

[DOI: 10.20472/IAC.2018.039.038](https://doi.org/10.20472/IAC.2018.039.038)

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## **SOCIAL MEDIA AS A MARKET COMMUNICATION TOOL IN HEALTHCARE**

### **Abstract:**

Healthcare performance is strongly dependent on the health system and its efficiency. This paper discusses social media as a tool for higher effectiveness of communication among the key healthcare stakeholders – patients and physicians – in the period of digital society. Based on the findings of previous research and case study analysis on Slovenian healthcare context, the paper provides a framework of key motives, advantages, risks, personal attributes and contextual factors that influence the use of health-related social media. Together with the proposed key supportive mechanisms the framework is developed into a holistic conceptual model of market communication in healthcare via social media.

### **Keywords:**

Market communication, social media, healthcare, health system, Slovenia

**JEL Classification:** H51, I18, M15

## 1 Introduction

Owing to global trends in digitalization modern societies are becoming increasingly information driven with people communicating via digital tools in their personal as well as their professional lives. This is also changing the attitudes and expectations of people towards the way healthcare is delivered (Council of the EU, 2017). To ensure efficiency of healthcare services, requisite time and effort for the acquisition of specific health information should be as short as possible. Due to the rapid development of numerous Internet-based social media in the last twenty years, the exchange of knowledge, information and experiences on health-related issues was never so quick and simple (Antheunis et al., 2013; Housman, 2017; Li & Wang, 2018). Because of the increasing use of social media the Internet has become a dominant communication area in healthcare (DeCamp & Cunningham, 2013; Delgado, 2014). In acquiring health information and knowledge physicians have started to shorten the time, devoted to the discussions with representatives of pharmaceutical companies and their participation at conferences on healthcare has become less frequent. On the other hand, their time devoted to the interaction with other physicians via social media has been increased. The knowledge and information, which used to be exclusive to healthcare providers have become available also to all other individuals. Herewith, social media have grown into the central element of „social health“(Andreu-Perez et al., 2015).

There are several advantages of using social media in communication in healthcare. Social media provide users with the immediate access to a variety of perspectives on health-related issues. Additionally, patients can connect with online communities of individuals with similar health concerns, physicians, however, can connect with online communities of their colleagues within the same area of medical specialization. Using social media, patients and physicians can post information not only in text but also in more easily accessible forms, such as images and videos. Because social media enable new ways of accessing and sharing of information (Kaplan & Haenlein, 2010; Vance & Dellavalle, 2009), as well as social support to patients (Bacigalupe, 2011; Maloney-Krichmar & Preece, 2005), they hold considerable potential value for healthcare. Social media represent an unprecedented opportunity to advance healthcare and health science in forms of more qualitative healthcare services and better informed patients (Zhou et al., 2018). However, beside their significant advantages in acquiring and providing information on health, the usage of social media for this purpose creates new risks. Nevertheless, their increased usage for the exchange of health information will undeniably affect the patient-physician relationship, including a better understanding of health information among patients, active patient engagement in health maintenance, and a proactive patient response to health challenges (Change Foundation, 2011).

This paper analyses key motives, advantages and risks, as well as key contextual influential factors of acquiring and sharing health information on social media. The research is focused on the formulation of comprehensive framework for using social media as a market communication channel in healthcare. The original contribution of the paper to the observed phenomena is the developed conceptual model of market communication in healthcare via social media by focusing on two main stakeholder groups (patients and physicians) and considering various advantages, risks, contextual influential factors, impacts and supportive mechanisms to this communication process, established by the analysis of case study on using social media in Slovenian healthcare context and by the comparison of our findings with the research results of prior studies.

The introductory part of the paper is followed by the overview of relevant literature. In the third Section the data and methodology are explained and the fourth Section presents the findings. In the fifth Section we develop the conceptual model of market communication in healthcare via social media, the sixth Section, however, provides conclusions.

## **2 Literature review**

The health systems need to be continuously adapted to meet the expectations of the citizens and their healthcare needs. In this context, it is important to embrace the possibilities of the digital society, and with easier access to information and digital tools enable people to better understand and manage their personal health (Council of the EU, 2017). Citizens' needs should be at the centre of data-driven healthcare innovation, acknowledging people as active agents in their own health journey and providing them more precise and personalized treatments as well as a more participatory healthcare experience, while supporting the role of health professionals and enhancing their interaction and communication with the patients. Digital solutions should contribute both to more efficient use of healthcare resources and to better targeted, more integrated and safer healthcare (OECD, 2010).

Processes of acquiring information and knowledge in healthcare profession have been traditionally based on studying articles from scientific and professional journals, participating at professional trainings and conferences, collecting opinions from experienced and esteemed healthcare professionals and gathering information from pharmaceutical companies. Traditional model is characterized by the multitude of data, higher costs and time burden. In such model the pharmaceutical industry has the central role in the process of informing and advising physicians. It is characterized by the cooperation of key, mostly local healthcare stakeholders, who already had previous contacts. Key weaknesses of this model can be summarized as follows: exaggerated influence of pharmaceutical companies on the decisions of physicians and pharmacists on the choices of suitable medicines, difficult filtering of mass of information, provided by

pharmaceutical companies, violation of ethical norms due to physicians' and pharmacists' deficient information and knowledge and their excessive connectedness to pharmaceutical companies, economic and social burden due to the lost time of healthcare personnel for discussions with representatives of pharmaceutical companies, difficulty of staying properly informed in the growing mass of novelties in medical science and time-consuming filtering of proper information (Manchanda et al., 2005). On the other hand, in the traditional model, patients are usually informed by visiting their primary care physician or relevant specialist physician in their country, watching TV, listening radio or reading health-related literature, available in healthcare institutions.

It is claimed that Health 2.0 is transferring the way healthcare users and healthcare professionals interact and relate to each other (e.g. Eysenbach, 2008; Hawn, 2009). Processes of acquiring information and knowledge on health via social media are based on a cooperation of various healthcare stakeholders on a global level. On social media for numerous topics and broader public (e. g. Facebook, Twitter, LinkedIn, Youtube) everyone can register, publish and share various health contents and the sphere of usage is not specified. Specific health-related social media (e. g. Sermo, Ozmosis, PatientsLikeMe, and Webicina) are intended for communication with physicians and patients, as well as for communication among them. Privacy policy of health-related social media complies with healthcare legislation in the country of origin of social media (Meskó, 2013). The central role on health-related social media is characterized by patients that are increasingly more informed and educated on their subjective health situation.

The accelerating development of Internet solutions has enabled the patients that they do not necessary need to physically visit the physician for each health situation. Today patients want to be informed in advance and above all, in detail about the possibilities of a proper medication, their diseases and the experiences of other patients with similar health difficulties. They are prepared to make more efforts to understand their diseases and available treatment possibilities. Since it is expected that the impact of Internet and other technological developments on healthcare will continue to increase (Greysen et al., 2010; Thymbleby, 2013), the healthcare professionals will have to keep pace with potential effects of social media usage on medical science and evolving changing clinical practices. In this way they will be able to provide more appropriate qualitative information and medications to healthcare users.

Researchers list a wide variety of motives for using social media in healthcare, for example, acquiring and sharing information on diseases and medications (Hardiker & Grant, 2011; Wicks et al., 2010), receiving and giving emotional support by contacts among individuals with the same disease (Davila et al., 2012; Rosen et al., 2013; Naslund et al., 2016), increasing cost-, communication-, and research-efficiency in

healthcare processes and in medical science (Chou et al., 2009), identifying cases of emerging rare diseases, differentiating healthcare professionals, discovering new knowledge and gaining a snapshot of public opinions and concerns about health-related issues (Zhou et al., 2018), participating in research, receiving financial support for medications, setting exercise goals and tracking personal progress (Ventola, 2014), broadening communication among various healthcare stakeholders without time and location constraints. Nevertheless, the accessibility of information is one of the biggest advantages of using social media. Users can access to numerous information independently of time, place and presence of the other participants (Luo, 2007). Physicians in smaller and distant healthcare institutions can, for example, collect much more explicit variety of professional opinions in their discussions with other health professionals via social media. Patients who have chronic diseases, disabilities, or cancers or are recovering from surgeries may find social media particularly useful (Li & Wang, 2018).

In addition to some general advantages of physicians-patients, patients-patients and physicians-physicians cooperation via social media - better familiarity with novelties in medical science, faster search for information, more cooperation among physicians in the same country and internationally, sharing of good experiences among physicians on medications, new information for physicians due to the mutual support of patients, sharing of findings on new research, more cost-effective clinical testings, information on side effects of medicines, development of healthy life styles and new forms of medical treatments - public health surveillance is evidenced as one of the key benefits of using social media for health-related purposes (Moorhead et al., 2013; Bernardo et al., 2013; Velasco et al., 2014). Social media could become valuable tools for improving healthcare professionals' abilities to detect disease outbreaks in a timelier manner and shorten outbreak response time (Santos & Matos, 2014). They have also been used for the purpose of educating and monitoring patients who demonstrate health risk behaviors associated with, for example, tobacco use and drug abuse and for encouraging behavioral changes (Charles-Smith et al., 2015; Househ, 2013). Besides, social media can serve as a relevant opportunity in searching of personal solutions for treatments of rare diseases. By taking advantage of social media, genetics companies are able to recruit more people easier and faster for critical research on rare diseases in an effort to find eventual solutions (Stone, 2015; Davies, 2016).

There are also several disadvantages or risks of using social media for health-related purposes: Lack of motivation for publishing on social media, requisite specific knowledge on using social media, questionable credibility of information (Nguyen et al., 2017), unclear guidelines and decrees of communicating via social media, endangered privacy of patients, fast spread of misinformation (Vraga, 2017) and ethical dilemmas (Denecke et al., 2015).

Recent studies have found health users and physicians personal attributes (age, gender, education and individual health conditions), eHealth literacy (see Sorensen et al., 2012) and culture (see Li et al., 2018; Song et al., 2016) as key factors influencing their intentions to seek and share health information on social media. From a broader perspective, among the influential factors is also the context of healthcare provision in a specific country, such as health policy, the usage of social media among population, physicians' density in a country, their workload and remuneration, as well as availability of health-related social media platforms and their regulation policy. Data (Eurostat, 2018) show that the share of people, regularly using social media is increasing. In the European Union (EU), 63% of Internet users aged 16 to 74 used social media in 2016. The usage of smart mobile devices for searching health-related information has also drastically increased in last years (We are social & Hootsuite, 2018).

The number of physicians per capita varies widely across OECD countries. Since 2000, the number of physicians has increased in nearly all OECD countries, both in absolute number and on a per capita basis. In 2015 the average number of physicians per capita in OECD was 3.4 (OECD, 2017). The number of new medical graduates in a country in a given year partly impacts the number of physicians in a country. In 2015 the average number of medical graduates per 100.000 population amounted 12.1. A workload of physicians is mostly related to their consultations with patients, which can take place in doctors' offices or clinics, in hospital outpatient departments or, in some cases, in patients' own homes. In 2015 the OECD average was 6.9 consultations per person per year, the estimated number of consultations per physician, however, was 2295. In some OECD countries, the economic crisis of 2008-09 had an impact on the remuneration of physicians. This has been particularly the case in Estonia, Ireland, Italy and Slovenia, where doctors saw their remuneration decrease for some years after the crisis. However, in more recent years, the remuneration of doctors and other health workers has started to rise again. In 2015 the average remuneration of salaried physicians in OECD, measured by ratio to average wage, was 2.7 (OECD, 2017).

### **3 Methodology and data**

The main goal of our research is to set up the holistic conceptual model of market communication in healthcare, focusing on patients and physicians as the key stakeholders of this process. The primary data for the first part of our research were gathered by online survey of randomly selected 600 users of social media in Slovenia in 2015. The questionnaire was sent via several social media. It was structured from 16 questions. First twelve questions were related to ICT literacy of social media users, the role and the usage of social media. We checked the frequency and the knowledge about Internet and social media usage, the level of trust to the specific source of health-related information and the way of testing the credibility of health-related information. Last four

questions were asking respondents about their achieved level of education, gender, age and regional affiliation. Answers on some questions were arranged on the 5-level Likert scale. Results of our online survey were statistically analysed by arithmetic means and standard deviations. In the analysis 481 properly completed questionnaires were included.

The primary data for the second part of our research were gathered in 2015 by a structured interview of 20 randomly selected Slovenian physicians. The interviews were conducted by a focused telephone conversation. The sample of respondents was balanced with regard to the gender, age, regional affiliation and medical specialization. Among the obtained answers differences with regard to gender, age, place and medical specialization of physicians were explored. Physicians were interviewed about their usage of Internet for educational purposes and about their familiarity and perceptions about acquiring and sharing information and knowledge on health-related issues on social media. Specifically, we wanted to find out if the social media impact the decisions in their profession.

Due to the large and diverse samples of surveyed and interviewed individuals the gathered results were generalized to all users of social media (prospective healthcare users) and to all physicians in Slovenia in the year 2015.

## **4 Findings of the research**

### *4.1 The survey*

71% of respondents were women, the largest share of respondents (49%) were between 31 and 40 years old and the largest share of respondents (63%) finished undergraduate studies. Surveyed individuals reported quite high level of usage and knowledge on Internet – 93% of respondents use the Internet each day and altogether 98% of respondents master, master very good or master excellently the Internet. On the other hand, altogether 81% of respondents use social media often or each day, and altogether 46% respondents master the usage of social media very good or excellently (Table 1). Generally, with respect to the level of education and gender there were no differences in answers, however, with respect to the age, the respondents older than 41 years use Internet and social media less frequently than younger respondents and their knowledge on usage of Internet and social media is lower in comparison to the knowledge of younger respondents. The answers did not differ very much with regard to the gender and educational level of respondents.

**Table 1: The usage and knowledge on Internet and social media**

Questions	% of respondents according to the set questions on the 5-level Likert scale					Mean ( $\mu$ )	Standard deviation ( $\sigma$ )
	1	2	3	4	5		
How often do you use Internet? <sup>1</sup>	0	0	1	5	93	4.9	0.4
How good are you in surfing the Internet? <sup>2</sup>	1	1	28	34	37	4.1	0.9
How often do you use social media <sup>3</sup>	5	5	9	23	58	4.2	1.1
How good do you master the usage of social media? <sup>4</sup>	3	5	46	25	21	3.6	1.0

Source: Own research.

Notes: <sup>1</sup>1- never, 2 - rarely, 3 - occasionally, 4 - often, 5 - each day.

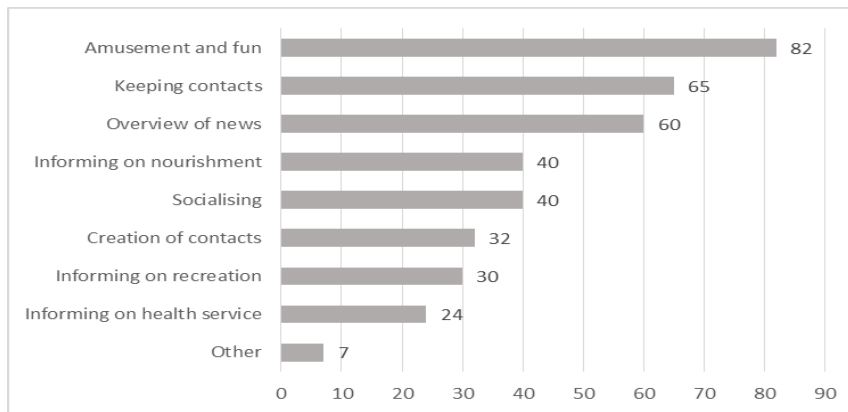
<sup>2</sup> 1 - do not master, 2 - master poorly, 3 - master, 4 - master very good, 5 - master excellently.

<sup>3</sup> 1 - never, 2 - rarely, 3 - occasionally, 4 - often, 5 - each day.

<sup>4</sup> 1 - do not master, 2 - poorly master, 3 - master, 4 - master very good, 5 - master excellently.

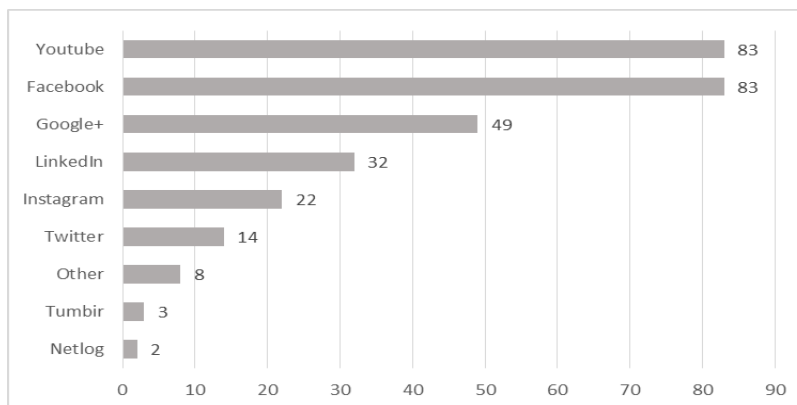
There were, however, some differences with regard to the age in the answers about the perceived role of social media: respondents older than 51 years ascribed higher importance to social media as sources of news and information on health service, nourishment and recreation than younger respondents. In general, most of the respondents (82%) saw the role of social media in amusement and fun. The next important roles of social media were ascribed to keeping contacts (65%) and overview of news (60%). The same share of respondents (40%) perceived the role of social media in informing on nourishment and socialising, followed by the shares of respondents that perceived the importance of social media in creation of contacts (32%) and informing on recreation (30%). Only 24% of respondents perceived the importance of social media in informing on health service (24%). The most frequent answers among »other« were informing and communicating (Figure 1).



**Figure 1: Perceived role of social media (% of respondents)**

Source: Own research.

83% of respondents answered that they use Facebook and Youtube, 49% and 32% of respondents use Google+ and LinkedIn, respectively. None of respondents use health-related social media (e.g. PatientsLikeMe, Webicina, Inspire, Cancer Forward, D Life etc.). Among the most frequent answers under »other« the respondents stated the usage of Pinterest and Med.Over.Net (a focused forum on health-related issues in Slovenia). The answers did not differ to a great extent with regard to the gender, educational level and age of respondents (Figure 2).

**Figure 2: Types of used social media (% of respondents)**

Source: Own research.

Respondents mostly trusted to medical publications and professional literature as sources of health-related information. 74% of respondents trusted very much (58%) or completely (16%) to this source of information. On the second place was medical staff as a source of information; 68% of respondents trusted very much (55%) or completely

(13%) to this source of information. On the third place as regards trust were acquaintances, friends and family (51 % of respondents trusted to this source of information very much (45 %) or completely (6%)), on the fourth place were blogs, forums, Internet surveys (13% of respondents trusted to this source of information very much) and on the last place were social media, where only 5% of respondents trusted to this source of health-related information very much, 41% of respondents poorly trusted to social media and 15% of respondents did not trust to social media at all. However, 39% of respondents could not specify exactly their level of trust to social media (Table 2). The answers did not differ very much with regard to gender and educational level, however, there were differences in answers with regard to the age, as respondents older than 61 years trusted mostly to medical staff, acquaintances, friends and family, whilst medical publications and professional literature were on the third place in this age category of respondents.

**Table 2: Trust into specific source of information on health-related issues**

Source of information <sup>1</sup>	% of respondents according to the set questions on the 5-level Likert scale					Mean ( $\mu$ )	Standard deviation ( $\sigma$ )
	1	2	3	4	5		
Medical publications and professional literature	2	7	17	58	16	3.8	0.88
Medical staff	3	10	19	55	13	3.6	0.94
Acquaintances, friends and family	1	12	36	45	6	3.4	0.82
Blogs, forums, Internet surveys	12	40	35	13	0	2.5	0.86
Social media	15	41	39	5	0	2.3	0.80

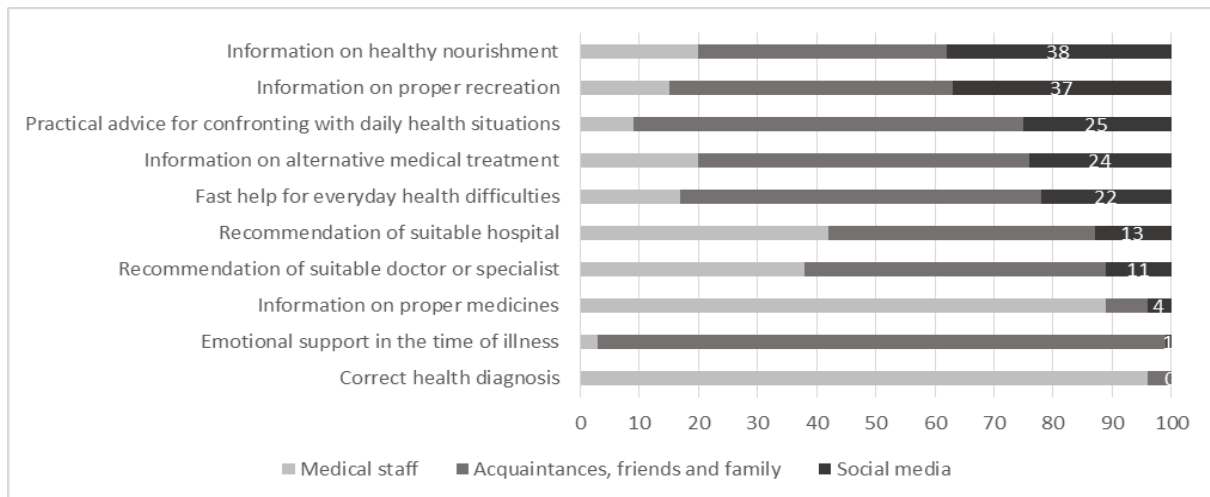
Source: Own research.

Note: <sup>1</sup> 1 – do not trust, 2 – poorly trust, 3 – can not decide, 4 – very much trust, 5 – completely trust

The share of medical staff strongly prevailed within the sources of information that were sought by respondents when it came to correct health diagnosis and information on proper medicines. The share of social media as the sources of information for these purposes was negligible. As to the information on alternative medical treatment, most of the respondents (56%) firstly acquired it from acquaintances, friends and family, 24% of respondents gained this information through social media and only 20% of respondents asked for this information medical staff. Advices for everyday health difficulties and the information on nourishment and recreation were sought by more than 20% and 30% of respondents, respectively, on social media (Figure 3). The answers did not differ significantly with regard to gender and educational level, however, concerning the age,

the trust of older respondents (more than 61 years old) into social media as the source of health-related information was lower than the trust of younger respondents.

**Figure 3: Social media as the source of health-related information (% of respondents)**



Source: Own research.

#### 4.2 Structured interview

The intention of conducting first-hand interviews was to find out if Slovenian physicians are ready to substitute the traditional forms of acquiring information and knowledge for educational purposes with the usage of social media. The questionnaire for a structured telephone interview of 20 selected physicians in Slovenia was comprised of 16 questions. 12 questions were related to the acquisition of health-related information and knowledge (the frequency of Internet usage, the knowledge on surfing the Internet, the sources of information for the purpose of education, the importance of Internet for education, sources of information for „the second opinion“, type of communication in acquiring „the second opinion“, time period of receiving „the second opinion“, practice of medical graphics transfer, understanding the term of social media, usage of social media for private purposes, familiarity with health-related social media for physicians, opinion about communication via health-related social media). 4 questions however, were asking respondents about their gender, age, region of their medical practice and area of their medical specialization. Eight physicians were younger than 35 years, seven of them were between 36 and 45 years old, one was between 46 and 55 years old and four were, however, between 56 and 65 years old. The interviewed physicians were from various fields of medical specialization and from various regions in Slovenia. The findings of the research showed that 16 physicians (84% of respondents) used Internet every day, the rest 4 physicians, however, several times a week. 55% of physicians estimated their

knowledge on surfing Internet as very good, 20% of them as excellent, 20% as good, 5% as bad and none of physicians had no such knowledge.

Physicians most frequently upgraded their expertise through web pages with specific information on health (PubMed, Up-to-date medicine, medScape), the majority of them maintained regularly however, the access to the online literature within their medical specialization. For a renewal of their medical licence they attended seminars and conferences on health and healthcare. 70% of physicians thought that they can not comprehensively acquire medical knowledge without Internet nowadays. All physicians older than 46 years thought differently; for them the Internet was only supplementary educational source. However, 2 physicians saw the advantage of Internet as the educational source for medical profession in its possibility of target searching and integrating the requisite information and in possibility of building personal contacts and spreading of knowledge via Internet. However, the answers about the sources of information with regard to „the second opinion“ differentiated with regard to the region of physicians' medical practice, area of their medical specialization and their age. But all physicians stated that for „the second opinion“ they did not ask health-care professionals with whom they have not established prior personal contacts yet. They firstly consulted their superior colleagues or their mentors. They acquired „the second opinion“ in personal communication, via telephone or via e-mail. The most frequent time of receiving „the second opinion“ was the period from 1 – 3 days. Medical graphics was usually transferred by the patients or via various cloud storage providers, like Dropbox, etc. According to the opinions of the majority of interviewed physicians social media are intended mainly to amusement, entertainment, socialising and networking. None of the interviewed physicians did not see social media as proper communication tools for medical profession. 60 % of interviewed physicians that were younger than 35 years used Facebook, Twitter, Pinterest, Youtube, Instagram, Viber and Skype for private purposes. Only 3 of interviewed physicians answered that they are familiar with health-related social media for physicians. They stated Youtube and Webinar. Respondents perceived health-related social media for physicians as opportunities. As the most important for this type of communication they listed a requisite identification of social media users, protection of personal data and adequately adjusted workload of physicians that would enable their active participation on social media. Some, mostly younger respondents, stated payment for the shared information as important motivation for physicians' active participation on health-related social media.

## **5 Discussion and the conceptual model**

Prior studies show that patients and physicians increasingly acquire and share health information and knowledge on social media. Among the key benefits of acquiring and sharing these information on social media are time and cost effectiveness, simplicity of

formats of published information and possibility of contents' visualization by pictures and videos. They have the possibility of sharing, collecting, eliminating and storing of all pieces of health data and information into transparent entirety that could contribute to higher awareness of patients, better services of healthcare organisations, more consistent healthcare policy, healthier individuals and happier and more successful society. However, to achieve this goal, active participation of both, healthcare users and healthcare providers on social media, is of key importance.

Apart from some approximations of health-related social media, where the communication among patients and physicians and among patients is taking place on forums without requisite registration of users, in Slovenia do not exist health-related social media, where the registered users can actively co-create the contents of health information. Additionally, these Internet forums are for the reason of reaching higher number of users connected with several social media for a broader public, like Facebook, Twitter and Youtube, which lowers trust to them as sources of credible health-related information.

Our research shows that Slovenian social media users and physicians were on average not very engaged in acquiring and sharing health information on social media in 2015. There were differences between both groups in their preferred type of social media and in their motives for health-related usage of social media, however, both groups primarily used social media to contact fellows within their own group. In general, social media users mainly used Twitter and Facebook to contact other social media users, while physicians primarily used LinkedIn and Twitter to contact fellow professionals. Their prevalent opinion was that social media are intended mainly to amusement and fun, keeping contacts, overviewing of news and socialising.

The research also shows that the surveyed social media users had quite high level of ICT literacy, however, they could not be classified as e-patients, who use Internet based on strategy, recognize the credibility of health-related information and engage into consultations with healthcare professionals about the acquired online information (Meskó, 2013). In their searching for various health-related information healthcare personnel was perceived as useful source of information in cases of required health diagnosis and searching for information on adequate medicines. Concerning information on alternative medications, recommendations on proper health professionals or healthcare organisations, Slovenian healthcare users trusted more to acquaintances, friends or family. In cases of everyday health difficulties, practical advices on how to confront these difficulties, information on healthy nourishment and advices about proper recreation the majority of surveyed healthcare users trusted to social media even more than to healthcare personnel. In comparison to a similar research (Fox, 2011) our research

revealed a high level of distrust of healthcare users into healthcare institutions and healthcare personnel, respectively.

Concerning perceived risks of health-related social media usage, they differed between both groups as well; the main worries for social media users were the assurance of their privacy and the unreliability of the information on social media, the main risks for physicians were, however, the lack of time and skills to use social media and to use them properly. The findings of the interview show that in their education process traditional model of searching for information and knowledge was important, however, they collected some literature on the Internet instead in libraries.

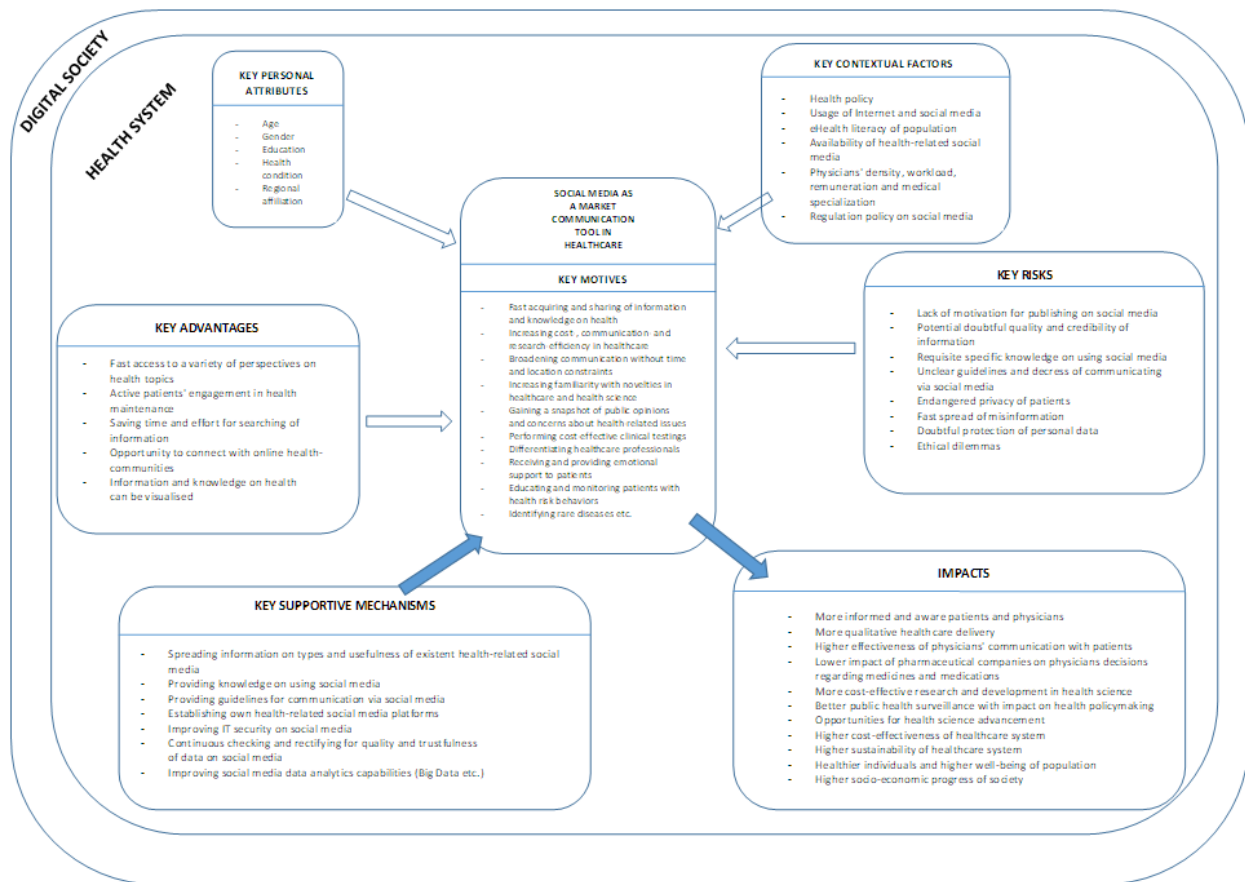
Similarly to the findings of past research on the role of pharmaceutical companies in acquiring health-related information, for Slovenian physicians their importance as an information source was decreasing. In their education process they increasingly used web videoconferences, where participants can actively participate, although they estimated necessary punctuality on these conferences as a barrier, when they are organised in a very distant countries. In the period of performed interview (2015) Slovenian physicians did not know the practice about the possibility of exchange of health information within the health-related social media for physicians, where these information are already appropriately structured. Additionally, they did not see this type of communication as suitable for the exchange of health information. Contrary to the findings of previous research in this field, Slovenian physicians thought that such summarized information could not be used in the clinical practice without studying the whole research and consultations with other physicians. Slovenian physicians also estimated that this type of searching and sharing of information is not possible if we take into account their daily actual professional workload. The majority of interviewed Slovenian physicians were not ready to share their knowledge and good practice with their colleagues without financial compensation, since they perceived both as their added value and the result of long-year studying.

Established non-familiarity and restraints of Slovenian physicians to the usage of social media for searching and acquiring health information could be partly related to the fact that Slovenia has one of the lowest numbers of practising physicians per 1000 population among OECD countries (OECD, 2017) and consequently their very high workload. It is also possible that physicians in our research were reluctant to communicate with patients online due to awareness about several lawsuits against physicians who were accused of violating the privacy of medical information (see von Muhlen & Ohno-Machado, 2012).

The usage of social media in market communication in healthcare could be supported by various mechanisms. First of all, the information on types and usefulness of health-related social media should be spread among physicians and patients. Then, the

knowledge on using and guidelines for communication via social media should be provided. To build the culture of networking the attempts towards establishing own health-related social media platforms would be welcomed. As regards appropriate technical solutions, administrators of health-related social media platforms should increase the potential advantages and decrease the potential risks of their usage. Firstly, to improve the credibility as well as usefulness of health-related information they can work on the quality, comprehensiveness, convenience and immediacy of these information. Credibility of information can be increased by obligatory registration of health-care users and health-care providers. Registration of physicians should be based, for example, on trustworthy document on their healthcare profession (diploma, certificate). According to Meskó (2013) credibility of health-related information can be achieved also by publishing healthcare institutions' logotypes. Patients and other healthcare users should register with their real names and titles. Additionally, to increase the credibility of health information exchanged on social media, administrators of health-related social media platforms should continuously check and rectify them for quality and trustworthiness. Secondly, to improve emotional support they can connect the users of similar health concerns, as well as encourage users to make friends and build a culture of mutual help in the social media health groups. Thirdly, to minimize social media users' privacy risk they should work on information technology security and on the formulation of a clear social media policy. Fourthly, to minimize the time of user engagement the administrators of health-related social media platforms should work on the timesaving of these platforms. They should take into consideration the guidelines and instructions of correct usage of social media in healthcare (General Medical Council, 2013). The validation of extensive and often non-structured health data on social media could be improved by Big Data analytics (see Andreu-Perez et al., 2015; Kotov, 2015). The holistic conceptual model of market communication in healthcare via social media is illustrated in the Figure 4.

**Figure 4: The conceptual model of market communication in healthcare via social media**



Source: Own research.

## 6 Conclusion

Healthcare performance is strongly dependent not only on the economy, but also on the health system and its cost efficiency. For several countries with high spending on healthcare, sustaining current and future expenditure levels remains particularly challenging, as the possibilities for broadening the revenue base are often limited and healthcare expenditures are due to rapidly ageing population expected to grow. Thus, there is a clear need to contain public spending on healthcare and to raise its cost efficiency. Apart from its better governance and accountability, focusing on improving the payment and procurements systems, there is a need for improved communication especially among key healthcare stakeholders – patients and physicians. Traditional model of physicians' communication with their patients and colleagues and their requisite need to be continuously informed can be very time consuming. In the period of several



new challenges in health science and healthcare this model is less effective. Therefore, the solutions that lower used time and effort for acquiring those information are very important in the medical profession.

Previous research shows that the usage of social media has drastically changed the landscape of the healthcare since a patient has received a central role in the process of providing health information. This brought the possibilities to profoundly affect the healthcare. By social media Internet has gained the space, where the key healthcare stakeholders (patients and physicians) at the international level can very fast acquire and share the health-related information and knowledge in simple, structured and cost-effective manner. Health-related social media for physicians and patients represent continuous source of knowledge that is being automatically refreshed, updated and upgraded with each new comment. Searching for health-related information is herewith considerably more efficient and organized. Market communication among key healthcare stakeholders has never showed such efficiency potentials as nowadays. Besides, the availability of numerous mobile applications makes social media even more attractive and symplifies their usage. With the shared information on health via social media, patients can not only help themselves and other patients but also influence the development of certain medicine or medication. Healthcare professionals and pharmaceutical companies get the insight into the structured and transparent database of daily updated data that enable them to learn and compare the successfulness and adequacy of treatments among numerous patients. The greatest opportunity of social media for pharmaceutical companies represent more cost-effective clinical testings of medicines due to fast and simple collecting of specific data and recruiting of patients via social media. Social media could not only contribute to the patients'-centered development of medicines and innovative ways of medications, but also to more attentive, responsible and qualitative healthcare services.

However, despite its significant advantages, social media still faces many challenges as regards its usage for acquiring and sharing information on health-related issues. The key challenge is lack of healthcare users' motivation for publishing information and experiences on health-related issues, particularly in situations when healthcare users personally do not need healthcare services and advices. The difficulty represents also the fact that the guidelines and decrees on participation on social media with health-related contents are unclear. Apart from advantage, the speed of information transfer via social media could represent a key weakness as well, particularly in circumstances where the information published on social media are unconfirmed.

Future studies should address questions regarding the feasibility of social media usage in relation to physicians' workload issues and reimbursement of their expenses for sharing health-related information and knowledge on social media. Also, additional research on

approaches towards promotion of patients' motivation to acquire and share health-related information on social media would be valuable. Since the patients are the key beneficiaries of more effective provision of healthcare services, further research on the impacts of sophisticated communication on health-related social media on patients' health outcomes is necessary.

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