

CASE STUDY

Disrupting the landscape: how the Portuguese National Health Service built an omnichannel communication platform

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ABSTRACT

Noncommunicable diseases (NCDs) are the leading causes of death, disease and disability in the WHO European Region and are largely preventable. The private sector has long been using marketing to influence and change people's lifestyles. In some cases, particularly the food sector, health-compromising content is prioritized over health-promoting content. However, this case study aims to illustrate how governments working on tight budgets can partner with private media companies to their own advantage in order to increase the impact of health messages and thus improve the health literacy of the population. The omnichannel communication platform and associated campaigns initiated by the Portuguese government and described in this case study serve as a practical example of a national health literacy initiative

successfully reaching a wide audience. Indeed, the Portuguese National Health Service entered high on the list of the most impactful communication campaigns in Portugal.

This might have implications for other countries as although further progress is required to analyse any impact of the campaigns, this example showcases the potential advantages of partnering with the media in that by using the same communication channels as multinational food and tobacco companies, governments may be able to level the playing field in terms of influence through marketing and communication, which might help to reverse unhealthy lifestyles among their populations.

Keywords: PUBLIC HEALTH, NCDS, PORTUGAL, HEALTHY EATING, INNOVATION, COMMUNICATION

INTRODUCTION

THE 21ST CENTURY: THE DIGITAL ERA

Different factors impact citizens' ability to manage their health. Having information available, accessible and relevant for the specific needs of communities and individuals is particularly important (1). Health literacy affects people's ability to manage their own health, navigate between different layers of the health system and stick to healthy lifestyles. Several different definitions of health literacy may be found in

the literature; however, they all indicate that the more health literacy people have, the more capable they are of interpreting health information and using it for better decision-making with regards to health and lifestyle (2, 3).

Over the centuries, different communication platforms have been developed. Commonly known as "media", groups of traditional communication players (for example, magazines, newspapers and TV channels) made information progressively more accessible and democratic. However, the 21st century

has been characterized by an overflow of digital media and digital platforms. Never before have such a large number of tools been available to deliver messages to the public. Despite their similarities, traditional and digital media entail different dimensions, which has justified the creation of two different concepts: media health literacy and e-health literacy (4, 5). Media health literacy brings two concepts together: health literacy and media literacy (6). It includes several different approaches towards improving the reach of health messages. Using the Nutbeam Health Literacy Model (7), media health literacy may be structured into four different levels, as shown in Table 1. Media health literacy can be described as considering both implicit and explicit mass media content, which can be either health promoting or health compromising, or information that has been communicated through the media to offer guidance (1).

TABLE 1. MEDIA HEALTH LITERACY LEVELS, FOLLOWING THE NUTBEAM HEALTH LITERACY MODEL.

Level	Description
A	Ability to identify health-related content (explicit and/or implicit) in the various types of media
B	Ability to recognize health-related content influence on health behaviour
C	Critically analyse the content (comparable to Critical Health Literacy)
D	Express intention to respond through action measured through personal health behaviour or advocacy (comparable to Interactive Health Literacy)

Source: adapted from Nutbeam D., Health Promot Int, 2000 (7)

The term “e-health literacy” refers to people’s ability to look for, find, understand and critically analyse health information provided by digital platforms. High levels of e-health literacy enable individuals to better manage their own health (8).

Previously, traditional media provided the only social institution that followed all individuals through the life course (9). However, the democratization of information via the internet turned digital media into one of the most impactful communication channels and changed this paradigm. This is particularly relevant for younger age groups. Due to this phenomenon, the number of digital health products has grown impressively over recent years, with an annual average growth rate of 25%. In this context, approximately 325 000 mobile health applications were available in 2017, with 78 000 released between 2016 and 2017 alone (5).

NONCOMMUNICABLE DISEASES AND THE NEED FOR PROMOTING HEALTH LITERACY

Noncommunicable diseases (NCDs) are the leading cause of death, disease and disability in the WHO European Region. The four major NCDs (cardiovascular disease, cancer, chronic obstructive pulmonary disease and diabetes) account for nearly 86% of deaths, and one third of these deaths occur prematurely. Portugal is also witnessing this trend: in 2017, 80% of deaths in Portugal were due to NCDs (10).

NCDs, as well as their consequences, are largely preventable. Physical inactivity, tobacco consumption, alcohol consumption and unhealthy eating are the four major risk factors, which are also modifiable. Thus, more must be done to tackle them (11).

The promotion of health literacy is key in reducing the burden of NCDs, but despite the challenge being clearly identified, governments have struggled with tackling it proactively. This case study explores how governments can promote health literacy among their populations.

Unhealthy eating is the risk factor that contributes the most to the loss of healthy life years in Portugal (15.8%). Poor dietary habits represent 86% of the burden of disease on the Portuguese National Health Service (NHS) (12). Strategies promoting healthy lifestyles, including eating behaviours, and bringing forward disease-prevention measures must be given priority. In line with this need, the Portuguese Ministry of Health published the integrated strategy for the promotion of healthy eating [Estratégia integrada para a promoção da alimentação saudável] (EIPAS) (13).

EIPAS was the result of collaboration between seven different ministries and was published in December 2017. The strategy is based on WHO and European Commission recommendations and takes into account data from the latest dietary intake survey carried out in Portugal. A public consultation was also undertaken in order to include feedback from civil society and the food sector. EIPAS is an example of health in all policies and includes four strategic axes, namely (i) the creation of healthier food environments, (ii) the improvement of the quality of information available, (iii) the promotion and development of literacy and (iv) the promotion of innovation and entrepreneurship. Within these four areas, 51 policy measures were defined (14), among which, the omnichannel campaign was one of the measures presented in the EIPAS document, which aimed to promote healthy eating in the Portuguese population.

PREVIOUS COMMUNICATION CAMPAIGNS BY THE PORTUGUESE NHS

The private sector has long used marketing to influence and change people's lifestyles. In some cases, particularly in specific industries (the food sector), health-compromising content is being prioritized over health-promoting content. However, evidence shows that marketing can also be used to encourage healthier lifestyles (15). As such, it follows that governments can use marketing to improve health (13). In this context, the Portuguese Ministry of Health committed to make use of marketing to fight the current NCD epidemic.

Historically, institutional campaigns promoted by the Portuguese NHS and the Ministry of Health had limited impact in generating awareness and reaching the population. A preliminary analysis showed that these shortcomings were a function of two main issues. The first was related to the traditionally conservative content of institutional campaigns, which have a lower impact on people. This is a consequence of the fact that governmental organizations and institutions must be careful about the impact their initiatives have on public opinion. Thus, they tend to be very conservative and to take very limited risks. The second issue was related to financing. The investment put into media by the Portuguese Ministry of Health is vastly outweighed by the marketing investment capacity of the private sector companies (i.e. food, alcohol and tobacco).

This case study aims to illustrate how governments working on tight budgets, without the feasibility of increasing financing, can partner with media companies to their own advantage, in order to increase the impact of a health-related message and improve the health literacy of the population. The campaign adopted an innovative approach to increase the health sector's capability to be present in mass media; notably with the creation of an omnichannel communication platform as a potential solution. While the campaign is not at the stage of assessing any behavioural changes in the target population, the results in terms of coverage and impact are promising. As such, we present a focused, in-depth narrative on the planning and implementation of this practical example of a national public health initiative, which may have implications for other countries.

THE DEVELOPMENT OF THE OMNICHANNEL APPROACH

In order to be able to reach a sufficient number of people and have the potential to have an impact on these people, the Portuguese NHS first reflected on their ability to generate touchpoints – points of interaction with their target audience.

A touchpoint is created when an individual is exposed to a message and in the long term, can influence behaviour. The number of touchpoints required before an individual makes a decision varies anywhere from 5 to 13, depending on the industry, the position of both parties within the value chain, the type of decision, the offering, the decision-maker and other macroeconomic and political factors (16). So, effective campaigns require that a significant number of touchpoints are created. Otherwise, the impact will be reduced, and the return on investment will be very low, which is particularly relevant, considering that all funding is public. Given the fixed limited budget allocated to health promotion and disease prevention, the Portuguese NHS had to engage communication partners who could help increase the number of touchpoints with the target market (in this case, the general population). The Portuguese Secretary of State for Health created a task force (made up of three of its own deputies) with the main mission of building a powerful omnichannel communication platform for the Portuguese NHS.

SOCIAL MEDIA AND THE INTERNET

Social media includes both websites and applications, which enable people to create and share content by interacting with each other, mobilize around issues that matter to them, and stay informed (17). Examples include Facebook, Twitter, Instagram, LinkedIn and YouTube, which have become essential tools for health-promotion and disease-prevention literacy interventions and therefore social media was a vital component of the omnichannel communication platform.

While health literacy is people's ability to manage their own health on the basis of their capability to interpret information and use it for decision-making, a medium is simply a means for doing something. In this case, it is a means of communication through which information is conveyed or transmitted. As such, health literacy and social media are related to one another. O'Mara suggests that generic health-promotion campaigns often fail to engage because communication strategies overlook the specificities of the target market as well as health literacy principles (17). Health literacy principles relevant in this context include knowing the audience, understanding the purpose of health messages and creating social media messages that are tailored to diverse populations.

According to the Pew Research Internet Project report, health information is one of the topics people are searching for the most online (18). Consumers currently spend more time engaging with digital media than with traditional media (television, press or radio), and more than 60% of smartphone owners have used their phone to research a health condition (18).

Additionally, social media provide effective tools for reaching vulnerable populations. The fact that these populations are also the ones that are the most impacted by health literacy barriers is a further reason to use social media in this way (18).

These factors led the aforementioned taskforce created by the Secretary of State for Health, in close collaboration with the Shared Services of the Ministry of Health [*Serviços Partilhados do Ministério da Saúde*] (SPMS), to push for the digitalization of the Portuguese NHS by building a strong social media presence. This would ensure concerted dissemination across both traditional and digital media. Thus, from September 2017 onwards, the Portuguese NHS created accounts on the main social networks and revamped the existing ones.

TRADITIONAL MEDIA

The traditional media landscape in Portugal is scattered and diverse. There are several newspapers and magazines, most of them local or regional, with low circulation and coverage. There are very few national generalist press publications. The restructuring of the radio sector in the 1980s has led to an increase in the number of radio stations. Currently, Portugal has more than 300 radio stations, mostly local, throughout the country. Native digital projects in Portuguese, such as online-based radio stations, podcasts, video blogs (vlogs) and television programmes, are also slowly emerging.

However, The Portuguese media landscape is still dominated by television, which is by far the widest-reaching medium and which has grown more diverse and with an increased content and with an increasing number of subscription-based platforms and specialized channels.

TELEVISION

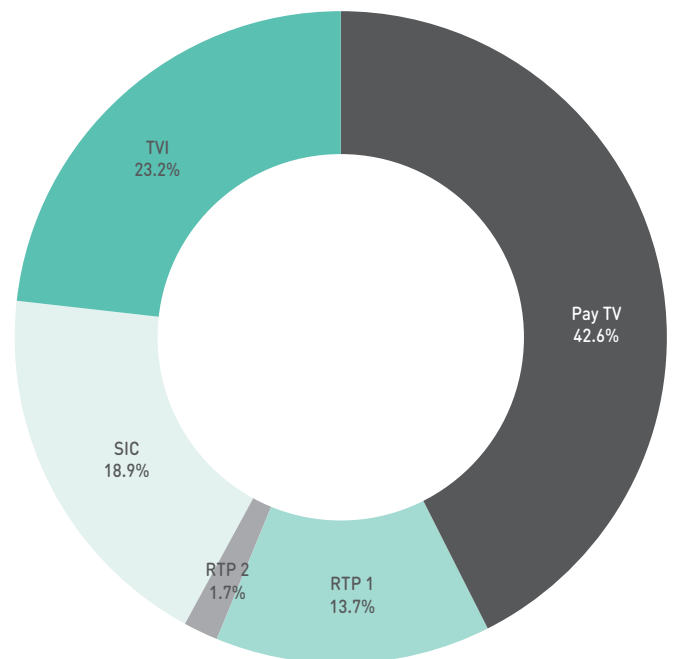
According to the 2016 edition of the survey the new dynamics of audiovisual consumption in Portugal [*As novas dinâmicas do consumo audiovisual em Portugal*], 99% of the surveyed population regularly watched television, with no significant differences in terms of age or gender (19). In comparison, 60.5% of the respondents frequently used the internet, 68.2% regularly accessed newspapers and magazines, and 73% regularly listened to the radio (19).

In Portugal, television has, roughly, a 46% share of the advertising market. This is the highest share among all media. As such, television stations are, potentially key partners in promoting public health. However, due to the very high costs of TV advertising, the health authorities (in fact, most public authorities) have not been able to use this medium as much as needed (20).

The aforementioned taskforce approached all major national television stations, appealing to their social responsibility, with the overarching objective of increasing health literacy in Portugal. Four of the major television stations; RTP, SIC, TVI and Porto Canal, accepted the request and signed a pro bono collaboration agreement committing to broadcasting three NCD-prevention campaigns every year over 3 years, for a duration of three weeks each, at least twice a day.

These stations transmit over a total of 19 television channels (4 open access channels and 15 paid channels), including national, international and local channels. The four open access channels (RTP 1, RTP 2, SIC and TVI) include the most watched channels in Portugal and represented, in 2017, an audience share of 57.5% (Fig. 1). The additional 15 subscription channels have a stronger affinity with the viewer and allow for an increased coverage and impact. This campaign therefore targets both open access channels with their wide audience and subscription channels where impact may be higher. This is not the first time that an agreement has been established between health and media sectors, but no prior corporate social responsibility agreement has been for such an extended period of time, covering 50% of the total national television audience, or with the goal of increasing health literacy (21).

FIG. 1. AUDIENCE SHARE PER CHANNEL (AVERAGE FOR 2017)



Source: MediaMonitor/Gfk.

As a very conservative estimate, this agreement has been valued at more than 3.9 million euros per year (rate card prices) with an average reach of 7.5 million people per campaign (21), which vastly increased the capacity of the Portuguese health sector to reach the population and thus potential drive behavioural changes and improve public health.

MOVIE THEATRES

Roughly 14.7 million people attended a screening at a movie theatre in Portugal during 2018, corresponding to an average rate of 1.4 screenings per inhabitant per year. Despite a 4% drop in admissions since 2017, cinema remains one of the main channels of communication in Portugal. One particular provider dominates the market: *NOS Lusomundo Cinemas* [US Lusomundo Cinemas], which holds 60.3% of the market in Portugal and has a total of 214 movie theatres (22). *NOS Lusomundo Cinema* caters to a wide variety of people, from children to elderly. Following a preliminary consultation exercise, it was determined that it would be difficult to have an agreement with more than one provider, and the taskforce decided to specifically target *NOS Lusomundo Cinemas*. This was successful and *NOS Lusomundo Cinemas* entered into a pro bono agreement to broadcast three health-promotion and disease-prevention campaigns per year, over a minimum of three weeks and at least once before every screening.

PUBLIC TRANSPORTS

Public transport plays a valuable role in society; serving the needs of millions it is a pillar of society's infrastructure (23). According

to the Portuguese National Statistics Institute, in 2017, public road transport provided 27.1 billion seat-kilometres, corresponding to 514.8 million passengers or 7.4 billion passenger-kilometres. Over the same period of time, the number of passengers transported by railway was 141.9 million, with the three light railway systems (Lisbon, Porto and Sul do Tejo) transporting an additional 234.0 million passengers (161.5, 60.6 and 11.9 million passengers, respectively) in 2017 (24).

In this context, public transport companies have the potential to significantly improve the reach of public health campaigns. Given the challenges of securing even small changes in health behaviour at the population level, the Portuguese Ministry of Health approached the biggest players in public transport – light railroad, public road transport and ferry boat passenger transport – in an attempt to recruit them in their campaign. After several months of negotiations, an agreement between the Portuguese Ministry of Health and nine of the biggest players in the Portuguese transportation sector was settled in July 2018 (see Table 2).

By agreeing to enter this joint venture with the health sector, the transportation companies committed to promoting three health-promotion and disease-prevention campaigns in their stations, stops, vehicles, equipment, websites and internal communication materials. Thanks to this agreement, the Portuguese NHS campaigns gained the capacity to reach over 1 million passengers every day in urban areas (the Lisbon and Porto metropolitan areas).

TABLE 2. PORTUGUESE TRANSPORTATION SECTOR COMPANIES IN THE AGREEMENT WITH THE PORTUGUESE NATIONAL HEALTH SERVICE OMNICHANNEL PLATFORM

Company Name	Company Type	Daily Transport	Daily Passengers
Lisbon Railway Company [Companhia Carris de Ferro de Lisboa]	S.A.	600 buses and 48 trams, 9 800 trips	500 000
Tagus Crossing, Transportation [Travessia do Tejo, Transportes]	S.A.	18 trains, 148 trips	70 000
Lisbon Metropolitan [Metropolitano de Lisboa]	E.P.E.	330 coaches	500 000
Oporto Metro [Metro do Porto]	S.A.	102 coaches	220 000
Lisbon Bus Station [Rodoviária de Lisboa]	S.A.	350 buses, 3 958 trips	115 000
Oporto Collective Transports Society [Sociedade de Transportes Colectivos do Porto]	S.A.	419 vehicles, 5 400 trips	245 000
Transportation Tagus [Transportes Tejo]	S.A.	14 boats, 384 trips	58 066

Abbreviations: S.A= sociedade anónima [public limited company]; E.P.E= Entidade pública empresarial [public business entity]

THE CAMPAIGNS

During 2018, the Portuguese Ministry of Health, together with the Portuguese NHS, launched 3 campaigns on health-promotion and disease-prevention. A different combination of media partners was engaged for each of the campaigns. This allowed to the analysis of reach levels variance between different media channels combinations. The first campaign "Hidden sugar" [*O açúcar escondido*] was launched in January 2018 using television partners only. It aimed to create awareness about the sugar content of common daily foods among the general population. Shortly after this initial campaign, the second national campaign "Quit smoking". "Choose to love more" [*Deixe de fumar. Opte por amar mais*] was launched combining television and movie theatre screenings, with *NOS Lusomundo Cinemas* having now entered the agreement. The third campaign was broadcast exclusively in movie theatres in partnership with the Portuguese Association for Mineral, Natural and Spring Water Industrialists [*Associação Portuguesa dos Industriais de Águas Minerais, Naturais e de Nascente*], to promote the consumption of water among younger generations.

According to the Portuguese National Television auditing system, 7 786 000 viewers aged 4 or over watched the Hidden sugar campaign, which represents 80.4% of the total Portuguese population. This is also likely to be an underestimation, based on the fact that only 12 of the 19 channels broadcasting the campaign were included in the audit. In total the campaign was broadcast more than 800 times on national and pay television. Based on the available data, it can be estimated that each viewer watched the campaign, on average, 6.6 times, which is already above the minimum threshold of five touchpoints required to drive behavioural change (14) despite not including touchpoints generated from other communication channels including social media and press coverage.

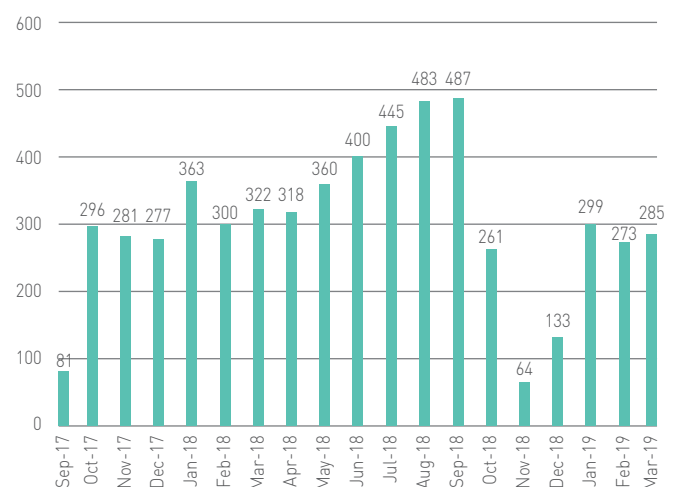
National television analytics also showed that 73.1% of the Portuguese population aged 4 or over watched the Quit smoking. Choose to love more campaign on television, on average, 5.2 times, just above the touchpoint threshold. However, this value was somewhat increased through the success of coverage by the movie theatres; the campaign was broadcast in 34 500 movie sessions, with a total of 713 000 tickets sold. As a result this tobacco control campaign had the biggest reach a public health campaign has ever had in Portugal and was selected as the second-most-impactful television campaign broadcast in Portugal in 2018 (25), prevailing over heavily funded campaigns produced by private international brands, which was an historic achievement for the Portuguese NHS. In addition, also thanks to the agreement

with the movie theatre company, the third campaign aimed at increasing water consumption managed to reach 370 000 people in 13 500 movie sessions.

Public transport companies only entered into the agreement with the Portuguese government in the second half of 2018. Thereby, and perhaps also due to a political shift described in more detail below, there has yet, to the best of our knowledge, to be any data released by the national health authorities regarding the performance and reach of the public transport contributions to the campaigns. However, several public transportation companies had initiated activities to promote both campaigns and in fact, the momentum created by the agreements for the construction of an omnichannel communication platform led some companies (for example, Portugal Trains [*Comboios de Portugal*]) to promote the campaigns even though they were not signatories of the agreement.

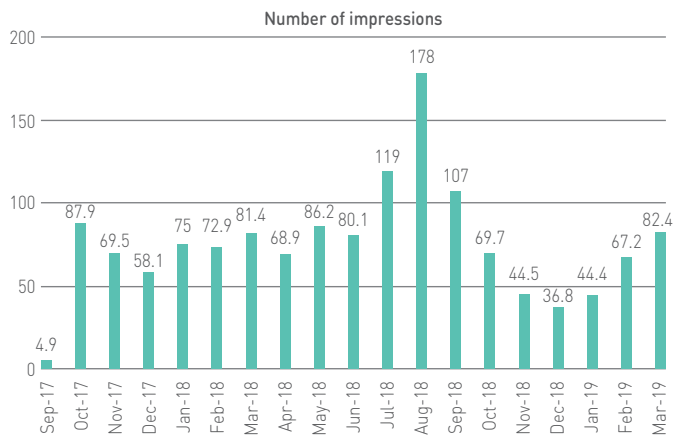
The performance of the Portuguese NHS social media profiles, created in 2017 as part of the omnichannel strategy, improved significantly in 2018. Notably, there had been a continuous increase in the number of posts by NHS staff on the Facebook profile page timeline (Fig. 2). This was a result of political commitment and the continuous investment (mostly time-related) by a team of experienced and dedicated professionals in promoting health literacy by creating content on health promotion and disease prevention. In line with the number of posts, although with higher variability, the number of

FIG. 2. NUMBER OF POSTS ON THE PORTUGUESE NATIONAL HEALTH SERVICE FACEBOOK PAGE (SEPTEMBER 2017 TO MARCH 2019)



Source: Serviços Partilhados do Ministério da Saúde (SPMS) [Ministry of Health, Portugal].

FIG. 3. NUMBER OF IMPRESSIONS ON THE PORTUGUESE NATIONAL HEALTH SERVICE FACEBOOK PAGE (SEPTEMBER 2017 TO MARCH 2019)



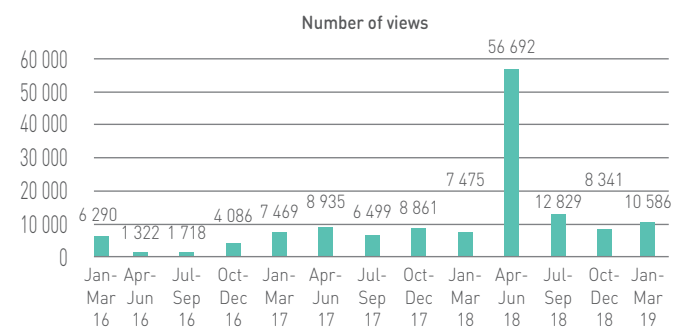
Source: Serviços Partilhados do Ministério da Saúde (SPMS) [Ministry of Health, Portugal].

impressions on the Facebook page also had been gradually increasing since its creation in September 2017 (Fig. 3). In fact, in the summer of 2018, particularly in August, there was a substantial increase in the number of impressions, perhaps as a result of summer-related campaigns, such as a skin-cancer campaign, and/or the sustained work over the previous year.

However, the change of the Ministry of Health's executive in October 2018 brought in a new leadership. This change created a shift in political priorities. Furthermore, an adaptation period for the new Ministry of Health executives followed during which, naturally, most of the ongoing projects were put on hold. The fact is that following the changeover there was a substantial reduction in the number of posts and no new mass media campaign was launched during subsequent six months (which was against the agreement with the media stakeholders). It is important to note that the new Ministry of Health didn't have any objective opposition regarding the innovative and ground-breaking communication campaigns specifically. However, there is perhaps a preference for the more traditional and public health-promotion tools that focus less on innovative mass communication campaigns as a way to promote public health.

Even though none of the other involved partners of the omnichannel platform have released any public statement regarding the inactivity of the Ministry of Health with respect to the release of the agreed annual campaigns, the fact is that, with no new mass media public health-promotion campaigns being released in the 6 months following the change in the Ministry of Health, the usual unhealthy foods advertisements

FIG. 4. NUMBER OF VIEWS ON THE PORTUGUESE NATIONAL HEALTH SERVICE YOUTUBE CHANNEL (JANUARY 2016 TO MARCH 2019)



Source: Serviços Partilhados do Ministério da Saúde (SPMS) [Ministry of Health, Portugal].

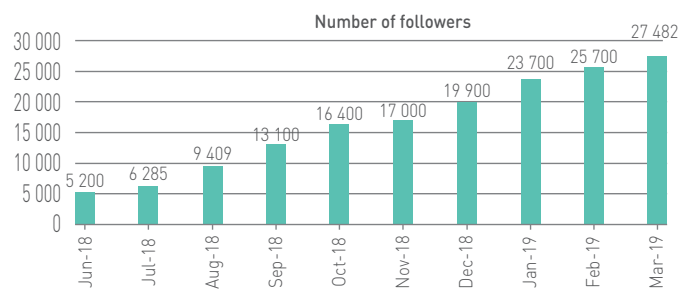
financed by the food industry seem to have regained the monopoly of the media platforms. Never the less, objective data on this is not available.

Around six months after the political change, both the monthly number of posts and hits on the Portuguese NHS Facebook page were still below that obtained one month after the creation of the account in 2017 (Figs. 2 and 3) and the momentum was lost. According to SPMS, similar trends were also observed on Twitter.

Figure 4 shows an example of the potential impact of the omnichannel approach. The tobacco control campaign was launched in May across all media as a 20 second long clip in which viewers were challenged to watch the full-length (15 minutes) version on YouTube. The significant increase in the number of views on YouTube may serve as an indicator of the effectiveness of the approach in persuading people to adopt a behavior and could therefore serve as a potential proof of a concept for its success, which is worth considering in defining the strategy going forward. Unfortunately, the momentum was lost shortly after, for the aforementioned reasons.

Curiously, according to data from SPMS, the number of followers of the NHS Instagram has maintained a growing trend over time (Fig. 5) despite the political change, albeit at a slower rate. The fact that Instagram itself tends to organically favour pages with more followers may explain why the number of followers continued to increase, even though the average number of posts did not.

FIG. 5. NUMBER OF FOLLOWERS FOR THE PORTUGUESE NATIONAL HEALTH SERVICE INSTAGRAM ACCOUNT (JUNE 2018 TO MARCH 2019)



Source: Serviços Partilhados do Ministério da Saúde (SPMS) [Ministry of Health, Portugal].

CONCLUSIONS

Campaigns that are successful in changing awareness and behaviour in the areas of healthy eating and physical activity tend to include a simple message that is repeated as much as possible in order to maximize exposure to the target market. Multicomponent and, arguably, omnichannel campaigns tend to be more successful. This is particularly so when accompanied by political commitment and community-based initiatives (26).

Joining forces with the private communications sector has dramatically increased the performance of public health campaigns in Portugal. The fact that one of the first campaigns broadcast under the voluntary agreement was selected as the second-most-impactful national television campaign of 2018 (21), is an outstanding proof of concept. The Portuguese Ministry of Health case proves that, even though the public sector may not have the ideal amount of money to invest in communication, innovative strategies may be the way forward in order to prevail.

However, since there has not been much research on the effectiveness of mass media campaigns on chronic NCDs, more evidence is required in a variety of settings and life-course phases in order to assess the impact on health. Further research is also needed to determine whether any changes made as a result of such campaigns are sustained post intervention. The limited knowledge base and data available make comparative analyses and cost-effectiveness research difficult (26).

Even though further evidence is needed in order to analyse the impact of health-promotion campaigns in changing lifestyles objectively, the Portuguese case showcases the potential of

partnering with the media. By using the same communication channels as multinational food and tobacco companies, governments may come to have the communication power and influence required to start reversing currently unhealthy lifestyles in the general population (21).

In order to proceed, the data presented in this article should be critically assessed to influence evidence-based decision-making. The implementation of this omnichannel strategy has generated important results, in terms of the widespread nature of the campaign and the number of people reached, which has not seen before in Portugal or in the Portuguese public sector. This case study highlights that a lack of funding does not justify a lack of proactivity from the public health sector regarding health promotion, disease prevention and, ultimately, health literacy. Where there is a will, there is a way. Thus, strong political will seems to be the key to overcoming the observed and well-known obstacles.

Lastly, evidence suggests that stand-alone initiatives are less likely to be impactful in terms of NCD prevention than integrated coherent strategies are. Thus, even though the campaigns described in this case study show interesting results in terms of reach levels, they will need to be integrated hand in hand with a wider range of public health-promotion tools, in order to consolidate their real impact on citizens' behavioural changes (13, 27).

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Disclaimer: The authors alone are responsible for the views expressed in this publication and they do not necessarily

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