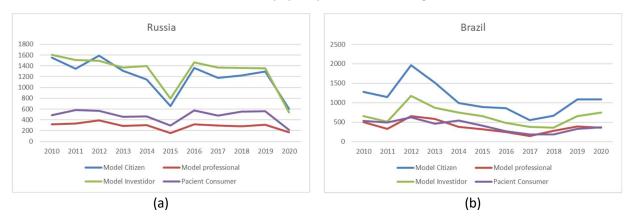
| Português language | English language | Russian language | | | |
|---------------------------------------|--------------------------|---------------------------|--|--|--|
| Preço | Price | Цена, стоимость | | | |
| Consumidor | Consumer | Потребитель | | | |
| Cliente | Client | Клиент | | | |
| *Hospital, hospitalar | Hospital, clinical | Больница | | | |
| Investor model | | | | | |
| Investimento | Investment, investor | Инвестиция, инвестор | | | |
| Ações | Actions | Акции | | | |
| rendimento, atendimento, procedimento | Customer, income, profit | Доход, прибыль | | | |
| Tecnologia | Technology, Technique, | Технология, техника, | | | |
| | high-tech | высокотехнологичный | | | |
| Gestão | Management, manage | Управление, управлять | | | |
| empresa, empresar | Firm, enterprise, plant | Предприятие, фирма, завод | | | |
| Remédio | Remedy, medicine, drug | Лекарство, препарат | | | |
| Clínico | Clinic, clinical | Клиника | | | |
| Negócio | Business, production, | Бизнес, производство, | | | |
| | entrepreneur | предприниматель | | | |
| | Professional model | | | | |
| Carreira | Career | Карьера | | | |
| *Medico | Medical | Врач | | | |
| Professional | Professional, profession | Профессия | | | |
| Formação | Training | Обучение | | | |
| Salário | Salary | Зарплата | | | |
| Faculdade | College, study | Изучение | | | |
| Curso | Course | Курс | | | |
| Citizen model | | | | | |
| Direito | Right | Право | | | |
| Sistema | System | Система | | | |

| Português language | English language | Russian language |
|--------------------------|------------------------------|----------------------|
| *medico | Medical | Врач |
| Único | Single | |
| *Hospital, hospitalar | Hospital, clinical | Больница |
| Cidadão | Citizen | Гражданин |
| Cidade | City | Город |
| contribuinte, contribuir | Contribute, Payment | Взнос |
| Família | Family | Семья |
| SUS | obligatory medical insurance | ОМС, страхование |
| Público | Public, community, society | Сообщество, общество |

^{*} The healthcare-related words as "medico" and "hospital" are considered as contributing 0.5 of their meaning to each model.

Results and discussion

Patterns of Russian (a) and Brazilian (b) newspapers provided in the Figure.



Dynamic changes of Russian agenda in both newspapers depended on the transformation of the Russian economy with the sanctions' external influence and import substitution after the 2014-2015. Before it, we observe the coverage of the reform of the public healthcare system in Russia, the so-called government's "modernization" of medicine. The reform started in 2008-2010 when the Law on Compulsory Medical Insurance was adopted. Before the medical industry was able to obtain funds from various sources and in 2008-2010 it was decided to completely switch to single-channel financing through the Federal Compulsory Medical Insurance Fund.

"Single channel" health care system financing reform includes several government efforts to coordinate two "streams" of funding: one channel coming from wage taxes and the other from general tax contributions. A pilot programme of "single-channel financing" was launched in 19 regions in 2007-2008

(Cook 2015: p. 7, 9; Gordeev, Pavlova, Groot 2011). It was modified and wider spread through 2010. The wide citizen's, public discussions were adopted, that reflected in the relative predominance of the Citizen model.

But the 2014 Crimean incorporation and the western sanction change the economical situation in Russia. In 2015, the reform's coverage and public debates were finished. The Russian mass media turns from the coverage of the state-headed reform of medicine toward import substitution and technoscientific components in healthcare. New private finance and economics-centric communication focus not only on power but the state and business also get involved in the communication. In state-business communication, the public finance issues prevail over public health itself. For example, the Russian state program of e-labelling of drugs. Started in 2017, this program, as well as the import substitution process, exerted a massive influence on the communicative environment.

At the same time, in 2013 "The National Priority Project on Health" was extended to run the Year 2020. It sets out ambitious promotion of "healthy lifestyles" and improvements in health performance (Cook 2015: 19). In 2018 "The National Priority Project on Health" and state programme "Development of health care" were extended to run the Year 2024. These facts promote the Patient-Consumer and the Professional models relatively growth. The decline of all indicators in 2020 the covid year can be explained by the transit of ordinary health care agenda to emergency frames. This point needs to be investigated in further work.

In Brazil, one can see the predominance of the citizen model in the coverage of both newspapers. We must draw attention to a historical issue. Brazil has a Unified Health System, universal and free, since 1988. But in general press coverage is very derogatory to the system. There is a strong tendency to highlight the complaints and problems. There is also the private system in Brazil. But he is complementary. However, press coverage is far more lenient with insurers.

In the figure referring to Brazil, we notice that journalistic coverage is more constantly addressed to the "political subject and citizen", but the data can't be read as stimulation to citizenship and engagement to the public system. The two newspapers are mostly read by the Brazilian middle classes, which maintain a certain distance from the basic care offered by SUS.

The health sector is also increasingly seen as a field of business opportunities, which goes against the idea of social well-being, which tries to protect health as a collective, public good, above private interests. However, there are strong trends in both journals to associate medicine and the market and health as a consumer good. This explains the relevance of the investor model in the chart above.

The two newspapers are of general interest, therefore the addressing to the health professionals will be more frequent in the press directed at them.

Conclusion

The results confirm that although health commercialization is a global trend, it is conditioned by the national historical contexts (Marchenko, Danilova, Popova, Alves et al 2021). Different models of health reporting are associated with the processes in politics, economics, as well as of the endeavours of media professionals. This study is a result of a partnership between Russian and Brazilian researchers and the resources from their universities.

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