



Health Communication: A Discussion of North American and European Views on Sustainable Health in the Digital Age

Isabell Koinig, Sandra Diehl, and Franzisca Weder

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Abstract

Following the United Nations' Sustainable Development Goals, the UN's third goal is meant to "ensure health lives and promote well-being for all at all ages" (UN 2017). Thus health is closely linked to sustainability. While progress has been made over the past decades, which have seen an increase in life expectancy and a success in combatting several diseases (e.g., children's diseases such as measles or adult diseases such as HIV and malaria), new health issues have emerged and need to be addressed. In this context, communication is of uttermost relevance. Broadly

I. Koinig (✉) · S. Diehl · F. Weder
Department of Media and Communications, Alpen-Adria-Universitaet Klagenfurt,
Klagenfurt, Austria
e-mail: Isabelle.Koinig@aau.at; sandra.diehl@aau.at; Franzisca.Weder@aau.at

speaking, health communication refers to “any type of human communication whose content is concerned with health” (Rogers, *J Health Commun* 1:15–23, 1996) and can be directed at both individuals and organizations with the goal of preventing illness and fostering health (Thompson et al., *The Routledge handbook of health communication*, 2nd edn. Routledge, New York, 2011).

As a multifaceted and multidisciplinary approach, health communication draws from and combines influences from different theoretical backgrounds and disciplines, such as education, sociology, (mass) communication, anthropology, psychology, and social sciences (WHO, *Health and sustainable development. Key health trends*. Available via WHO. http://www.who.int/mediacentre/events/HSD_Plaq_02.2_Gb_def1.pdf. Accessed 20 Dec 2017, 2003; Institute of Medicine, *Health literacy: a prescription to end confusion*. Available via The National Academies of Sciences Engineering Medicine. http://www.nap.edu/openbook.php?record_id=10883. Accessed 11 Apr 2016, 2003; Bernhardt, *Am J Public Health* 94:2051–2053, 2004). Health communication – regardless of the form it takes (e.g., policies, patient-provider interactions, community projects, public service announcements, or advertising) – is concerned with “influencing, engaging and supporting individuals, communities, health professionals, special groups, policy makers and the public to champion, introduce, adopt, or sustain a behavior, practice or policy that will ultimately improve health outcomes” (Schiavo, *Health communication: from theory to practice*. Wiley, San Francisco, 2007). As such, it needs to be perceived as “a part of everyday life” (du Pré, *Communicating about health: current issues and perspectives*. Mayfield Publishing Company, Mountain View, 2000).

Since health communication occurs in the health communication environment (Schiavo, *Health communication: from theory to practice*, 2nd edn. Jossey-Bass, San Francisco, 2014), which is composed of four main domains, namely: (1) health audience; (2) recommended health behavior, service, or product; (3) social environment; and (4) political environment, it takes place on various levels (societal, institutional, and individual) which need to be studied in order to provide a comprehensible and complete picture of the subject area. The present contribution seeks to highlight the contribution of the different disciplines to effective health communication, outline changes in the health communication environment, as well as carve out future challenges that are brought about by changes in demographics, disease treatment, and communication patterns. A special focus will be put on gender-specific and digital health communication. In conclusion, limitations and directions for future research are addressed.

Introduction

As part of its Sustainable Development Goals, the United Nations strive to transform the world as it is known. Its third goal emphasizes the need to improve the overall health and well-being of global citizens regardless of age (UN 2017a). Recent developments within the health environment, which took place over the last years,

respectively, decades, have resulted in a broader conceptualization of health (Schiavo 2014). In consequence, the topic of health has conquered a variety of related academic disciplines, becoming multifaceted in its approach (Earle 2007a).

The present chapter will start out by defining the core terms before discussing the particularities of the health communication environment. Afterward, current trends will be examined, such as digital health offerings, gender-specific health issues, and empowerment, among others. The paper will also address ways of achieving sustainable health and will be concluded by limitations and directions for future research.

Core Terminology

To guarantee that the terms used throughout the chapter are understood as intended by the authors, they will be briefly defined beforehand.

Health

Listed as a fundamental human right by the World Health Organization (2013), health has become a matter of global relevance. Yet, in terms of definitions, consensus is hardly achieved on grounds of health abstract character (Earle 2007). A rather utopian and idealistic view is put forward by the WHO (2006), which conceptualizes health as “a state of complete physical, mental and social well-being” and thus the absence of disease or infirmity (Balog 1978; Boruchovitch and Mednick 2002; WHO 2006). Parsons (1951) regards health as the “state of optimum capacity of an individual for the effective performance of the roles and tasks for which s/he has been socialized.” Similarly, Dubos (1972) posits that health is a “physical and mental state relatively free of discomfort and suffering that allows the individual to function as long as possible in the environment where chance or the choice have placed him or her.” The latter notions are expressive of health being embedded in everyday life, rendering it a “functional capacity” (Blaxter and Paterson 1982), also taking environmental and cultural parameters into account (Ewles and Simnett 2003); it also corresponds more with the United Nations’ take on health. The influence of lifestyle factors and social aspects is emphasized by a variety of other authors as well (Berry 2007; Schiavo 2007; Tones and Tilford 2001), who see it as an important determinant of individual success: “Health is the essential foundation that supports and nurtures growth, learning, personal well being, social fulfillment, enrichment of others, economic production, and constructive citizenship” (Jenkins 2003). According to a contemporary view, health – if maintained properly – makes for a good quality of life (Rod and Saunders 2004; Buchanan 2000) and is claimed to consist of three essential qualities: (1) wholeness, as it is linked to a person’s immediate environment and subjective experiences, and (2) pragmatism, which pays tribute to health’s relative nature in terms of experience and is closely linked to the third quality, namely, (3) individualism, according to which health is highly personal

(Svalastog et al. 2017), especially in the digital age, which challenges academia to take a more individualized look at health.

Health Communication

Communication is a viable asset to the health domain. If conceptualized very broadly, health communication is concerned with the practice of communicating and disseminating information on health-related topics to a dispersed mass audience (US Department of Health and Human Services 2014) as well as communication encounters in the health-care setting (Thompson 2000; Dutta 2008). In practitioners' eyes, health communication is understood as "the study and use of communication strategies to inform and influence individual and community decisions that enhance health" (Center for Disease Control and Prevention; CDC 2001; US Department of Health and Human Services 2005). Health messages can take numerous forms, such as public health campaigns, health education materials, as well as doctor-patient interactions (Schiavo 2007), and are concerned with "informing, influencing, and motivating individual, institutional, and public audiences about important health issues" (US Department of Health and Human Services 2000). Thus, it also includes public service announcements (PSAs) or advertising for both prescription/direct-to-consumer (DTC) and non-prescription/over-the-counter (OTC) drugs (for more details, see Koinig et al. 2017). As such, health communication's goal is to achieve "disease prevention through behavior modification" (Freimuth et al. 2000), encouraging them to unlearn health-compromising behaviors and rather adapt and maintain health-enhancing behaviors (Bernhardt 2004; US Department of Health and Human Services 2005; Schiavo 2007).

Health Promotion

Health promotion alludes to "any combination of health education and related organizational, economic, and environmental supports for behavior of individuals, groups, or communities conducive to health" (Green and Kreuter 1991). Ideally, health promotion will convince individuals to learn how to activate their personal skills in order to improve their health, respectively, well-being, triggering them to seek advice from medical experts and their peers after being exposed to useful and enabling health information (McLaurin 1995). In consulting and utilizing individual, social, and structural resources, the determinants of health are changed through communication (Nutbeam 2000), e.g., invoking recipients to take up recommended actions to improve their current health situations. Thus, health promotion "recognizes the fundamental importance of environmental influences on health and the complex interplay between these factors and health-related behavior" (Green and Tones 2010) while empowering individuals and communities to take more control over their health and well-being (WHO 1996). Therefore, health promotion efforts

“are essential and ubiquitous parts of the delivery of health care and the promotion of public health” (Kreps 2014).

Sustainable Development

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (IISD 2016). In its 2030 Agenda for Sustainable Development as well as the accompanying 17 Sustainable Development Goals, the United Nations emphasizes the need to “promote well-being for all ages,” which it perceives as a precondition for a “prosperous society” (UN 2017b). In spite of the rather general formulation, the UN puts a focus on women and children, who are especially affected by health issues.

“Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature” (WHO 2003). Hence, the WHO’s priority is to grant all individuals access to health. Proclaimed to be a “human right” (WHO 2013), health made it to the Sustainable Development Agenda to ensure that all populations, regardless of age, ethnicity, income, and geographic are enabled to live a life free from disease. (UN 2017a, b). While progress has been made in numerous areas, including maternal health, child health, HIV/AIDS, and malaria, other aspects still remain to be addressed. These include universal health coverage, vaccine and medicine access, affordable health care, and child morbidity (UN 2017). Special emphasis is put on universal health coverage (UHC) and the global action plans for prevention and control of noncommunicable diseases (NCDs; Takian and Akbari-Sari 2016).

Several initiatives have already been launched, among them the *Every Woman Every Child* project – “an unprecedented global movement that mobilizes and intensifies international and national action by governments, multilaterals, the private sector and civil society to address the major health challenges facing women and children around the world” (Sustainable Development 2015). Significant progress has already been made, as maternal deaths have dropped by 47% between 1990 and 2012 (SDSN 2014). Still, challenges remain to be tackled, among them national and socioeconomic inequalities, putting especially vulnerable groups at disadvantage (Buse and Hawkes 2015). For instance, The Elders (2016) suggest to improve health-care systems altogether instead of focusing on individuals or particular diseases. Likewise, pharmaceutical companies (e.g., Novartis) have also started to take this issue at heart to “create long-lasting solutions for global health” by combining “philanthropy, zero profit, and Social Ventures” (Novartis 2013).

The Health Communication Environment

While Dahlgreen and Whitehead (1991) base their notion of the health environment on a social ecological theory and center on the individual and its health-enhancing behavior, this theory is rather limited in its view. Hence, an alternative



Fig. 1 The Health Communication Environment (Schiavo 2014: 22)

health communication model will be consulted. In her revised edition of *Health Communication*, Schiavo (2014) outlines the four environmental factors that constitute the so-called Health Communication Environment (see Fig. 1). Drawing from socio-ecological, behavioral, or marketing influences (Morris 1975), the author perceives health communication to be nourished by political, social, community, and service, respectively, product influences. With regard to the *political environment*, policies and laws as well as a country's or an organization's political agenda need to be borne in mind. In terms of *community*, individual health variables, such as health beliefs, attitudes, literacy rates, or behaviors together with gender and lifestyle attributes and demographic factors, play a crucial role in how people manage and communicate about health. On the *product or service level*, health products are under close scrutiny in terms of benefits and risks as well as availability and access. Finally, *social environment* aspects concern social norms, social support systems, existing projects, plus established practices (Schiavo 2014).

Current Trends and Developments

Multidisciplinary Approach

In their 2015 article, Hannawa and colleagues attempted to map out the health communication field, focusing on the different forms of communication utilized within the health field. A more discipline-focused approach was taken by Bernhardt (2004) and the WHO (2003), who regard health as multi- or transdisciplinary in its very nature, drawing from and influencing multiple (academic) disciplines. As such, it pays tribute to the diverse and complex parameters involved in shaping, respectively, attaining individual health (Schiavo 2014). In the area of *behavioral and social science theories*, health communication seeks to explain how and why individuals do (not) engage in or take up health-enhancing measures, as in the case of the Health Belief Model (Becker et al. 1977) and the social cognitive theory (Bandura 1977). *Mass media and new media theories* are not only concerned with how health messages are communicated but also intend to unravel both how media is used by and influences individuals with regard to their health. A mass media concept commonly employed in this context is McQuail's (1994) media effectiveness. *(Social) marketing theories* are applied to both commercial and nonprofit health-care settings and scrutinize how marketing is used to make consumers use a certain kind of (health) product (Schiavo 2014). Increasingly, these theories are also linked to social change due to a growing people-centeredness (Lefebvre 2013; see also *A threefold approach for social change* by Diago, *Community Media for Social Change in South India* by Pavarala, *Films for Social Change in Hong Kong and China* by Li, *Role of Participatory Communication in Strengthening Solidarity and Social Cohesion in Afghanistan* by Ahmed, and *Institutionalization and Implosion of Communication for Development and Social Change in Spain* by Saez in this volume). Medical models are, first and foremost, used for explaining patient-provider interactions (Schiavo 2014). The biomedical model regards poor health as a physical phenomenon, and health can only be restored through physical means (du Pré 2000). While it blends out selected components (e.g., individual beliefs, norms, and attitudes), this shortcoming is explicitly addressed by the biopsychosocial model of health, which integrates "people's feelings, their ideas about health, and the events of their lives" (du Pré 2000: 9). Finally, *sociological* aspects of health are discussed as part of health policy, population health, and health services (Bourgeault et al. 2013), while, by contrast, *anthropological* notions of health look at health in the context of a particular culture, respectively, social group (Langdon and Wiik 2010) (Fig. 2).

Digital Health and Health Monitoring Systems

Due to the convergence of technologies, digital and genomic content is increasingly digitized, leading to the development of digital health, which is meant to not only enhance the accessibility of health information but also make health delivery more

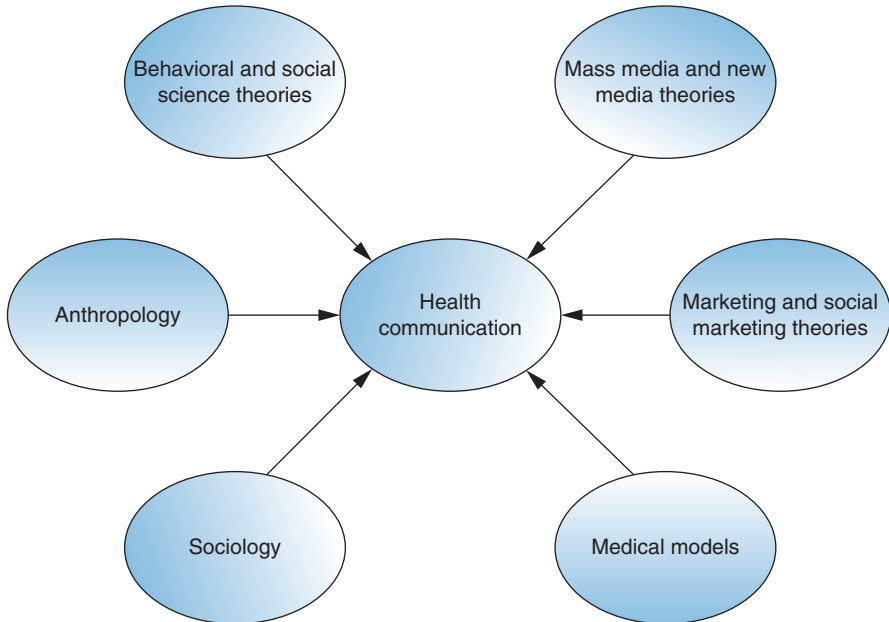


Fig. 2 Health communication influences (Schiavo 2014: 22)

efficient and precise (Bhavnani et al. 2016). Digital health technologies are driving change toward a more individually centered, self-responsible, and empowered health care (Banos et al. 2016). In addition, the last two decades have witnessed a dramatic increase in health monitoring systems (Baig and Gholamhosseini 2013). Thereby, services range from software to hardware solutions, encompassing email, text messages, and apps just to name the most prominent ones (Widmer et al. 2015). Even though digital health has not explicitly been integrated into the UN’s Sustainable Development Goals, this area warrants further discussion, since it holds enormous potential to revolutionize health care. In the following, eHealth, mHealth, as well as digital health information and communication will be discussed in more detail.

eHealth: eHealth is used to refer to the integration and use of new information technologies in health-related matters (WHO 2017). “eHealth refers to the use of modern information and communication technologies to meet the needs of citizens, patients, health care professionals, health care providers as well as policy makers” (EU Ministerial Declaration of eHealth 2003; also see Eysenbach 2001). As such, eHealth promotes the use of interactive communication tools in the health context while also holding the potential to change health beliefs, policies, and outcomes lastingly (Schiavo 2014). In the advent of the Internet revolution and new technologies, eHealth is available on-demand, on-the-go, and is no longer a push, but a pull, service, also broadening its community boundaries (Abroms et al. 2011). At the same time, it allows for a new, advanced form of health literacy – defined as “the

degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Selden et al. 2000). Consequently, eHealth is concerned with promoting health globally and in disadvantaged communities (Schiavo 2014), taking changed health behaviors and patterns into account (Fischer et al. 2016).

eHealth services among US physicians are constantly gaining popularity and have risen from 68% in 2012 to 84% in 2015 (Statista 2017h). Thereby, practitioners have started to rely on these electronic devices for specific/clinical content and pharmaceutical information to the largest extent (61% and 53%, respectively; Statista 2017i). Nonetheless, Americans seem to be only somewhat familiar with eHealth, as more than half of them claim not to have heard of the concept in 2017 (Statista 2017j). Among those US consumers who use eHealth, services – more precisely, medical video visits – were most frequently used to get prescription refills (78%) or for chronic care management (60%; Statista 2017k). Besides video chats, emails are the preferred form of communication with physicians (66%) and are followed by online web portals (36%), text messages (34%), and mobile apps (31%; Statista 2017l) (see also mHealth). The willingness to pay for these services is, nonetheless, only moderately pronounced (Statista 2017m). However, the potential these offerings hold is huge, as eHealth services have also become popular in outpatient care and are, for instance, employed for early-stage breast cancer patients (Ventura 2016).

mHealth: mHealth can be considered as a part of eHealth. Albeit it is often conceptualized as a part of telemedicine – a term used to describe the potential of new information technologies to bridge geographical distances and barriers to deliver and grant individual access to health-related services (WHO 2010) – mobile health (mHealth) has become used in its own right. Following the WHO, mHealth refers to “the use of mobile and wireless technologies to support the achievement of health objectives” (WHO 2011) and was already employed by more than one third of Americans in 2014 (39%; Statista 2017a). Yet, the tremendous growth of mobile devices does not only affect health in the developed world but also offers hope to vulnerable populations in resource-poor environments (United Nations Foundation 2011).

With a mHealth market share of only 6.7 billion in 2012, the value is expected to almost reach 60 billion by 2020 (58.8%; Statista 2017b), presenting a compound annual growth rate of more than 40% (Statista 2017c). Drivers of mHealth popularity are multiple and concern its potential for cost reductions (Statista 2017d) and its vast array of applicability, ranging from remote monitoring, diagnosing symptoms, consulting doctors, and complying with treatment or dietary regimes (Statista 2017e). mHealth, however, does not only benefit individuals; there are also benefits for the health-care system, as mHealth holds the potential to reduce doctor consultations, examinations, as well as the length of hospital stays (Statista 2017f). The area of application is expected to be broadened in the near future, with 71% of US Americans expressing a willingness to use mHealth services for health emergencies (Statista 2017g).

The applicability of mHealth services is constantly growing. Academia has repeatedly pointed out the applicability of social networking sites to grant

individuals (online) social support, offering both informational and emotional support to both patients, survivors, and family members (Hether et al. 2016; Murthy and Eldredge 2016). In addition, health apps and mobile tracking devices are also very helpful in and often used for monitoring, detecting, and managing medical conditions, such as pulse, heart rate, or breast cancer risk assessment (Goth 2015, see also a more detailed description below). On the other hand health symptoms brought about by (excessive) (mobile) social media use might also be worth investigating (Nasirudeen et al. 2017).

Digital/Online Health Information: Health information technology (HIT, Buntin et al. 2010) has led digital health information to be available in abundance. The variety of online and mobile services, such as wireless and mobile services, online doctor review portals, self-diagnosing websites, or rating sites, among others, are not only of advantage to practitioners but can also involve individuals more strongly in their health care (Martin 2012). Thus, digital health information is also increasingly requested by consumers and was already of interest in the early 2000s (Rice and Katz 2001). For example, in Great Britain, the number of individuals consulting the Internet for health information has increased from 18% in 2007 to 43% in 2013 (Statista 2017n).

Surveys from all over the world report that consumers' education levels influence their search habits for health information; for instance, Finnish consumers with secondary and tertiary education go more frequently online to research health, nutrition, or diseases (62% and 72%, respectively) than those with primary education (43%; Statista 2017o). US college graduates were also almost twice as often looking for information on health than high school graduates (81% vs. 45%; Statista 2017p). Similar results are reported for US cell phone users (38% vs. 17%; Statista 2017q). Findings from France support the influence of gender, with women looking for health information more frequently than men (45% vs. 37%; Statista 2017r). This was also found by Osma et al. (2016), who discovered that women do not only turn to the Internet more often than men for health information but also use their smartphones more frequently to do so.

Digitized health information has empowered consumers, allowing them to get more involved in their health care. In 2015, US consumers claimed to be very interested in online medical records (29%), online cost estimators (27%), online appointment setting (24%), email access to their doctors (23%), as well as the ability to pay their medical bills online (21%; Statista 2017s). The same year, UK residents turned to the Internet for self-diagnosing purposes (73%) and health-condition management (63%) or when in need for health-enhancing information, respectively, treatment options (both 39%), while 38% researched the risks associated with a specific medical condition (Statista 2017t).

Wearables: Mobile technology has also become attached to bodies, where devices provide personalized health information and are increasingly used to identify and discuss health symptoms (Piwek et al. 2016). As such, these gadgets have become part of the "quantified self" movement, in the course of which the reporting and tracking of data can be used to improve individual health (Patel et al. 2015). Further advantages are connected information, the creation of

health-care communities, and participation due to gamification (Huffington Post 2017).

While social networking sites (33%) and mobile apps (30%) have been commonly used by US consumers in 2017, wearables already come in 3rd place (28%; Statista 2017u). In an age of automated physical activity monitoring technology, which is often linked to social networking sites like Facebook, etc., some recipients meet these devices and services with reservation. Numbers are a bit inconclusive, ranging from claiming only 1% of US consumers to use wearables (Wang 2014) to even every 6th US consumer relying on wearables (Juniper Research 2013). Based on the apps' monthly users, Fitbit is the leading health and fitness app in the United States with 23.6 million users (Statista 2017v). Given the vast array of applicability by users themselves, but also by health-care organizations, employers, insurance companies, and practitioners (Patel et al. 2015), sales are predicted to increase significantly in the years to come (Wang 2014). Rising user numbers also correspond with increasing shipments, which were expected to reach 5.3 million units by 2017 (Statista 2017w); smart wristbands alone are predicted to reach sales of 63.86 million units in 2021 (Statista 2017x), while connected wearable devices are expected to achieve sales of 325 million in 2021 (Statista 2017y).

Increasingly, patients demand doctors to base health recommendations on the results produced by wearables (Cello Health Insight 2014), and they are called upon to leverage the power of wireless devices to their advantage, which include tracking, analyzing, and optimizing individual health (Waracle 2016). At the same time, these devices are expected to not only reduce health-care costs but also increase efficiency, accessibility, and quality (Waracle 2016). Moreover, they are claimed to foster health empowerment and improve individual quality of life (Waracle 2016). Nonetheless, these devices predominantly appeal to a younger generation but fail to engage people above 40 (Statista 2017z). The major reasons as to why these devices are used concern tracking purposes (30%), awareness raising (28%), and individual motivation (27%; Statista 2017aa).

Currently, the biggest challenge lies in providing smart health-care solutions and devices that do not invade individuals' health, trying to overcome established conceptualizations of u-health (ubiquitous health) and p-health (pervasive health; Custodio et al. 2012). In addition, reservations need to be tackled, which are most prominently held by women (Arigo et al. 2015).

Gender-Specific Health Issues

When it comes to health, men and women differ significantly in their attitudes. Men define health in rather functionalist terms of "efficiency" and "absence of disease"; they prefer offers that help them to overcome specific health problems (Tempel et al. 2013). Women, on the other hand, are assumed to proactively and publicly address their health issues (Broom and Tovey 2009). Thus, gender-specific health issues and their impact on health communication present a challenge that needs to be addressed.

Women's Health: Already in 1992, research recognized that women's health is "a patchwork quilt with gaps" (Clansy 1992). As part of the United Nations' Sustainable Development Goals, the necessity to address women's health issues is prioritized. Overall, women's health is defined as all issues that are particulate to women. According to the WHO (2017), women's health deserves specific attention because of the following reasons: an unequal distribution of power, social norms limiting women's educational and professional choices, and their reproductive roles together with an increased likelihood of women to fall victim to violence of any kind (WHO 2017).

However, in the academic context, women's health has received significant attention. Women are generally more interested in health issues than men (75% vs. 63%; Bonfadelli 2002) and are more engaged in their health, whereby more than 80% of women visit a doctor at least once a year, while only slightly more than 70% of men do (The Austrian Health Survey 2007). Women also participate more often in prevention programs. In addition, they visit their primary care provider to a significantly greater extent than men who are still underrepresented in primary care (Thompson et al. 2016). Recent research by Rowley et al. (2015) also confirmed that women are more proactive in health information seeking and check a wider range of health information sources. In addition, women are more likely to go to the Internet for health information (Tennant et al. 2015) and are more likely to consult health professionals and family and friends than men. Moreover, women are also the primary recipients of health messages: "Health promotion messages often target women in their assigned role as caregivers in the family" (Östlin et al. 2007: 27).

Despite progress has been made since then (Charney 2000), there are also numerous diseases that are unique to women and warrant further research. Present-day research has already taken up some issues, dedicating more research toward breast cancer risk assessment (Goth 2015), perinatal depression (Osma et al. 2016), preconception care, and prenatal health issues (Nwolise et al. 2017).

Men's Health: One area of research that received very limited academic attention is men's health (Weder 2014). As experts worldwide express their concern with this issue – even talking about a men's health crisis – this issue is slowly gaining recognition. In general, men's health is something that can and needs to be differentiated from both general health and women's health, since it is concerned with "the prevention and diagnosis of illnesses that afflict the male population. Men's health should also include the personal well-being and quality of life of men" (Hoon 2005: 172). From a clinical point of view, common male-specific diseases are prostate cancer, erectile dysfunction, and testicular cancer (MacDonald 2016), while mental health issues like depression receive limited attention (Branney and White 2008). Yet, there are some obstacles to overcome first: while women address their health issues openly and proactively, men feel rather indifferent toward their health and are thus reluctant to become engaged (Broom and Tovey 2009). Due to men's rather functionalist perspective on health, they prefer offers that help them to overcome specific health problems (Tempel et al. 2013). Since they often tend to underestimate physical and psychological symptoms, they wait longer to seek help from a doctor; at

times, it even takes their wives to urge them to go and make an appointment or seek treatment (Raml et al. 2011). This concerning trend can be explained by the fact that masculine traits – strength and independence – “are seen as injurious to [men’s] health” (MacDonald 2016: 285).

And even though there are studies in the area of strategic communication and health promotion focusing on gender-specific issues (Galdas et al. 2005), there is a clear scarcity of research on specifically male health issues like prostate cancer, baldness, cancer, diabetes, cardiovascular diseases, etc. (Hoebel et al. 2013). As such, men’s health is conceptualized “as the prevention and diagnoses of illnesses that afflict the male population. Men’s health should also include the personal well-being and quality of life of men” (Hoon 2005: 172).

Men’s health issues and concerns have also increasingly moved online and concern safer sex, respectively, condom use (Bailey et al. 2017), as well as prostate cancer interventions.

Pharmaceutical Advertising as Health Communication

Also, commercial messages qualify as health communication, the most prominent one being pharmaceutical advertising. It is “defined as [paid] messages created by marketers of pharma products that attempt to inform, persuade and even entertain the target audience with the goal of influencing recipients’ attitudes—and ultimately behavior—in a favorable manner” (Diehl et al. 2008: 100). Pharmaceutical advertisements are utilized to promote both prescription and non-prescription drugs. The former comprise drugs used to treat more serious diseases and are subject to a doctor’s prescription since their use is associated with significant risks and adverse effects; consequently, they are only allowed to be promoted to physicians (with the exception of the United States and New Zealand, where these preparations can also be advertised to the general public; Diehl et al. 2008). The latter, on the other hand, are commonly labeled self-medication preparations, home remedies, or over-the-counter (OTC) medications, which can be promoted to the general public in almost every country throughout the world, since they hold comparatively minor risks and are only intended to treat minor medical symptoms.

Koinig’s (2016) field study, which was conducted on three continents, highlighted that among four different ad appeal types (informative, emotional, mixed, and CSR), the mixed pharmaceutical promotional message was most effective with regard to ad evaluation and empowerment. Another study by Koinig et al. (2017) showed that pharmaceutical advertising can indeed empower consumers on three distinct levels, namely, message empowerment, self-medication empowerment, and health empowerment. In terms of ad appeal, findings suggest that the mixed appeal ad led to the highest degree of empowerment in all of the three empowerment categories and was followed by the informative ad. The emotional and the CSR appeal ads failed to appeal to consumers and empowered them to a lesser degree. Results thus suggest that mixed appeals were not only consumers’ favorites in terms of ad liking but were also the most suitable way to aid consumers in making qualified and reasonable

decisions, educating and “empowering” them by strengthening their beliefs in the product, their own self-medication capabilities, and their health.

Health Empowerment

The major goals associated with health promotion are equity and empowerment (Green and Tones 2010), the latter having also been taken up by the Ottawa Charter (WHO 1996). Following Tones and Tilford (2001), empowerment could “be even seen as a worthwhile health goal in its own right” which is brought about by significant changes that do not leave the health sector unaffected: “Empowered by better access to higher education, information sources like the Internet, and greater personal wealth, consumers expect to have a much greater say in their own medical treatment” (David 2001: 1). As such, empowerment is concerned with including lay perspectives – perspectives by non-expert or ordinary people – in health-related decisions (Earle 2007). Lately, the concept of empowerment has also been linked to advertising messages (Koinig 2016; Koinig et al. 2017).

Through mobile and interactive health technologies, consumers are given the opportunity to become more involved in and empowered regarding their own health care (see also *New Media: the Changing Dynamics in Mobile Phone application in Accelerating Health Care among the Rural Populations in Africa* by Okoth in this volume); increasingly, they also agree to disclose their online health records to receive more tailored treatments (Makovsky 2015). Furthermore, the availability of online services does not only allow for increased consumer participation but also for a faster delivery of care (see also *Participatory communication and community development* by Bessette and *Media and Participation* by Carpentier in this volume). Even against the background of already heightened health-care costs, Americans would nevertheless leverage technology, expressing a high willingness to pay for innovative services (Makovsky 2015) and the clear benefits they bring: they “have the potential to improve communication with clinicians, access to personal health information, and health education with the goal of preparing patients to take a more active role in their care” (Franklin et al. 2009: 169f.).

Working Toward Sustainable Health and Sustainable Health Communication

Sustainable health comprises initiatives taken on the individual, community, public/national, and international level (UN 2017; Buse and Hawkes 2015).

On the individual level, preventive care is the number one priority and concerns vaccinating children, as well as engaging in safe sex only – the latter being a movement that is also increasingly featured on social media (Bailey et al. 2017). Also, the necessity of involving partners in their spouse’s fitness activities has been found to benefit women, specifically in the digital context (Arigo et al. 2015). Weder (2014) discovered this necessity also for men and discussed this against the

background of “crabwise campaigns” – promotional campaigns that addressed women to encourage their men to get a preventive examination.

On a community level, inequalities between urban and rural or wealthier and poorer groups need to be balanced, guaranteeing that all groups are educated with regard to nutrition, health affecting risky behavior, etc. (Maeda et al. 2014; Schmidt et al. 2015). Practicing and promoting health lifestyles in groups is recommended as well, whereby schools are listed as prime examples. Moreover, the issue of tailoring information to communities of different academic and ethnic backgrounds is emphasized (Noar et al. 2007) even though the success of these tailored approaches is ambiguous (Saywell et al. 2004). Yet, tailored information holds one advantage: the topic’s personal relevance is stressed, and centralized information processing is encouraged (Hawkins et al. 2008). Moreover, tailored content is also of interest to the wearables’ industry (Kim et al. 2017).

Nationally, ensuring high-quality workforce training, especially in low-income or middle-income countries, has to be made a core focus (Maeda et al. 2014). Special focus should also be put on health professionals’ communication competencies (Ruben 2016), following the example of the Health Professions Core Communication Curriculum (HPCCC; Bachmann et al. 2016). Where shortfalls exist, apps and eHealth services might be used, as it is the case in outpatient care (Ventura 2016). These gadgets are specifically useful in emphasizing, respectively, highlighting, patient needs and preferences (tailoring, customization; Nwolise et al. 2017): “Person-centered e-supportive systems may bridge the communication gap between the hospital setting and patients’ homes by fostering a reciprocal partnership in care that acknowledges and reinforces patients’ expertise and agency” (Ventura 2016).

Some countries even publish a health report to make their efforts more binding and achieve a clearly set goal, as it is the case with the Healthy People 2020 (Hesse et al. 2014), or even implement specifically designed laws, such as the Health Information Technology for Economic and Clinical Health Act of 2009, which incorporates health technology into health care in the United States (Gold et al. 2012). Ojo (in this volume) sheds some light on how ICTs are used in Africa for development purposes.

The most prominent goal on the international level is the call for universal coverage, which means that “all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need” (WHO 2017). It is considered to be “the single most powerful concept that public health has to offer. It is our ticket to greater efficiency and better quality. It is our savior from the crushing weight of chronic noncommunicable diseases that now engulf the globe” (Chan 2012). If accompanied by a sustainable financing plan, this move is expected to reduce health-care costs (Schmidt et al. 2015).

Another international goal aims at fostering health education and health literacy (Cappelletti et al. 2015), also through interactive offers with appealing designs (see also *The use of visual literacy for social change* by Loes in this volume). In the area of digital health, calls to improve the knowledge about usability, design, and acceptance of mHealth and eHealth services as well as wearables should be taken seriously (Hether et al. 2016; Nwolise et al. 2017), which cannot only increase individual involvement but also foster empowerment in the long run.

Limitations and Directions for Future Research

The present paper sets out to outline some topics that are of high importance to the health-care sector and build upon the United Nations' Sustainable Development Goals. Yet, due to the limited scope of the paper, only a few, selected aspects could be discussed. We pointed out the potentials of digital and tailored health communication – based on their growing acceptability. Here, empirical research is still quite scarce, so it would be interesting to delve deeper in this topic, on a global, national, as well as glocal level (see also *Glocalization of Learning: Framework for Glocal Development and Sustainable Social Change* by Patel in this volume). The gender debate should be intensified as well, taking into account gender-specific health topics and usage patterns. Moreover, the term of empowerment should be examined in the context of communities, wearables, and (advertising) message reception (see also *Empowerment as Development* by Svensson in this volume). While the previously discussed theories on models of health are hardly cross- or transdisciplinary in nature, more recent approaches set out to overcome these segregated notions (Schiavo 2014) and might require further elaboration. Thus, while the present research looked at the microlevel of health communication, further research should not neglect the broader, macro perspective. Especially the role of media advocacy and public health advocacy warrants future considerations, as the role of both the media and health practitioners in shaping health policy development must not be underestimated (Ingram et al. 2015).

The digitization of health information – starting with electronic health records (EHRs) – is expected to continue in the future, with countries (e.g., Austria) considering the introduction of electronic prescriptions, electronic pregnancy passports, and electronic immunization cards. It is worthwhile to investigate not only how these new digital offerings are perceived and used, but also inasmuch they are able to improve patient-provider interactions and reduce disparities in access to health care.

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