USE OF SOCIAL MEDIA FOR HEALTH EDUCATION AND CORPORATE COMMUNICATION OF HOSPITALS

Uso de redes sociales para la educación en salud y la comunicación corporativa de hospitales

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Abstract

The main objective of this work is to obtain an in-depth understanding of digital communication strategies employed by hospitals by comparing and contrasting the digital communication of two hospitals of reference in Spain. The main method is content analysis of *Facebook* and *Twitter* along with in-depth interviews of hospital communication directors. Results show different communication strategies that depend on organizational goals. The public participated in digital communication within three themes: 1) general, sensitive, and topical health issues; 2) personal and professional projects, as well as initiatives for struggle or sensitization; 3) corporate novelties that encourage public involvement. The use of currently existing platforms of social media from which to manage the online communication should be a priority for hospitals. Multimedia content can help to disclose health information. Online communication strategies are adapted to overall communication strategy and differences in cultural profiles lead to differences in priorities.

Keywords

Communication strategies; Public relations; Health communication; Corporate communication; Social media.

Resumen

El objetivo principal de este trabajo es obtener un conocimiento profundo de la comunicación de dos hospitales españoles de referencia en comunicación digital, contrastando sus estrategias. Los principales métodos utilizados son el análisis de contenido de *Facebook* y *Twitter* y entrevistas en profundidad con los directores de comunicación de ambos hospitales. Los resultados muestran diferentes estrategias de comunicación sujetas a los objetivos de cada organización. La participación del público se produce en tres tipos de temas: 1) cuestiones de salud de interés general, especialmente sensibles; 2) proyectos personales y profesionales reconocidos, así como iniciativas para la lucha o la sensibilización; 3) novedades corporativas relevantes que afectan a la organización y fomentan la participación de su red. La existencia de una o más plataformas de redes sociales desde las cuales administrar la comunicación online es una prioridad para los hospitales. Los contenidos infográficos pueden ayudar a educar en salud. Las estrategias de comunicación online se adaptan a la estrategia general de comunicación y las diferencias en los perfiles culturales llevan a diferencias en sus prioridades estratégicas.

Palabras clave

Estrategias de comunicación; Relaciones públicas; Comunicación para la salud; Comunicación corporativa; Medios sociales.

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1. Introduction

As social media tools become mainstream, organizations must update their strategies and tactics to build relationships (**Briones** *et al.*, 2011). In line with other types of organizations, social media are new channels for hospitals to communicate with citizens and users. Online dialogue can be an important method of health education, an unusual topic in the current communication research agenda (**Vande-Belt** *et al.*, 2012; **Thackeray** *et al.*, 2012; **Moorhead** *et al.*, 2013).

This work aims to help fill this gap and deepen the use of the two social networks with the most users in Spain, *Facebook* and *Twitter*, by two Spanish hospitals with very different identities, but both with a reputation in Spain for their services and also activities in the digital arena. The *Hospital Sant Joan de Déu*, (*HSJD*) in Barcelona, a maternal and children's hospital of concerted management with the *Catalan Public Health Service* and the *Clínica Universidad de Navarra* (*CUN*), a general hospital of private ownership and management.

2. Literature review

Although there are many potential benefits of adopting social media for medical practices and health care (Lim, 2016), and despite users who are becoming more and more informed on health topics thanks to the Internet (Sarasohn-Kahn, 2008; Hu; Sundar, 2010), health care organizations are latecomers to the digital arena. Also, much remains to be done to educate, give answers, and open more direct communication paths with users (Gabarrón; Fernández-Luque, 2012; Huerta *et al.*, 2014).

In regards to the use of social media, according **Van-de-Belt** *et al.* (2012), the number of hospitals in western European countries that use such tools is minimal. In Italy less than 8 percent of public hospitals and local health authorities have social media accounts (**Vanzetta** *et al.*, 2014). In US hospitals the largest private non-profit and urban hospitals are those with higher social media activity (**Griffis** *et al.*, 2014; **Richter**; **Muhlestein**; **Wilks**, 2014) and 42 percent of the analyzed Canadian hospitals have no *Facebook* profile (**Medina-Aguerrebere**; **Buil-Gazol**; **Heath**, 2015). In **Farabough's** (2013) approach, the posts that generated greater engagement were those related to patient stories. Pictures, videos, and good news tended to increase usage of social media for hospital stakeholders (**Leung**, 2014). One current weakness in social media management by public health agencies is a lack of interactivity and engagement with the user (**Thackeray** *et al.*, 2012). Additionally, the number of *Facebook* likes works as an indicator of hospital quality and patient satisfaction (**Timian** *et al.*, 2013). **McCaughey** *et al.* (2014) detected a positive correlation between social media channel use and patient rating of their overall hospital experience, as well as patient willingness to recommend the hospital.

Both hospitals have one or more webs/ blogs that feed the content they re-disseminate through *Twitter* and *Facebook*

In Spain a significant percentage of hospitals do not have a website, and those that do are not optimizing them as a medium of information that is of interest to their publics, according to the results of several studies (Arencibia-Jiménez; Aibar-Remón, 2007; Díaz-Cuenca, 2007; Calvo-Calvo, 2014). Bermúdez-Tamayo et al. (2013) show that, in Spain, the larger institutions use social networks more frequently, as well as public institutions (19%, p < 0.01) compared to private ones. But half of the Spanish hospitals with better reputation are not yet present in social media (Costa-Sánchez; Túñez-López; Videla-Rodríguez, 2016). The presence of Spanish hospitals on social media is evolving, but it is very low compared to hospitals in the United States and other western European countries. Spanish public hospitals are more active on Twitter, whereas private hospitals have a better performance on Facebook and YouTube (Martínez-Millana et al., 2017). In an analysis of Twitter management by Spanish hospitals (Rando-Cueto; Paniagua-Rojano; De-las-Heras-Pedrosa, 2016), users are interested in information about the activity and events of the hospital followed by practical information and health advice.

The main objective of this work is to gain an in-depth understanding of the use of the social networks, *Facebook* and *Twitter*, by two hospitals in Spain and to contrast the communication strategies of the chosen hospitals. Most of the previous research has analyzed the overall situation, but has not explored communication strategies, objectives, and resources. The analysis will allow us to extract lessons that can be applied to the hospital sector, which in Spain have been late to social media use, just reacting to the new communicative context.

3. Method

The two hospitals (*HSJD* and *CUN*) were chosen because of the contrasts in their management (public-private) and specialization (maternal and child-general). Both are academic hospitals. Each has a website, presence in social networks (*Facebook, Twitter* and *YouTube*, among others), and blogs. This is an extensive presence in 2.0 platforms, which are listed in the corresponding sections of the web pages of *HSJD* and *CUN*.

https://www.sjdhospitalbarcelona.org/es/siguenos-redessociales

https://www.cun.es/actualidad

Previous studies have identified *Sant Joan de Dèu Hospital* in Barcelona and *Clínica Universidad de Navarra* as the two most active Spanish hospitals in social media (**Costa-Sánchez; Túñez-López; Videla-Rodríguez**, 2016). The combination of this group of factors justifies using these two hospitals in our study. *Facebook* and *Twitter* are the object of study because they are the two most popular social networks in Spain (*IAB Spain*, 2016).

In order to carry out an in-depth analysis of the online activity of the two hospitals and a comparative study between both, the present work poses the following initial questions:

R.Q.1. What level of activity do the hospitals present in both social networks?

R.Q.1.1. Are there any significant differences in this regard?

R.Q.2. What is the followed priority strategic line for the content published on *Facebook* and *Twitter*?

R.Q.2.1. Are there differences detected between the two organizations?

R.Q.3. What content generates more conversation in social networks?

Table 1. Data analysis tool

ltem	Indicators		
	Tweets/ day	Tweets/ month	
General activity index	Posts/ day	Posts/ month	
	Total tweets	Total posts	
	Informational		
Driority issue	Corporate		
Priority issue	Scientific		
	Other		
Title (/unit)	Free coding and decoding		
	Picture		
	Video		
Multimedia index	Audio		
	Computer graphic		
	Other		
Origin of information	Free coding and decoding		
	Retweets	Likes	
Conversation index		Interactions	
Conversation index	Loves	Shares	
		Comments	

R.Q.3.1. Are there any coincidences in this regard?

R.Q.4. What is the online communication strategy that both hospitals are currently implementing?

Thereafter, a content analysis adapted to the possibilities of the channel covering a period of three months was carried out for both organizations: February, April, and June 2016 for *Hospital Sant Joan de Déu;* and September, November, and January 2017 for *CUN*. Alternate months were selected to avoid possible distortions derived from specific events and to observe the communication strategy in a global time arch of six months in each case.

Clínica Universidad de Navarra's innovative commitment to careful computer graphics that summarize and explain health information at a glance is highlighted

Starting from **Griffis** *et al.* (2014); **Richter, Muhlestein** & **Wilks** (2014); **King** (2014); **Saxton** & **Waters** (2014) and **Kordzadeh** & **Young** (2014), a factsheet was created for each social network, taking into account the following elements (see Table 1).

The categories of the issues come from the synthesis of previous studies (Wong *et al.*, 2016, Rando-Cueto; Paniagua-Rojano; De-las-Heras-Pedrosa, 2016; Kordazeh; Young, 2015, Huang; Dunbar, 2013; Xifra; Grau, 2010). For this purpose, all the content related to institutional communication and public relations has been considered as corporate content. Informational content refers to content that covers topics of communication for health. Scientific topics are those related to research and clinical trials, fundamentally.

This simplification effort aims to facilitate the comparison between different entities.

Several of these variables have been interrelated in the descriptive section of the corresponding results. The measures for the content with greater interaction from users were relative according to the means of each organization for each social network (King, 2014).

Then, semi-structured, online interviews with the communication directors from each hospital were used to obtain an in-depth understanding of the view of the people in charge of the communication strategies conducted by hospitals. Both communication directors participated in the study. The explanations given by the heads of both departments are included in the different topics covered.

The combination of the quantitative and qualitative methodology allows us to complement the message analysis (strategy, content, and channels) with the recognized and verbalized intentionality by those responsible for the strategy design (**Sale**; **Lohfeld**; **Brazil**, 2002).

Table 2. General data	of corporate websites
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Web	URL	Global rank	Spanish rank	Bounce rank	Pages	Time
CUN	http://www.cun.es	51,012	4,290	85.40%	1.26	1:47
HSJD	https://www.sjdhospitalbarcelona.org/es	497,063	26,580	45.20%	2.80	2:48
Faros HSJD	http://faros.hsjdbcn.org	357,599	19,876	82.20%	1.40	2:19

Source: Alexa.com

4. Results

4.1. Activity on the web

In terms of traffic data from corporate websites, the data obtained from Alexa, one of the most used web references for media planning, are included. The specific items shown are:

- global position in the ranking of websites.
- position in Spanish ranking.
- number of pages visited.
- average duration of visits.

Table 3. Comparative activity index

- bounce rank or number of visits that only access a page and leave the site.

As it may be appreciated, the *CUN* website is the best positioned in the global and Spanish ranking, although its bounce rate is the highest and the average visit time is the lowest of the three. It is important to emphasize that Faros, the online portal specializing in health that belongs to *HSJD*, has a better positioning than the corporate website of the hospital, although the latter seems to be of greater interest for the public, when we take into account the time of the visit, the pages visited, and the bounce rate (see Table 2).

4.2. Activity index on Facebook/ Twitter

Comparatively, as indicated by monthly average activity on networks during the analyzed period (see Table 3), the *CUN* has double the social media activity of *HSJD*, being much more up-to-date in the microblogging network when compared to the hospital's *Facebook* account (R.Q.1). The *CUN*'s daily average of content publication is double that of *HSJD* in both networks (R.Q.1.1).

Table 5. comparative activity mack			
	HSJD	CUN	
Tweets	7,586	13K	
Following	319	731	
Followers	13,4K	9,531	
Average tweets/ month	65.6	144	
Average tweets/ day	2.2	4.75	
Fans	100,454	19,348	
Average posts/ month	26.3	58.6	
Average posts/ day	0.9	1.9	
	Tweets Following Followers Average tweets/ month Average tweets/ day Fans Average posts/ month	HSJDTweets7,586Following319Followers13,4KAverage tweets/ month65.6Average tweets/ day2.2Fans100,454Average posts/ month26.3	

4.3. Purpose of the use of social networks and the degree of multimedia

Communication content for health is more prevalent in the networks belonging to the *HSJD*, both in *Facebook* and *Twitter*.

In *CUN*'s case, the corporate use in *Twitter* is almost equal to its use in communicating about health, whereas *Facebook* is a network that is used more for health (Table 4). Scientific content is transmitted by *Twitter* in the case of *HSJD*, but it is absent from their *Facebook* channel, while *CUN* makes limited use in both networks for this purpose (R.Q.2, R.Q.2.1).

A commitment to images in *Twitter* and *Facebook* is a common denominator in the channels of both organizations (Table 5). Emphasis is given to the use of self-made explanatory infographics designed to help better understand complex information. In addition, *CUN* makes greater use of video. The fact of having a multimedia area in the working environment at the hospitals dedicated to the creation of these materials is reflected, therefore, in the format of the shared content.

4.4. Impact on networks

The conversation rate is higher on *Twitter* for *CUN* and *Facebook* for *HSJD* (Table 6). In the average by type of content,

Table 4. Compared types of use

Type of use (%)			
		HSJD	CUN
	Informational/ educational	51.8	38.8
Twitter	Scientific	24.3	11.5
Twitter	Corporate	16.7	36.2
	Other	7.1	13.4
	Informational/ educational	70.8	52.6
F h h	Scientific	0	8.6
Facebook	Corporate	20.2	29.1
	Other	8.9	9.7
Total	Informational/ educational	57.2	42.7
	Scientific	17.4	10.7
	Corporate	17.7	34.2
	Other	7.6	12.3

Table 5. Multimedia index

Content format (%)			
		HSJD	CUN
Twitter	Image	68.5	61.9
	Video	1	10.6
	Text	30.4	15
	Graphics	0	12.5
Facebook	Image	97.4	52
	Video	1.3	26.3
	Text	1.3	5.7
	Graphics	0	16

Table 6. Conversation rate

Conversation rate (n)			
		HSJD	CUN
Twitter	Retweets	774	3,873
Iwitter	Likes	718	4,286
Facebook	Comments	799	234
	Times shared	15,163	10,792
	Reactions	44,885	21,536
Average tweet	Retweets	3.9	8.9
	Likes	3.6	9.9
Average post	Comments	10	1.33
	Times shared	192	61.3
	Reactions	568	122.3

the *CUN* stands out again in *Twitter*, while the conversation generated by *HSJD* posts are higher in comments, times shared, and reactions (R.Q.3).

Communication topics for health generated more impact and participation in both *Twitter* and *Facebook* for *HSJD*. In the case of *CUN*, the topics of corporate profile on *Twitter* and *Facebook* are the ones that give rise to greater conversation and user interactions (Table 7, R.Q.3.1).

4.5. Online communication strategies

Below is a description of the current online communication strategies used by both hospitals (R.Q.4); the description is based on the work of observation and analysis of networks and platforms and on the intentions as stated by the communication directors of both hospitals.

4.5.1. Hospital Sant Joan de Déu

As for the use of *Twitter*, three priority lines of content stand out:

First, the informational content, where the channel works as a loudspeaker of the content of Faros, the online portal of education for health. The website mainly offers content according to two criteria: age (prenatal, first year, 1 to 5 years, 5 to 12 years, and adolescence) and subject (Nutrition; Health; Safety; Development and Learning; and Family and News).

The communication director explains that "the priority of

Topics-impact (%)			
		HSJD	CUN
More retweets / loves (<i>Twitter</i>)	Corporate	28.8	45.6
	Informational	48.8	29.4
	Scientific	4.4	13.2
	Other	17.7	11.7
More shared / reactions (<i>Face- book</i>)	Corporate	14.3	49.2
	Informational	82.1	26.2
	Scientific	0	14.7
	Other	3.6	9.8

our communication is to carry out actions that help position our hospital as a center of reference in quality and excellence in all matters related to children, youth, mothers, and health" (Communication Director, *HSJD*). *Faros* represents the online materialization of this objective.

The content chosen for dissemination on *Twitter* stands out for their up-to-date nature, social interest, and adaptation to context. All of the posts are accompanied by an illustrative image. As a strategy, the opportunity offered by the World Day of different diseases (World Autism Day, World Day of Childhood Cancer, World Health Day dedicated to diabetes) is used to disseminate issues related to prevention or awareness of the disease. Other events (such as St. George's Day) are also used to discuss the importance of reading among children or stationary issues such as allergies or the importance of sun protection. In any case, contextual factors to generate content are taken into account, in order to attract attention and generate interest.

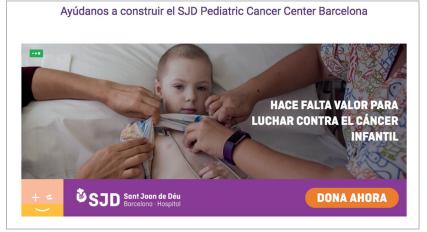
Facebook is employed by *Hospital Sant Joan de Déu* as a community channel where parents find articles of interest about their children's health

Scientific content related to maternity, pregnancy, and pediatrics occupy the second place. The content published by the library channel are disseminated. This content are published in English, and is not accompanied by any image. This content has very low impact in terms of retweets.

Third, corporate content is linked to the celebration of days and events, fundraising for research and hospital projects with lines of collaboration with other entities, prizes received or media coverage of hospital activities and interviews to its professionals. The hospital's corporate website and friends are usually the reference sources.

Regarding the main strategies on *Facebook*, health and wellness tips are prioritized for parents, children, and adolescents, in tandem with posts on *Twitter*. The *Faros* platform also serves as a support to the main strategy on *Facebook*. The strategy of scientific dissemination has disappeared. It is replaced by a near and familiar channel. It also includes user service information, especially that which is related to the internal activities of the hospital.

Facebook acts as a channel for its own community, with a more familiar language, while *Twitter* is committed to positioning itself as a scientific and research source and, in this sense, more professional, but less close to the user. In essence, *Facebook* is the channel for the community of parents who find special interest in hospital content.



HSJD corporate website

The content that generated the highest level of participation on *Twitter* was in

relation to the World Day against Childhood Cancer (February 15). In descriptive terms, the snapshot of the content with the highest conversation rate was in relation to the dissemination of topics of general social concern, namely: childhood cancer, blood donation, sport benefits, importance of the use of protective cream, and the prevention of children's accidents.

The content linked to specific personal projects generated affinity (loves) because the same network of people supported the corresponding content.

C The *Facebook/Twitter* contrast shows, first, that more activity is not synonymous to more interaction with audiences

Regarding *Facebook*, dialogue (higher index of comments) arose with sensitive issues (awareness-raising initiatives with a concrete project or the World Day Against Childhood Cancer) and professional projects of success and social impact, as well as certain corporate issues, which are common to health professionals.

With regards the rebroadcast indicator (number of times shared), an explanation of the risks of using mobile devices for the visual health of children (912 times shared), the topic of childhood cancer, and the importance of educating without raising the voice (732 times shared), the role of parents in disease processes (659 times shared), and content on rare diseases (634 times shared) were the topics.

The analysis shows that promotion and prevention on health was the main goal of sharing content in the hospital network, delegating to the second level the more corporate and scientific dimensions. Staff at the hospital understood their social media strategy as a "means of helping families".

4.5.2. Clínica Universidad de Navarra

The *CUN* content strategy on *Twitter* had several purposes. As was the case of *HSJD*, health-related content was being disseminated and seasonal and ephemerid moments were used.

Second, but with a much higher presence than the publications dedicated to dissemination, corporate content had a significant share of presence on the channel. In particular, three strategic sub-lines were detected in this sense:

1. The opening of the new clinic in Madrid, scheduled for autumn 2017. In September 2016 (a year earlier), content was already being generated on facilities, professionals, lines of activity, etc. The communication director of the hospitals recognized that "the immediate priority of the Department is to communicate the identity and the brand of the hospital for the project of the new headquarters (...) in Madrid."

2. The relevance of the University of Navarra for the community. The report on the socio-economic impact of the *University in Navarre* and the presentation of its corporate memory give rise to emphasizing the organization as a focus for promoting resources and the well-being of its environment.

3. The provision of data and information on *CUN* as a reference entity in quality of service and innovation. Acknowledgments to its professionals, organization of events, balance of services provided, agreements signed with other entities or new facilities.

Associating *CUN* with a leadership image at the national and international medical-sanitary level was the goal of this line of content.

Third, scientific content brings news about clinical trials carried out, studies and new diagnostic procedures, training activities and conferences of its professionals. This is a line of content that, although it is technical and of interest to a more specialized public, also underlines the image of *CUN* as a pioneer center in medical treatments, innovation, and excellence.

Twitter content comes mainly from the active blogs of the hospital and the hospital's own website. The corporate website has, besides a link to blogs, a section in the main menu called *diseases and treatments*. It is the dissemination of health content housed in a key place on the website and at the same level as corporate content.

As a university clinic, content related to the faculties of Medicine and Nursing and other institutions of the University were also part of a network which was re-distributed. The media as a source of content was a common resource, in many cases related to publications where the center's medical professionals are protagonist.

With regard to content strategy on *Facebook*, the corporate website and blogs increased their presence as a source of original content. The corporate website increased its presence linked to the health promotion strategy and the extensive section on the web dedicated to diseases and treatments.

j.	The interaction and participation of the	
	public occurs in three types of issues	

The content that generated a greater participation on *Twitter* (equal or more than 20 retweets and loves) were mainly those related to diseases of great social sensitivity (childhood cancer, Alzheimer's, and premature babies), those linked to the *University of Navarra* network (organizations integrated into the network of the institution, such as faculties or research institutes), and those concerning news of the *Athletic Club Osasuna*, a Spanish club of first division located in Pamplona that has an agreement with the hospital to provide medical care for its players.

Regarding the participation of the audience in *Facebook*, the conversation (equal or more than 60 times shared and 120 reactions) was more active in relation to corporate issues related to the opening of the new hospital in Madrid and its characteristics and the impact of the hospital and university on the Navarra region. Both topics were also featured on *Twitter*. Informational content that generated greater participation was information related to ailments of broad social concern, such as cancer.

The medium-term goal of a hospital within the new paradigm is to

"take advantage of all the possibilities offered by the 2.0 context to develop a closer and interactive communication among all our audiences" (Communication Directorate, *CUN*). As explained by the hospital's communication department, social media helps to consolidate online reputation and is a means to cultivate the community of followers through content generation, the dissemination of identity, and active listening of users.

5. Discussion and conclusions

The study shows the existence of one or more base platforms from which to manage the online communication through the social networks of *Twitter* and *Facebook*. Both hospitals have one or more webs/blogs that feed the content they re-disseminate through *Twitter* and *Facebook*. The corporate website is the main platform for *CUN* (the fact that blogs are also hosted increases web traffic from social networks to the corporate website). *HSJD* separates the two strategies into two different platforms: for health communication, it uses *Faros* (an online portal with specific content for its priority audiences, i.e. teenage/mother/parents), while the corporate website plays a secondary but stable role, limited to the identity information of the organization.

This is also visible in the online communication strategy of both entities. While *CUN* prioritizes content at the service of corporate communication and even the other lines of content are ultimately dependent on the purpose of corporate communication, *HSJD* platforms perform a triple role: first, an informative role; second, public relations position; and in the third place, the scientific role. The planning process for the opening of the new headquarters in Madrid is, according to the director of communication, the most immediate priority. In contrast, for the Catalan hospital, becoming a reference in the health area of specific groups (mothers and fathers, fundamentally) means that the vector of communication in health has a greater role, since it will also enable it to reach potential customers at a national and international level.

With regard to *CUN*'s communication strategy, the high degree of implemented planning of communication should be highlighted. It is also an indicator of the importance of the generation of own audiovisual materials (image, computer graphics, or video) to provide content to networks, so the creation of a multimedia department (which in this case, *CUN* already has) is outlined as a line of work of interest for the communication direction in this and other types of sectors.



CUN corporate website

Indeed, in both cases, the commitment to image and/or video content was shown. It highlighted CUN's innovative commitment to careful computer graphics that summarize and explain health information at a glance. The availability of an area for multimedia communication explains the innovation and care in the use of this type of content. In contrast, HSJD, with fewer resources and without a specialized area within the department, makes too much use of photography or image to illustrate most of its publications.

The Facebook/Twitter contrast shows, first, that more activity is not synonymous to more interaction with audiences. Although CUN has more activity in both networks, HSJD stands out for the participation of its content in *Facebook* and CUN on Twitter. The communicty of the Catalan hospital on *Facebook* is superior to that of Navarre, which may be a conditioning. But its number of followers on Twitter is also higher and yet the participation of its audiences is lower. This may be because Facebook is employed by HSJD as a community channel where parents find articles of interest about their children's health. However, CUN's corporate strategy on *Facebook* reveals a more diluted success. This could be due to several factors: 1) It is a general hospital, which gives rise to content of various types and does not clearly limit the characteristics of the public that receives the messages (as opposed to a specialized hospital, with a profile of publics that is much more concrete and very clear from the department of communication); 2) The prioritization of corporate strategy, which on Facebook can attract a conquered public, but may have less pull for potential audiences, who a priori do not know the institution and will be less involved in opening a new venue; 3) The profile of a private service organization, which limits the potential reach of its audiences.

On *Twitter*, however, the opposite situation occurs. It works better at the service of a corporate strategy than an informational/ educational one. *Twitter* helps and promotes relationships and networking, as highlighted by **Hart** *et al.* (2017). Because *CUN* is a university hospital, there is a solid network woven between the University's own institutions, which can initially serve as a support for the retransmission of the generated content (*Center for Applied Medical Research, CIMA; Faculties of Medicine and Nursing of the University, University of Navarra* and *CUN*, mainly). To this must be added the new relationships that are created with other institutions. The fact that both hospitals are linked to the University favors a daily relational component with other prestigious entities related to their interests and activity.

Therefore, *Facebook* may be the most appropriate platform for outreach strategies while *Twitter* may be best for corporate relational strategies.

As both networks are general-interest, scientific content is less strategically present and receives less attention from non-specialized audiences.

The interaction and participation of the public occurs in three types of issues (in order of impact):

1) Health issues of general concern, sensitive, and topical (cancer, childhood cancer, Alzheimer's);

2) recognized personal and professional projects, as well as initiatives for struggle or sensitization (medical trajectories or projects in favor of a person, for instance);

3) important corporate novelties that affect the organization and encourage public involvement.

The continuity of this line of research is recommended to corroborate our finding that *Facebook* is best for strategies of health disclosure and *Twitter* for corporate strategies, as well as the contrast between public and private profiles or

between specialist and generalist hospitals. The main limitation of the work is that we have analyzed only the main platforms and social networks of two hospitals. In addition, they are two reference hospitals (in their activity in general and in their online activity in particular) so two advantageous situations (in terms of activity level and available resources) are evaluated in relation to most hospitals in Spain.

The scope of 2.0 generates a conversational potential that hospital institutions must take advantage of to become a source of reference information for their audiences. The greatest challenge for scholars is to learn how to institutionalize strategic public relations as an ongoing accepted practice in most organizations (**Grunig**, 2010). The vector of health communication can serve with this double objective: to maintain or improve relations with the public while educating about health.

6. References

Arencibia-Jiménez, Mercedes; Aibar-Remón, Carlos (2007). "Páginas web de hospitales. Realidad virtual o... ¿son realmente un medio útil para la difusión de información para sus usuarios?". *Revista de calidad asistencial*, v. 22, n. 3, pp. 118-127.

https://doi.org/10.1016/S1134-282X(07)71206-X

Bermúdez-Tamayo, Clara; Alba-Ruiz, Rubén; Jiménez-Pernett, Jaime; García-Gutiérrez, José-Francisco; Traver-Salcedo, Vicente; Yubraham-Sánchez, David (2013). "Use of social media by Spanish hospitals: Perceptions, difficulties, and success factors". *Telemedicine and e-health*, v. 19, n. 2, pp. 137-145.

https://doi.org/10.1089/tmj.2012.0066

Briones, Rowena; **Kuch, Beth**; **Liu, Brooke-Fisher**; **Jin, Yan** (2011). "Keeping up with the digital age: How the American Red Cross uses social media to build relationships". *Public relations review*, v. 37, n. 1, pp. 37-43.

https://doi.org/10.1016/j.pubrev.2010.12.006

Calvo-Calvo, Manuel-Ángel (2014). "Calidad y características de los sitios web de los hospitales españoles de gran tamaño". *Revista española de documentación científica*, v. 37, n. 1, pp. 1-19.

https://doi.org/10.3989/redc.2014.1.1049

Costa-Sánchez, Carmen; Túñez-López, Miguel; Videla-Rodríguez, José-Juan (2016). "Hospitales españoles en la web social. Gestión de Facebook y Twitter por el Hospital Sant Joan de Dèu (Barcelona)". *Revista latina de comunicación social*, n. 71, pp. 1108-1130.

https://doi.org/10.4185/RLCS-2016-1137

Díaz-Cuenca, Antonia-María (2007). "Análisis de la calidad de las páginas web en los hospitales españoles". *Enfermería global*, v. 6, n. 1, pp. 1-13.

http://revistas.um.es/eglobal/article/view/224

Farabough, Lauren-Alesha (2013). Using Facebook as a public relations tactic: A look at how hospitals are engaging with fans. Doctoral dissertation. University of Arkansas at Little Rock.

Gabarrón, Elia; Fernández-Luque, Luis (2012). "eSalud y ví-

deos online para la promoción de la salud". *Gaceta sanita-ria*, v. 26, n. 3, pp. 197-200.

https://doi.org/10.1016/j.gaceta.2012.03.004

Griffis, Heather; Kilaru, Austin; Werner, Rachel; Asch, David; Hershey, John; Hill, Shawndra; Ha, Yonhee; Sellers, Allison; Mahoney, Kevin; Merchant, Raina (2014). "Use of social media across US hospitals: Descriptive analysis of adoption and utilization". Journal of medical internet research, v. 16, n. 11, pp. 264. https://doi.org/10.2196/jmir.3758

Grunig, James E. (2006). "Furnishing the edifice: Ongoing research on public relations as a strategic management function". *Journal of public relations research*, v. 18, n. 2, pp. 151-176.

https://doi.org/10.1207/s1532754xjprr1802_5

Hart, Mark; Stetten, Nichole E.; Islam, Sabrina; Pizarro, Katherine (2017). "Twitter and public health (Part 1): How individual public health professionals use Twitter for professional development". *JMIR Public health and surveillance*, v. 3, n. 3, e60.

https://doi.org/10.2196/publichealth.6795

Hu, Yifeng; Sundar, Shyam (2010). "Effects of online health sources on credibility and behavioral intentions". *Communication research*, v. 37, n. 1, pp. 105-132. https://doi.org/10.1177/0093650209351512

Huerta, Timothy; Hefner, Jennifer; Ford, Eric; McAlearney, Anne-Scheck; Menachemi, Nir (2014). "Hospital website rankings in the United States: Expanding benchmarks and standards for effective consumer engagement". *Journal of medical internet research*, v. 16, n. 2, e64. https://doi.org/10.2196/jmir.3054

IAB Spain (2016). Estudio anual de redes sociales. https://www.slideshare.net/elogia/estudio-redes-sociales-2016

King, Melanie (2014). *Corporate blogging and microblogging: An analysis of dialogue, interactivity and engagement in organisation-public communication through social media.* Doctoral dissertation. Sidney: University of Technology, Sydney (UTS).

https://opus.lib.uts.edu.au/bitstream/10453/35948/2/02whole. pdf

Kordzadeh, Nima; Young, Diana (2015). "Understanding how hospitals use social media: An exploratory study of Facebook posts". In: *Americas conference on information systems. Virtual communities and collaboration*. Association for Information Systems.

http://aisel.aisnet.org/amcis2015/VirtualComm/ GeneralPresentations/4

Leung, Ricky (2014). "Increasing dynamic capabilities of health organizations with social media". In: Olivas-Luján, Miguel; Bondarouk, Tanya (eds.). *Social media in strategic management*, pp. 129-142. ISBN: 978 1 781908983

Lim, Weng-Marc (2016). "Social media in medical and health care: Opportunities and challenges". *Marketing intelligence* & *planning*, v. 34, n. 7, pp. 964-976. https://doi.org/10.1108/MIP-06-2015-0120 Martínez-Millana, Antonio; Fernández-Llatas, Carlos; Basagoiti-Bilbao, Ignacio; Traver-Salcedo, Manuel; Traver-Salcedo, Vicente (2017). "Evaluating the social media performance of hospitals in Spain: A longitudinal and comparative study". *Journal of medical internet research*, v. 19, n. 5, e181. https://doi.org/10.2196/jmir.6763

McCaughey, Deirdre; Baumgardner, Catherine; Gaudes, Andrew; LaRochelle, Dominique; Wu, Kaila-Jyaxin; Raichura, Tejal (2014). "Best practices in social media: Utilizing a value matrix to assess social media's impact on health care". *Social science computer review*, v. 32, n. 5, pp. 575-589. https://doi.org/10.1177/0894439314525332

Medina-Aguerrebere, Pablo; Buil-Gazol, Pilar; Heath, Robert (2015). "Brand dissemination in Canadian hospitals through Facebook". *The International journal of communication and health*, v. 7, pp. 27-39.

http://communicationandhealth.ro/upload/number7/ PABLO-MEDINA.pdf

Moorhead, Ann; Hazlett, Diane; Harrison, Laura; Carroll, Jennifer; Irwin, Anthea; Hoving, Ciska (2013). "A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication". Journal of medical internet research, v. 15, n. 4, e85. https://doi.org/10.2196/jmir.1933

Rando-Cueto, Dolores; Paniagua-Rojano, Francisco-Javier; De-las-Heras-Pedrosa, Carlos (2016). "Factores influyentes en el éxito de la comunicación hospitalaria vía redes socia-les". *Revista latina de comunicación social*, v. 71, pp. 1170-1186.

https://doi.org/10.4185/RLCS-2016-1140

Richter, Jason; Muhlestein, David; Wilks, Chrisanne (2014). "Social media: How hospitals use it, and opportunities for future use". *Journal of healthcare management*, v. 59, n. 6, pp. 447-461.

Sale, Joanna; Lohfeld, Lynne; Brazil, Kevin (2002). "Revisiting the quantitative-qualitative debate: Implications for mixed-methods research". *Quality and quantity*, v. 36, n. 1, pp. 43-53.

https://doi.org/10.1023/A:1014301607592

Sarasohn-Kahn, Jane (2008). *The wisdom of patients: Health care meets online social media*. California HealthCare Foundation.

http://www.chcf.org/publications/2008/04/the-wisdom-ofpatients-health-care-meets-online-social-media

Saxton, Gregory; Waters, Richard (2014). "What do stakeholders like on Facebook? Examining public reactions to nonprofit organizations' informational, promotional, and community-building messages". *Journal of public relations research*, v. 26, n. 3, pp. 280-299.

https://doi.org/10.1080/1062726X.2014.908721

Thackeray, Rosemary; Neiger, Brad; Smith, Amanda; Van-Wagenen, Sarah (2012). "Adoption and use of social media among public health departments". *BMC public health*, v. 12, n. 1, pp. 242.

https://doi.org/10.1186/1471-2458-12-242

Timian Alex; Rupcic, Sonia; Kachnowski, Stan; Luisi, Paloma (2013). "Do patients 'like' good care? Measuring hospital quality via Facebook". *American journal of medical quality*, v. 28, n. 5, pp. 374-382. *https://doi.org/10.1177/1062860612474839*

Van-de-Belt, Tom; Berben, Sivera; Samsom, Melvin; Engelen, Lucien; Schoonhoven, Lisette (2012). "Use of social media by Western European hospitals: Longitudinal study". *Journal of medical internet research*, v. 14, n. 3, e61. https://doi.org/10.2196/jmir.1992

Vanzetta, Marina; Vellone, Ercole; Dal-Molin, Alberto; Rocco, Gennaro; De-Marinis, Maria-Grazia; Rosaria, Alvaro (2014). "Communication with the public in the health-care system: A descriptive study of the use of social media in local health authorities and public hospitals in Italy". *Annali dell'Istituto Superiore di Sanità*, v. 50, n. 2, pp. 163-170. *https://doi.org/10.4415/ANN 14 02 10*

Wong, Charlene; Ostapovich, Gabrielle; Kramer-Golinkoff, Emily; Griffis, Heather; Asch, David; Merchant, Raina (2016). "How US children's hospitals use social media: A mixed methods study". *Healthcare*, v. 4, n. 1, pp. 15-21. https://doi.org/10.1016/j.hjdsi.2015.12.004

Xifra, Jordi; Grau, Francesc (2010). "Nanoblogging PR: The discourse on public relations in Twitter". *Public relations review*, v. 36, n. 2, pp. 171-174. https://doi.org/10.1016/j.pubrev.2010.02.005

