

Cancer Prevention and Control in the Age of Surveillance Capitalism: Paths to Combat Disinformation

<https://doi.org/10.32635/2176-9745.RBC.2025v71n1.4829>

Prevenção e Controle do Câncer em Tempos de Capitalismo de Vigilância: Caminhos para o Combate à Desinformação
Prevención y Control del Cáncer en Tiempos de Capitalismo de Vigilancia: Caminos para Combatir la Desinformación

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INTRODUCTION

The fast growing Internet access in the last decades modified information interaction and how it is obtained. The expansion of mobile connectivity contributed to the development of a hyperconnected society with nearly 5.4 billion individuals online connected in the whole world¹. Social transformation as the aftermath of this technological transformation impacted and impacts perceptions and behaviors.

Shoshana Zuboff² provided a critical perspective about these transformations within the concept of surveillance capitalism she has developed. The author argues that powerful corporations attempt to predict behaviors based on personal data, analysis and monetization, creating a surveillance cycle that explores privacy for profit purposes. For this to pay off, the individuals should be connected as long as possible, opening up their private data which are molded as commodities².

Due to the huge volume of data, disinformation spreads fast and easily through the social media, hooking users and creating profit for certain groups. Infodemics feeds this model of capitalism, a phenomenon characterized by the fast and wide spread of fake and true information about a health-related theme³, affecting many health areas, including cancer.

The rising cancer infodemics is a threat to public health because while encouraging the spread of fake news it exposes the population to risks that can compromise decision-taking^{4,5}. Therefore, the implementation of effective strategies to fight disinformation and promote evidence-based information is relevant and should be understood as part of a wider and complex process of transformation of communication and health literacy for cancer control.

The objective of this article is to present the challenges of cancer prevention and control in the age of surveillance capitalism and possible pathways to fight disinformation.

DEVELOPMENT

Health disinformation is a rising challenge deserving increased attention in the scientific community since 2002⁶. Disinformation is not limited to individual users, it is a society problem impacting public health and undermining the trust on health institutions and science⁶⁻⁸.

There are different forms of disinformation. Misinformation is false, but not created or shared with the intention to cause harm. Disinformation is deliberately created to mislead, harm, or manipulate a person, social group, organization, or country while malinformation is based on facts but used out of context to mislead, harm or manipulate^{8,9}.

To best understand disinformation spread, it is essential to analyze not only its various manifestations but the underlying motives that make individuals driven by psychological and social factors believe in it. The individuals tend to adhere to disinformation when it matches their own beliefs and individual prejudices, known as confirmation bias. In addition, besides luring persons through novel content, explores intense emotions as fear and anger, inhibiting critical thinking and increasing the propensity to accept fake as true information¹⁰.

Disinformation is not new, but expanded considerably with the social media boost since 2006^{3,6,8}. Infodemics is too much information on a certain health theme³, hampers the differentiation between reliable information and disinformation, favoring the dissemination of

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misleading information. The phenomenon is triggered by narratives exploring fears and insecurities and rhetorical strategies, creating a complex connection fueled through the polarization and mistrust of social and scientific sources^{8,11}.

Social media offer a wide user-generated or amplified quantity of information, barely filtered by digital platforms³ where narratives are boosted by algorithms that echo and enhance sensationalist content to increase adherence⁸ and pushing everyone into the age of infodemics³. The fast dissemination of fake information^{6,7,10-12} results from unregulated and poorly accountable tech corporations together with scarce fact-checking.

However, fake information spread is not a side effect of social media. Actually, economic interest drives proprietary platforms to fail to fight mass disinformation. The economic order known as surveillance capitalism relies on collection and analysis of large volume of data to customize advertising sales and influence behaviors¹², reason for which, it attempts to keep users connected as long as possible to promote intense emotions induced contents.

This strategy makes disinformation a catalyst to increase advertising income^{2,12}. The algorithms hidden in digital platforms are barely understood by users and exacerbate infodemic issues while stimulating the number of interactions at the expense of accurate information, creating a scenario where tech companies are economically encouraged to avoid fighting disinformation because it could reduce the length of time users are connected and consequently, the volume of data collected and their profit.

Many content creators, business owners and politicians and the platform itself benefit financially from fake information¹², including those related to cancer. Cancer infodemics encompasses myths on the causes of the disease, promotion of preventive measures and unproven treatments, possibly encouraging non-evidence-based actions^{4,5,13}. Although patients and users decision-taking relies on interpersonal values and relations, unchecked information taint credibility with potential treatment delay and health damaging decisions to the patients, exacerbating their condition and reducing their recovery¹⁴.

The emotional status of patients with cancer together with other factors as education and access to existing network support make them particularly susceptible to disinformation, exacerbated by the difficulty in accessing trustworthy information and hope to find alternative and fast solutions that promise miraculous cure^{13,14}. Disinformation spread can lead to harming decisions as adhering to unproven treatments or reject evidence-based medical care. Strengthen trust in science and health professionals is essential to mitigate disinformation

damaging effects and ensure that patients decisions are based in science-guided practices^{4,8}.

Given the complexity of the risks associated factors, intersectoral actions based on social and technological aspects are required to mitigate the negative impacts of disinformation on individual and collective health^{13,14}. Among those described in the literature, mediatic and scientific literacy of the population, protection of the integrity of scientific information, regulation and accountability of large tech companies, community engagement and global partnerships^{3,8,11} stand out, in addition to reinforcement of institutional response.

Mediatic and scientific literacy purports to reinforce individuals' ability to separate reliable from fake information¹¹. Its expansion associated with health education strategies play a key role in promoting a culture of information discernment where individuals develop the competence to review the information critically^{3,8}. However, this process should be less instrumental and encourage projects that stimulate shared scientists and population collaboration¹⁵.

The protection of scientific information is a condition to strengthen the trust on health institutions with transparency of the information sources and enhancing fact-checking^{8,11}. Furthermore, this strategy should rely on accurate and timely knowledge translation minimizing distorting factors as political or commercial influences³.

Social media regulation is an important step to control the spread of disinformation and hold companies and users accountable¹¹ with laws and norms that foster transparency and accountability of the online content found on the digital platforms. This includes the creation of information monitoring and fact-checking based on robust processes in addition to proactive measures to remove fake and damaging contents and promoting a safer and reliable informative environment^{3,11}.

The development of global and local partnerships with governments, civil society and the scientific community allows best practices and resource sharing to challenge disinformation and qualification of communication strategies¹¹. Some studies indicate that encouraging influencers with high follower rates to share high-quality information can be an effective strategy to reduce disinformation and that high-quality scientific content creators make their information more attractive and understandable to the public⁸. To create cooperative communication networks can facilitate the exchange of accurate information and reinforce collective resilience against disinformation.

Given that the methods to produce fake news have improved, the strengthening of institutional responses should be intensified through evidence-based policies, and

expand the capacity to identify misleading information and widen the reach of true news. In this context, infodemiology emerges as a key tool.

Infodemiology is a recent field of systematic study of Internet health information as social media, search engines and online forums to identify and respond to a crisis of disinformation that can affect the health of the population³. It involves the implementation of a continuous system of online monitoring and analysis of information exchange, a process known as infosurveillance³.

Infodemiology and infosurveillance allow to monitor and analyze online cancer-related information, identifying the most prevalent themes and frequently shared sources, in addition to understanding how these information impact users' behaviors within the context of cancer prevention and control^{4,5,13,14}. Strategies to fight cancer-related disinformation and myths can be developed from these analyzes.

However, to achieve this goal, several tools and methods should be mastered to collect, analyze and interpret data as Internet data scraping, social media analysis content monitoring, knowledge of automated tools and analysis of trends of population interest¹⁶. The effective implementation of infodemiology demands investments to deal with the complexity of management of large volumes and varieties of data on digital platforms and develop and adopt proper technological tools. In addition, it is important to gather full-time dedicated multidisciplinary teams to collect and analyze these data permanently.

In view of the current society hyperconnectivity, these are essential investments to boost the capacity of the institutions to create evidence-based health public policies within the context of cancer prevention and control.

CONCLUSION

In the age of surveillance capitalism, the algorithms of the great technological companies attempt to maximize the engagement of users to spread sensationalist and emotion-laden content. This ambient is the nest of false news including those related to cancer prevention and control.

Quite prevailing within this context, infodemic hampers the separation of true and false news and exposes patients and caretakers to unproven therapies, thereby reducing health damaging decisions. Typically engaged in challenging capitalism of production as chemicals, pesticides, tobacco, alcohol beverages and ultra-processed food, now, the health institutions will have to stand up against great technological compounds which show an unmistakably conflict of interest while dealing with disinformation.

It is paramount to pursue pathways to reduce the impacts of health disinformation due to the complexity

of surveillance capitalism, through the identification of patterns of disinformation spread and advocating scientific evidences-based public policies. As a rising and developing field of knowledge, more investment is required for effective contribution to cancer prevention and control.

CONTRIBUTIONS

Both authors contributed substantially to the study design, acquisition, analysis and interpretation of the data, wording and critical review. The authors approved the final version for publication.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

FUNDING SOURCES

None.

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Recebido em 23/7/2024

Aprovado em 15/8/2024

