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Digital Reputation Management in American Cancer Hospitals: A Proposed Model

Pablo Medina Aguerrebere
ORCID: 0000-0002-5882-9298
Canadian University Dubai, United Arab Emirates

Eva Medina
ORCID: 0000-0001-6276-4127
University of Alicante, Spain

Toni Gonzalez Pacanowski
ORCID: 0000-0003-3005-2218
University of Alicante, Spain

Abstract: Cancer patients face complicated situations from an emotional, social and physical perspective. Hospitals help them through implementing corporate communication initiatives based on social media platforms. This win-win relationship allows hospitals to reinforce their brand reputation. This paper aims to better understand how cancer hospitals manage social media platforms for enhancing their brand as well as their relationships with stakeholders. To do that, we carried out a literature review about corporate communication in health organizations, as well as a content analysis about how the top 100 American cancer hospitals managed their corporate website as well as their corporate profile on Facebook, Twitter and YouTube for branding initiatives. Finally, we proposed the Reb Model for Branding Cancer Hospitals. We concluded that thanks to social media, cancer hospitals can reinforce their brand because these platforms allow them to promote human values, improve their internal processes and become a true source of scientific information.

Keywords : Hospital; Corporate Communication; Brand; Reputation; Social Media.

INTRODUCTION

Cancer patients face traumatic situations from an emotional, social and physical perspective. Their lack of knowledge about this disease and its treatments, the impact of uncertainty in their daily life, the difficulty to manage some emotions (hope, fear, etc.) and the challenge of building an emotional support network determine cancer patients' behaviors. On the other hand, facing cancer diseases constitutes a true challenge for health organizations, such as public hospitals, private clinics, patients' associations, pharmaceutical companies or public authorities. The professional management of corporate communication based on a health education perspective represents a strategic opportunity to help hospitals establish better relationships with cancer patients and, thus improve their own corporate reputation. Most cancer hospitals have already implemented a social media strategy whose main objective consists of building a reputed brand in a collective way along with stakeholders, especially patients. This paper aims to analyze how cancer hospitals manage social media platforms to improve their patients' perceptions in order to build a reputed brand. To do that, we initially carried out a literature review about cancer patients' behaviors, health professionals' skills in communication, social media platforms, branding and visual communication initiatives. Second, we conducted a content analysis about how the top 100 cancer hospitals in United States managed their social media platforms (Facebook, Twitter, and YouTube) as well as their corporate websites to promote their corporate brands. Third, we proposed a communication model for branding cancer hospitals through social media platforms (Reb Model).

CANCER HOSPITALS' WEBSITES AND SOCIAL MEDIA PLATFORMS

Most patients are willing to tell health professionals about their feelings and thoughts (Silverman, Kurtz, Draper, 2013). Nevertheless, this behavior changes for cancer patients who have a high prevalence of psychological stress, which makes communication relationships with doctors more difficult (Moore et al., 2018). When cancer patients interact with health professionals, they deal with uncertainty, intense emotions, collective decision-processes, human values and self-management processes (Blanch-Hartigan et al., 2016). Patients' characteristics (sadness, anxiety) as well as doctors' feelings (stress, alexithymia) determine their communication relationships (De-Vries et al., 2018). Cancer patients build an image of their clinicians centered on their expertise and authority and consider them as providing a safe haven in the face of threat (Beesley et al., 2016). Sharing information and establishing collective decision-making processes positively influences patients' perceptions about health professionals (Peterson et al.,

2016; Salmon, Bridget, 2017). Implementing a true dialogue based on mutual respect and empathy constitutes a priority for health professionals; otherwise, they are unable to efficiently help cancer patients (Brand, Fasciano & Mack, 2017). These professionals should also communicate with primary care physicians about cancer patients' treatments and post-cancer treatments in order to improve patients' perceptions about hospitals (Klabunde et al., 2017).

Health professionals need to be trained on how to manage emotions and social issues in order to improve their interpersonal communication performance with cancer patients (Salmon & Bridget, 2017). Some schools of medicine and nursing have already modified their study plans to integrate courses on interpersonal communication (Epstein, Duberstein & Fenton, 2017), such as ad-hoc courses about how to explain facts and adapt the information to patients' emotions (Moore et al., 2018). Research has proved that doctors' good communication skills improve effective health care as well as relationships with various types of patients (Brown, 2008). Health organizations should implement combined interventions including oncologists' communication training and cancer patients' coaching initiatives in order to foster patients' knowledge about treatments and diseases (Epstein, Duberstein & Fenton, 2017). Once both sets of stakeholders have reinforced their communication skills, they can deal with six core topics: managing uncertainty, responding to emotions, making decisions, fostering healing relationships, enabling self-management, and exchanging information (Blanch-Hartigan et al., 2016).

The professional use of social media allows health organizations to engage entire populations at low cost, develop supportive social networks, connect patients with oncologists and collect data useful for advancing cancer research (Prochaska, Coughlin & Lyons, 2017). In the United States, 95% of the top ranked hospitals manage at least a social media platform (Taken, 2017). Some hospitals such as the Mayo Clinic have even integrated these platforms in some internal medical protocols in order to improve patient's care, advance in medical research and evaluate health professionals' performance (Kotsenas et al., 2018). Managing social media helps hospitals improve cancer patients' experiences: emotional support, accurate information, learning initiatives and dialogue with health professionals (Falisi et al., 2017). Even if using these platforms also constitutes a public health constraint (Costa-Sánchez & Míguez-González, 2018), hospitals and oncologist should recognize the importance of owning their brand and protecting their digital reputation (Kotsenas et al., 2018). To do that, they can also resort to social media to launch health communities allowing patients and doctors to share accurate health content (De Las Heras-Pedrosa et al., 2020).

Health professionals play an essential role when hospitals promote any of their digital services related to cancer care (Yeob et al. 2017). Doctors should implement an evidence-based practice to improve their digital relationships with cancer

patients (Sedrak et al., 2017) and social media allow cancer patients to better understand medical information and positively influence them to adhere to treatments and establish therapeutic alliances (Namkoong, Shah & Gustafson, 2017). Thanks to these platforms, hospitals understand how cancer patients conceptualize and communicate about their illness (Sedrak et al., 2016). Social media have changed the way patients search for cancer information (Attai et al., 2016) and express their emotions (Cho et al., 2018), which is why hospitals, health professionals and patients should use these platforms in a professional way in order to establish trustworthy relationships (Kotsenas et al., 2018).

Twitter, Facebook and YouTube are three of the most important social media platforms that hospital can use to improve their brand reputation (Triemstra, Stork & Arora, 2018). When health professionals use Facebook to communicate with cancer patients, they focus their conversations on six main topics: 1) documenting the cancer journey, 2) sharing emotional strains associated with caregiving, 3) promoting awareness about pediatric cancer, 4) fundraising, 5) mobilizing support, and 6) expressing gratitude for support (Gage-Bouchard et al., 2017). Thanks to Facebook, patients can also participate in digital communities, interact with oncologists, gather credible medical information and reinforce their empowerment (Attai et al., 2016). Facebook has become an important asset to evaluate medical services quality (Ivanov, Sharman, 2018), enhance patients' engagement and improve hospitals' revenues (Apenteng et al., 2020). Finally, this platform provides an infrastructure that allows researchers to interact with patients in new ways (Sedrak, et al. 2017).

In Twitter, oncologists and cancer patients prioritize three kinds of content: 1) general, sensitive, and topical health issues; 2) personal and professional projects; and 3) corporate novelties that encourage public involvement (Costa-Sánchez, Míguez-González, 2018). By meeting patients in a digital environment, doctors can improve patients' care and further their trust in the hospital (Sedrak et al., 2017). Some oncologists and patients resort to Twitter to create digital communities and journal clubs allowing them to implement health education initiatives related to cancer prevention (Cho et al., 2018). Health organizations must disseminate accurate content that could be easily shared by patients and other stakeholders (Sutton et al., 2018).

Implementing visual communication initiatives on social media to disseminate cancer-related content helps patients to better understand their treatments and diseases, as well as reinforce their engagement with their own welfare (Basch et al., 2015). Using images and videos to educate cancer patients is one of the most efficient strategies that health organizations can implement. For this reason, YouTube has become an essential tool in digital cancer communication (Fernández-Gómez & Díaz-Campo, 2016). YouTube is a powerful education platform that allows patients to better understand cancer diseases

and treatments; nevertheless, some videos are not produced by experts in this domain, which constitutes a public health risk (Míguez-González, García Crespo & Ramahí-García, 2019). Hospitals should improve their presence on YouTube in order to analyze in a more accurate way how cancer patients behave and why they take some decisions concerning their treatments (Balasooriya-Smeekens, Walter & Scott, 2015).

METHODOLOGY

To understanding how American cancer hospitals manage social media platforms to promote their corporate brand and improve their reputation, we have analyzed the U.S. News & World Report Hospital Rankings & Ratings, a reference study that reviews hospitals' performance in 16 specializations (cancer, cardiology, diabetes, etc.) according to different indicators. To define these indicators, this ranking considers a variety of data coming from several sources such as the Federal Centers for Medicare and Medicaid Services' Standards Analytical File Database, the American Hospital Association, different professional associations, etc. All indicators used to evaluate hospitals are grouped in four main categories: a) outcomes (survival rate, rate of discharge to home, etc.), b) patients' experience, c) care-related factors, and d) experts' opinion obtained through physicians' survey. This annual ranking analyzes 4,653 hospitals, which represents all US community inpatient facilities.[1]

According to this ranking, we identified the 100 top cancer hospitals in the United States (see Annex 1 List of all hospitals that were analyzed).[2] Afterwards, we carried out content analysis in order to evaluate how these organizations managed four digital platforms: 1) their corporate website, because it centralizes their whole digital communication strategy (Lee et al., 2015); 2) Facebook, the most used social media platform in the world[3]; 3) Twitter, one of the best platforms that health organizations can use to engage corporate conversations with patients (Park, Reber & Chon, 2016); and 4) YouTube, the best social media platform for sharing videos, which is especially useful for health organizations when disseminating scientific content (Kotsenas et al., 2018). We carried out this analysis from 1st March to 22 April 2020.

1 More information about this methodology is available on: https://health.usnews.com/health-care/best-hospitals/articles/faq-how-and-why-we-rank-and-rate-hospitals. Document retrieved on 21th February 2020.

2 Document retrieved on 7th January 2020 from: https://health.usnews.com/best-hospitals/rankings/cancer.

3 In January 2020, more than 2,449 million people in the world used this platform. Document retrieved on 2nd February 2020 from: https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

To analyze how these hospitals managed these four digital platforms, we considered 48 indicators grouped into three main categories: a) identity, b) communication activities, and c) patients' engagement (see Table 1). Most of these indicators aimed to verify whether hospitals disseminate brand related content, such as mission, vision, logo, awards, etc. As much as possible, we tried to homogenize these indicators in the four digital platforms; nevertheless, we also displayed the distinct kind of statistics and content provided by each platform. We only considered each hospital's corporate profile on these four digital platforms; in other words, we did not evaluate any other kind of profile: events, departments' profiles, non-official profiles, etc.

Table 1. Performance Indicators (N=48)

Corporate Website	Facebook	Twitter	YouTube
Identity*			
1. Corporate logo	1. Corporate logo	1. Corporate logo	1. Corporate logo
2. Multilingual website	2. Links to corporate websites	2. Links to corporate websites	2. Links to corporate websites
3. Links to medical departments	3.Hospital's description	3. Hospital's description	3. Hospital's description
4. Find a doctor	4. Milestones	4. Joined date	4. Milestones
5. Find diseases	5. Awards	5. Foundation date	5. Awards
6. Links to research and education departments	6. Brand values	6. Hashtags in the description	6. Brand values
7. Link to the Press Department	7. Mission	7. Health professionals or hospital's building in the main image	7. Mission
8. Links to social media platforms	8. Vision	8. Links to other social media platforms	8. Vision
Communication Activities**			
9. Videos in the homepage	9. Videos integrated	9. Number of Followings	9. Playlists
10. Press releases on the homepage	10. Events	10. Media section with videos	10. Channels
Patient's engagement***			
11. Patients' platform	11. Number of likes	11. Number of likes	11. Number of subscribers
12. Mobile apps	12. Number of followers	12. Number of followers	12. Number of views

*Homepage in the Corporate Website and Twitter; and About Us section on Facebook and YouTube

** Homepage in all platforms

*** Homepage in all platforms

Source: Authors.

We chose to analyze 100 units (hospitals) in order to evaluate four variables (three social media platforms and the corporate website) according to three main categories (identity, communication activities and patient's engagement). All 48 indicators were analyzed according to the binary system, except for seven that were evaluated as absolute numbers: Facebook (11, 12), Twitter (9,11,12) and YouTube (11,12). For each indicator, we only considered inputs that we could immediately see on the homepage or the About Us section, and not those for which we needed to do more than one click and then browse through different menus. Finally, the Mayo Clinic used the same website and corporate profile on Facebook, Twitter and YouTube for its three branches in Rochester, Phoenix and Jacksonville.

FINDINGS

After analyzing how the 100 top cancer hospitals in the United States managed their corporate website as well as their corporate profiles on Facebook, Twitter and YouTube for branding initiatives, we grouped our findings in four categories.

Category 1 – Corporate websites. All hospitals analyzed had their own corporate website. Most of them displayed identity related indicators: logo – 100%, links to other departments – 100%, links to research and education sections – 98%, links to other social media platforms – 95%, a search engine for finding doctors – 86%, a link to the Communication Department – 76%, a search engine for finding diseases – 28%, and a multilingual website – 25%. Concerning communication activities, 71% of hospitals included press releases on their homepage, but only 31% published videos. Finally, as to patients' engagement, 69% of hospitals proposed a patients' platform, but only 7% have a mobile app. Finally, 4% of hospitals displayed 11 indicators (see Table 3) whereas 70% showed between 7 and 9 indicators see (Table 2).

Table 2. Distribution of Indicators

Number of indicators	Number of hospitals
12	0
11	4
10	8
9	26
8	21
7	23
6	11
5	5

Number of indicators	Number of hospitals
4	2
3	0
2	0
1	0
0	0

Source: Authors

Table 3. Hospitals Displaying at least 10 Criteria

Number of Indicators	Hospitals
11	University of Texas MD Anderson Cancer Center
	Roswell Park Comprehensive Cancer Center
	Jefferson Health-Thomas Jefferson University Hospitals
	University of Miami Hospitals and Clinics – Sylvester Comprehensive Cancer Center
10	H. Lee Moffitt Cancer Center and Research Institute
	UCSF Medical Center
	UCLA Medical Center
	University of Chicago Medical Center
	UT Southwestern Medical Center
	Mount Sinai Hospital
	Penn State Health Milton S. Hershey Medical Center
	Abbott Northwestern Hospital

Source: Authors

Category 2 – Facebook (FB). Almost all hospitals – 99% – have a corporate profile on FB. Most of them displayed the main identity related indicators: links to corporate websites – 100%, logo – 98%, corporate description – 92.93%, mission – 59.60%, milestones – 57.58%, awards – 26.26%, vision – 3.03%, and values – 2.02%. Concerning communication activities, 98.99% of hospitals integrated videos and 98% proposed an event section. For patients' engagement by the number of FB's likes (See Table 4) and by followers (see Table 5).

Table 4. Hospitals by Facebook (FB) Likes

	Hospital	Number of FB likes
1	Cleveland Clinic	2 042 922
2	Mayo Clinic*	1 161 046
3	John Hopkins Hospital	622 233
4	University of Texas MD Anderson Cancer Center	324 534

	Hospital	Number of FB likes
5	UCLA Medical Center	309 286
6	UCSF Medical Center	245 081
7	Mount Sinai Beth Israel Hospital	233 349
8	Mount Sinai Hospital	233 094
9	City of Hope Comprehensive Cancer Center	190 213
10	Vanderbilt University Medical Center	189 471

*Mayo Clinic Phoenix and Mayo Clinic Jacksonville used the Mayo Clinic's corporate profile on Facebook

Source: Authors

Table 5. Hospitals by Facebook (FB) Followers

	Hospital	Number of FB followers
1	Cleveland Clinic	1 961 382
2	Mayo Clinic*	1 165 275
3	John Hopkins Hospital	622 096
4	University of Texas MD Anderson Cancer Center	329 211
5	UCLA Medical Center	308 647
6	UCSF Medical Center	245 900
7	Mount Sinai Beth Israel Hospital	238 871
8	Mount Sinai Hospital	238 504
9	City of Hope Comprehensive Cancer Center	193 998
10	Vanderbilt University Medical Center	185 876

*Mayo Clinic Phoenix and Mayo Clinic Jacksonville used the Mayo Clinic's corporate profile on Facebook

Source: Authors

Category 3 – Twitter. Most hospitals – 98% – have a corporate profile on Twitter. Nevertheless, many of them did not display all the identity related indicators: logo – 100%, date of joining – 100%, links to corporate websites – 98.98%, corporate description – 84.69%, hashtags in their description – 36.73%, health professionals or buildings in their main profile image – 14.29%, foundation date – 3.06% and links to other social media platforms – 2.04%. Concerning communication activities, all hospitals included a media section with videos; for the most active in terms of Twitter following see Table 6. For patients' engagement by Twitter likes see Table 7 and by Twitter followers see Table 8.

Table 6. Communication Activities in US Hospitals by Number of Twitter Following

	Hospital	Number of Twitter following
1	Vanderbilt University Medical Center	17 361
2	Memorial Hermann-Texas Medical Center	13 388
3	Rush University Medical Center	8 935
4	Mount Sinai Beth Israel Hospital	6 808
5	Mount Sinai Hospital	6 794
6	UCLA Medical Center	5 495
7	New York-Presbyterian Hospital-Columbia and Cornell	4 499
8	Loyola University Medical Center	3 772
9	University of Virginia Medical Center	3 757
10	Massachusetts General Hospital	3 646

Source: Authors

Table 7. Patients' Engagement in US Hospitals by Number of Twitter Likes

	Hospital	Number of Twitter likes
1	UCLA Medical Center	38 570
2	University of Texas MD Anderson Cancer Center	22 000
3	Memorial Sloan – Kettering Cancer Center	21 700
4	Advocate Lutheran General Hospital	19 502
5	Penn State Health Milton S. Hershey Medical Center	13 822
6	Jefferson Health-Thomas Jefferson University Hospitals	13 300
7	New York-Presbyterian Hospital-Columbia and Cornell	13 100
8	Elmhurst Hospital	11 802
9	UCSF Medical Center	10 500
10	UT Southwestern Medical Center	10 001

Source: Authors

Table 8. Patients' Engagement in US Hospitals by Number of Twitter Followers

	Hospital	Number of Twitter followers
1	Cleveland Clinic	2 012 299
2	Mayo Clinic*	1 982 371
3	John Hopkins Hospital	573 175
4	Mount Sinai Beth Israel Hospital	82 262
5	Mount Sinai Hospital	82 088
6	Memorial Sloan – Kettering Cancer Center	79 241

	Hospital	Number of Twitter followers
7	UCSF Medical Center	62 847
8	Hackensack University Medical Center	62 661
9	Massachusetts General Hospital	48 712
10	New York-Presbyterian Hospital-Columbia and Cornell	45 333

*Mayo Clinic Phoenix and Jacksonville used the Mayo Clinic's corporate profile on Twitter

Source: Authors

Category 4 – YouTube. Most of the hospitals (94%) have a corporate profile on this platform and most did not display the indicators related to identity: logo – 100%, links to corporate websites – 98.94%, corporate description – 82.29%, awards – 17.02%, milestones – 12.77%, mission – 7.45%, values – 0%, and vision – 0%. Concerning communication activities, all hospitals included playlists, and 57.5% also proposed new channels. Finally, as to patients' engagement by YouTube subscribers (see Table 9) and by number of YouTube views (see Table 10).

Table 9. Patients' Engagement in US Hospitals by Number of YouTube Subscribers

	Hospital	Number of subscribers
1	Mayo Clinic*	439 000
2	UCLA Medical Center	237 000
3	Cleveland Clinic	184 000
4	John Hopkins Hospital	167 000
5	UC San Diego Health – Moores Cancer Center	65 300
6	University of Michigan Hospitals – Michigan Medicine	63 800
7	University of Texas MD Anderson Cancer Center	61 700
8	Mount Sinai Hospital	55 500
9	Mount Sinai Beth Israel Hospital	55 000
10	Dartmouth-Hitchcock Medical Center	46 200

*Mayo Clinic Phoenix and Jacksonville used the Mayo Clinic's corporate profile on YouTube

Source: Authors

Table 10. Patients' Engagement in US Hospitals by Number of YouTube Views

	Hospital	Number of views
1	Mayo Clinic*	142 916 852
2	Cleveland Clinic	88 773 583
3	UCLA Medical Center	45 987 500
4	John Hopkins Hospital	38 983 449
5	NYU Langone Hospitals	31 461 052

	Hospital	Number of views
6	University of Michigan Hospitals – Michigan Medicine	28 119 827
7	New York Presbyterian Hospital Columbia and Cornell	27 394 871
8	University of Texas MD Anderson Cancer Center	25 215 434
9	UPMC Presbyterian Shadyside	23 972 066
10	Dartmouth-Hitchcock Medical Center	20 852 210

*Mayo Clinic Phoenix and Jacksonville used the Mayo Clinic's corporate profile on YouTube

Source: Authors

DISCUSSION

For many doctors, interacting with patients and understanding how they feel is really complicated (Silverman, Kurtz & Draper, 2013). Implementing a professional management of social media platforms constitutes an opportunity to help doctors establish better communication relationships with patients (Prochaska, Coughlin & Lyons, 2017). These platforms enable hospitals to create a new communication paradigm based on a brand-building collective process along with their stakeholders (Taken, 2017) and thus improve their own reputation (Gonzalez-Pacanowski & Medina-Aguerrebere, 2018). Social media also help to facilitate hospitals and patients to develop and establish better relationships by considering four main issues: a) communication objectives, b) main and secondary targets, c) brand positioning and d) evaluation. These four elements constitute any hospital's communication strategy on social media.

Issue 1 – Communication objectives. Defining consistent, strategic objectives constitutes the first step to implement an efficient communication campaign (Zerfass & Viertmann, 2017). Our results indicate most hospitals had a corporate website (100%) as well as corporate profile on Facebook (99%), Twitter (98%) and YouTube (94%). Moreover, most of them displayed many of the 48 indicators evaluated in this paper. These data prove that most American cancer hospitals work in a professional way and establish strategic communication objectives before launching any communication initiative on social media. Otherwise, it would be impossible for them to show so many indicators.

Issue 2 – Main and secondary targets. Social media enable hospitals to interact with patients, employees, public authorities, media companies and many other stakeholders (Griffis et al., 2014). Our findings showed that American cancer hospitals prioritize patients, but also other targets such as the whole society (98% of hospitals analyzed proposed an event section on Facebook), journalists (71% of them published press releases on their corporate website addressed

to media companies), or foreign patients (25% of hospitals had a multilingual corporate website).

Issue 3 – Brand positioning. Health organizations integrate medical information and patients' experiences in every corporate communication initiative in order to create a reputed, credible brand (Vraga et al., 2018). Our results indicated most hospitals used their logo on their corporate website (100%) as well as on their corporate profiles on Facebook (98%), Twitter (100%) and YouTube (100%). Nevertheless, most of them did not provide enough information about other corporate elements, such as their brand's values: Facebook (2,02%) and YouTube (0%). Many hospitals should reinforce these elements in order to establish an efficient brand positioning.

Issue 4 – Evaluation. To improve their presence on social media, hospitals constantly evaluate how health professionals interact with patients through these platforms (Mazor et al., 2016). American cancer hospitals used distinct criteria to evaluate their social presence, such as the number of likes and followers (Facebook and Twitter), or the number of subscribers and views (YouTube). Our results showed that the most efficient hospitals on social media were Mayo Clinic, Cleveland Clinic and John Hopkins Medicine (by number of likes and followers on Facebook, number of followers on Twitter, and number of subscribers and views on YouTube).

Our quantitative analysis allowed us to identify three main trends. First, corporate websites are still strategic tools for most hospitals, even if many patients prefer to use social media and mobile apps when they need to contact health professionals. Second, most hospitals carried out a great effort to produce quality videos on YouTube, but most of them did not define their corporate brand architecture in an accurate way (corporate description, mission, vision, etc.). Third, most hospitals did not make a true effort to integrate their corporate website and social media platforms with mobile apps and patients' platforms.

After analyzing how American cancer hospitals managed their social media platforms, and considering our literature review, we propose the REB Model for Branding Cancer Hospitals. This communication model addresses cancer hospitals worldwide interested in improving their relationships with stakeholders and reinforcing their own corporate reputation. The model aims to help cancer hospitals manage social media in a professional way (objectives, plans, protocols, key performance indicators) so that corporate communication becomes a true profession in these organizations. Hospitals should adapt this model to their local context: cultural elements, social constraints, legal framework, etc. This model is based on four main elements: a) a social media department, b) communication principles, c) annual content plan (brand architecture, messages, target and platform) and d) key performance indicators.

Element 1 – Social media department. Hospitals should integrate this unit within their corporate communication department. This unit is led by a social media manager (SMM), who leads a team of several experts in communication, public health, medicine and artificial intelligence. Their main responsibility consists of implementing an annual digital communication plan as well as a range of protocols in order to structure all communication initiatives and thus build a reputed, credible brand. The SMM need to actively collaborate with health professionals and integrate some of them on social media campaigns.

Element 2 – Communication principles. Cancer hospitals respect ten main principles. First, publishing only accurate information in order to become a credible brand from a scientific perspective (Attai et al., 2016). Second, respecting medicine's basic principles – ethics, confidentiality, patient's integrity, etc. (Fischer et al., 2014). Third, implementing a public health approach based on patient's needs in terms of information (Miller, Guidry & Fuemmeler, 2019). Fourth, integrating human values in order to create meaningful relationships with stakeholders (Smailhodzic et al., 2016). Fifth, easing the collective processes of decision making, so that patients can actively interact with health professionals (Blomgren, Hedmo & Waks, 2016). Sixth, focusing on how to help patients improve their empowerment rather than promoting the hospital's products and services (Jones et al., 2015). Seventh, engage patients and other stakeholders in conversations, instead of disseminating commercial information (Lim, 2016). Eighth, adapting all communication initiatives to each stakeholder in order to better influence their behaviors and attitudes (Yang et al., 2018). Ninth, managing emotions for establishing an optimal communication between physicians and cancer patients (De Vries et al., 2018) and tenth, using various formats (texts, images, videos, etc.) to produce quality content (Janz et al., 2016).

Element 3 – Annual content plan. Before implementing any initiative on social media platforms, hospitals should define an annual content plan that integrates their brand architecture (identity, values, mission, vision, culture) with eight campaign-specific messages and nine main target audiences on four digital platforms – the hospital's corporate website, Facebook, Twitter and YouTube (see Table 11 below).

Table 11. Hospital Annual Content Plan on digital media

Month	Brand Architecture	Key Message	Target	Platform
January	Identity	Passion for healthcare	Patients and relatives.	Twitter, YouTube
February	Brand value 1	Research-based Innovation	Hospital's health professionals	Twitter, YouTube
March	Brand value 2	Excellence	Shareholders	Corporate website, Facebook

Month	Brand Architecture	Key Message	Target	Platform
April	Mission	Health education	Media companies	YouTube, corporate website
May	Vision	Participative medicine	Public Authorities	Facebook, corporate website
June	Culture	Best practices	Other hospital's employees	Facebook, Twitter
July	Identity	Passion for healthcare	Patients and relatives	Twitter, YouTube
August	Brand value 3	Patients' empowerment	Patients' associations	Twitter, Facebook
September	Brand value 4	Ethics	Suppliers	Facebook, corporate website
October	Mission	Health education	Media companies	YouTube, corporate website
November	Vision	Participative medicine	Public authorities	Facebook, corporate website
December	Culture	Best practices	Other hospital's employees	Facebook, Twitter

Source: Authors

Element 4 – Key performance indicators. Hospitals should use five indicators for each platform: 1) corporate website (number of unique visitors, number of new visitors, bounce rate, number of leads, and average time on page), 2) Facebook (number of fans, number of likes, number of content shared, post engagement rate, and frequency), 3) Twitter (number of followers, number of link clicks, hashtags performance, number of impressions, and average engagement rate); and 5) YouTube (number of videos, number of subscribers, number of daily active users, total watch time, and video engagement).

Implementing a professional management of social media as a corporate communication tool allows cancer hospitals to reinforce their brand as well as their strategic position in the health market. Despite all quantitative and qualitative insights explained in this paper, we can identify some limitations. Unfortunately, we did not have access to all hospitals analyzed, so we could not evaluate their communication strategies in a more detailed way (internal structures, plans and protocols, budgets, indicators etc.). Moreover, we could not interact with patients going to these hospitals, so we were unable to evaluate their experiences from a communication point of view. Finally, there were no papers analyzing this same reality in other countries and using the same indicators, which is why we could not compare our results.

CONCLUSIONS

The professional management of social media as a corporate communication tool represents a true opportunity to improve hospitals' reputation as well as their relationships with stakeholders. This paper aimed to analyze how American cancer hospitals used social media platforms for enhancing their brand reputation. Our results showed that these platforms allow cancer hospitals to implement many initiatives useful for promoting their brand. We propose three ideas as conclusions. First, social media platforms cannot be considered as a marketing tool, but a corporate communication tool whose main objective is to help hospitals reinforce their credibility as a source of scientific information. Second, hospitals should take advantage of social media platforms for disseminating human values (integrity, education, transparency, etc.) in order to become a meaningful brand for all stakeholders. Third, hospitals should integrate social media in some medical protocols so that health professionals participate in communication initiatives and help hospitals build an innovative brand.

These three conclusions lead us to propose three managerial implications for cancer hospitals: a) these hospitals should recruit skillful experts on social media (public health, engineering and corporate communication) and establish protocols, annual plans, budgets and key performance indicators to work in a professional and integrated way; b) health professionals must be allowed to follow during their workdays pertinent trainings on social media in order to better integrate these platforms in their daily activities; and c) journalistic initiatives such as publishing magazines or sending press releases to media companies should be replaced by corporate communication initiatives based on a health education approach and focused on the hospital's brand as well as stakeholders' communication needs.

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ANNEX 1: LIST OF ALL HOSPITALS THAT WERE ANALYZED

University of Texas MD Anderson Cancer Center
Memorial Sloan – Kettering Cancer Center
Mayo Clinic
John Hopkins Hospital
Dana-Farber/Brigham and Women's Cancer Center
Cleveland Clinic
UPMC Presbyterian Shadyside
H. Lee Mofitt Cancer Center and Research Institute
Massachusetts General Hospital
Northwestern Memorial Hospital
City of Hope Comprehensive Cancer Center
Cedars-Sinai Medical Center
UCSF Medical Center
Roswell Park Comprehensive Cancer Center
Seattle Cancer Alliance – University of Washington Medical Center
Universtiy of Maryland Medical Center
Siteman Cancer Center
Hospitals of the University of Pennsylvania-Penn Presbyterian
NYU Langone Hospitals
Ohio State University James Cancer Hospital
UCLA Medical Center
USC Norris Cancer Hospital-Keck Medical Center of USC
Jefferson Health-Thomas Jefferson University Hospitals
Beth Israël Deaconess Medical Center
Stanford Healthcare – Stanford Hospital
University of Virginia Medical Center
University of North Carolina Hospitals
UC Davis Medical Center
New York-Presbyterian Hospital-Columbia and Cornell
University Hospitals Seidman Cancer Center
University of Chicago Medical Center
MUSC Health – University Medical Center
University of Kentucky Albert B. Chandler Hospital
University of Michigan Hospitals – Michigan Medicine
Nebraska Medicine – Nebraska Medical Center
Dan L. Duncan Comprehensive Cancer Center at Baylor St. Luke Medical Center
Montefiore Medical Center
UCHealth University of Colorado Hospital
Houston Methodist Hospital
Duke University Hospital
Emory University Hospital
UF Health Shands Hospital
Mayo Clinic – Phoenix
University of Iowa Hospitals and Clinics
Smilow Cancer Hospital at Yale New Haven
OHSU Knight Cancer Institute
University of Kansas Hospital
OU Medical Center
University of Wisconsin Hospitals
University of Minnesota Medical Center
Levine Cancer Institute
UCI Medical Center
UT Southwestern Medical Center
Lenox Hill Hospital
Banner University Medical Center Tucson
Mount Sinaï Hospital, New York
Mayo Clinic – Jacksonville
Med Star Georgetown University Hospital
Dartmouth-Hitchcock Medical Center
Adventhealth Orlando
Huntsman Cancer Institute at the University of Utah
University of Cincinnati Medical Center
University of Alabama at Birmingham Hospital
Hoag Memorial Hospital Presbyterian
Robert Wood Johnson University Hospital
Northside Hospital-Atlanta
University of Mississippi Medical Center
George Washington University Hospital
Indiana University Health Medical Center
University of Illinois Hospital

Ochsner Medical Center
Elmhurst Hospital
Queens Medical Center
Rush University Medical Center
Hackensack University Medical Center
University of Miami Hospitals and Clinics – Sylvester Comprehensive Cancer Center
UAMS Medical Center
Wake Forest Baptist Medical Center
California Pacific Medical Center
Avera McKennan Hospital and University Health Center
Memorial Hermann-Texas Medical Center
Penn State Health Milton S. Hershey Medical Center
Vanderbilt University Medical Center
Mount Sinaï Beth Israël Hospital, New York
UC San Diego Health – Moores Cancer Center
Long Island Jewish Medical Center
Loyola University Medical Center
Memorial Care Long Beach Medical Center
Sentara Norfolk General Hospital
Fox Chase Cancer Center
NYU Winthrop Hospital
Beaumont Hospital – Royal Oak
West Virginia University Hospitals
Abbott Northwestern Hospital
Huntington Memorial Hospital
John H. Stroger Jr. Hospital of Cook Country
Miami Cancer Institute at Baptist Hospital of Miami
Medical City Dallas
St. Barnabas Medical Center
Advocate Lutheran General Hospital

Source of information: https://health.usnews.com/best-hospitals/rankings/cancer (Retrieved February 23, 2020).