

Cooperation and training on innovation and entrepreneurship in the
eHealth community (CONNECT)

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IO1 - eHealth Interdisciplinary Curriculum: Social Media in Health

Partner: Babes-Bolyai University

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eHealth Interdisciplinary Curriculum Template – Purpose of this tool

Babeş-Bolyai University has developed this tool as a guide and generic template for creating the eHealth Interdisciplinary Curriculum. We have tried to make it user-friendly by providing explanations and examples under each heading.

The eHealth Interdisciplinary Curriculum will be developed under *“Objective 1: Develop an innovative multidisciplinary curriculum for students from the computer and information, healthcare and social professional background, with the main focus on cooperation between sectors for improving the existing knowledge, skills, and accessibility to new opportunities”*. The indicators of this objectives are represented by 1 curriculum developed in the first 10 months of the project, with at least 1 member of each partner institution involved in the curricula development.

The eHealth Interdisciplinary Curriculum is centered around theoretical and practical subjects within the eHealth domain. It will have the form of an online book, adapted as an interactive online resource, and uploaded on the online platform for managing eHealth eLearning. It will be addressed to health sciences and IT students, from participant countries and disseminated to students from other European universities. This Curriculum will focus on undergraduate students, but other beneficiaries can be included. Although there is a requirement that readers and learners need to have a background in health care/ medicine/ information technology, information systems or business.

The eHealth Interdisciplinary Curriculum will include foundational knowledge (formal), key perspectives in eHealth (examples of new technologies, applications, instruments – non-formal), application abilities (increasing qualifications, competencies, and critical thinking – non-formal) to provide eHealth remedial education. Consultation of formal and informal educational providers will be necessary in developing the curriculum.

The eHealth Interdisciplinary Curriculum is organized to emphasize relationships between different fields (health, IT, management). It will be structured on the recommendations of the [International Medical Informatics Association \(IMIA\)](#).

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The primary learning goals of the curriculum will be integrated to create a coherent methodology: (a) foundational knowledge (concepts, principles, facts, terms), (b) key perspectives in eHealth, that will be the starting base of practical abilities, (c) application abilities - to have a standard of working competencies for the future workplace, (d) to engage students to increase interest and have access to information.

The eHealth Interdisciplinary Curriculum will be developed by an international, inter-professional teaching team (members) with different expertise in the eHealth domain, from partner institutions. Two educational providers, from each partner institution, will be involved in the process. For each chapter, at least two external contributors will be invited to co-author the chapters and give feedback on the developed intellectual output.

The eHealth Interdisciplinary Curriculum will be purposefully designed (flexible, modular format, user guidance) so that they can be easily used and transferred in academic activities and within the university curriculum. The eHealth Interdisciplinary Curriculum is comprised of 8 individual modules. The number of pages of the entire Curriculum will be between 200-300, A4 format– around 30-40 pages/module. The course material for the entire Curriculum requires 40 hours of the hands-on, active reading experience. For each module a maximum of 5 lessons plans of 1 hour each are recommended (5 hours/module). Extra 20 hours must be added (for necessary time to access references and areas of inquiries) for the entire Curriculum, meaning 30 minutes for each lesson plan (2.5 hours for each module).

The following steps will be taken for the development of the eHealth Interdisciplinary Curriculum:

1. Desk Research
2. First draft developed by each institution for their module
3. Expert review and input
4. Second draft developed by each institution for their module based on the expert input
5. BBU compiles final version of the curriculum
6. Experts validate the final curriculum

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The research team from Babeş-Bolyai University is available to support any efforts to compile each curriculum component (module) and is responsible for overseeing the compilation of the final eHealth Interdisciplinary Curriculum. The contact info for the coordination team for this task is provided here: madalina.coman@publichealth.ro and alina.forray@publichealth.ro. Please name the final document using the following strategy “CONNECT Project_IO1_Curriculum_Module name_Institution Acronym” (e.g. CONNECT Project_IO1_Curriculum_mHealth_BBU)

Some tips for developing the Curriculum for the assigned modules:

- Review the Desk Research documents available for all the modules and extract the appropriate information to be used for the development of the module;
- A total of 5 hours for the lesson plans and 2.5 hours for individual work are assigned to each module
- Plan for maximum 5 lesson plans, each with the duration of 1 hour + 30 additional minutes for further references and inquiries that will be done individually by students;
- Describe in detail each lesson plan following the suggested headings from section 3. *Lesson plans*;
- Consult the key expert points from the [Expert Network Centralizer](#) in the development of the curriculum for the assigned module.



Contents

eHealth Interdisciplinary Curriculum Template – Purpose of this tool	2
1. Learning objectives of the Social Media in Health module	6
2. Foundational knowledge of the Social Media in Health module.....	7
3. Lesson plans for the Social Media in Health module.....	13
Lesson plan 1: Social media in healthcare	13
Foundational knowledge	13
Examples and analogies.....	16
Application and integration	17
References for further information and areas on inquiries.....	17
Lesson plan 2: Infodemic, disinformation, misinformation, and fake news: how to spot and verify them.....	18
Examples and analogies.....	23
Application and integration	24
References for further information and areas on inquiries.....	24
Lesson plan 3: Gamification and social media	26
Foundational knowledge	26
Examples and analogies.....	28
Application and integration	30
References for further information and areas on inquiries.....	30
Lesson plan 4: Developing a Social Media Strategy.....	32
Foundational knowledge	32
Examples and analogies.....	42
Application and integration	43

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References for further information and areas on inquiries.....	43
4. Appendices.....	44

1. Learning objectives of the Social Media in Health module

[The objective of this section is to describe the module's brief statements that describe what students will be expected to learn by the end of the module. The learning objectives can reflect the educational standards used by your institution (if the case) or they can be drawn from international Common Core Standards. The learning objectives need to be closely connected with the lesson plans. Some examples of developing learning objectives can be found [here](#)]

[This part should not exceed a page]

At the end of this module students will be able to:

1. Understand the advantages and disadvantages of social media in health
2. Differentiate between the concepts of infodemic, misinformation, disinformation, and fake news
3. Identify ways in which social media can be (and is currently) used in global health and development
4. Understand the taxonomy of gamification and how this taxonomy can be used in healthcare
5. Recall the steps involved in developing a social media strategy and link it to programmatic goals and budget



2. Foundational knowledge of the Social Media in Health module

Social Media Definition

Social media refers to internet-based platforms/tools used for communication, the gathering of information and or sharing of information/content. Social media is used to connect and communicate with other users in real-time (Ventola, 2014).

Social Media Platforms

There are a variety of social media platforms. Each platform can offer a range of features that serve a different purpose for different individuals. Social media platforms include:

- Blogs
- Social networks (example: Facebook)
- Video-and-photo sharing sites (example: Instagram)
- Wikies (example: Wikipedia)

Social media can be used for a variety of purposes including (Ventola, 2014).

- Social networking (Facebook, Myspace, Google Plus, Twitter)
- Professional networking (LinkedIn)
- Media sharing (YouTube)
- Content production (blogs, Twitter)
- Knowledge/information aggregation (Wikipedia)
- Virtual reality and gaming environments

In addition to these publicly available platforms, there are social media platforms specific for healthcare providers. These platforms are most often private and not accessible to the lay public or nonmembers (e.g., healthcare providers outside of the designated organization).

- Sermo: A physician only networking platform. It is primarily a large messaging board, where physicians create topics for discussion.
- Doximity: A physician-only social networking platform. This platform “offers text and images that are compliant with the Health Insurance Portability and Accountability Act (HIPPA) act, which allows point of care information crowdsourcing (Ventola,2014).

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- Medical Directors Forum: A social networking site for medical directors. This site provides resources, including a comprehensive library and discussion groups
- Student doctor- A social community for undergraduates and participants physicians. This site focuses on clinical career topics.

Social Media in Health:

Professional Education: Social media can provide healthcare professionals with tools to share health information, promote health behaviors, or educate and interact with patients, caregivers, students, and colleagues (Ventola, 2014). Social media is used in health primarily as a tool to improve upon health outcomes both on a national and international level, to professionally network and or to increase awareness of health issues. In addition to this, healthcare professionals use social media as a tool to improve personal knowledge of health-related news and discoveries and to provide health information to the community (Ventola, 2014).

Professional Networking: The most popular use of social media in health is for professional networking. In this scenario, healthcare professionals participate in online communities where they can read articles, follow and listen to experts, research new medical developments, interact and consult with colleagues regarding patient issues. In this community, physicians can share cases and ideas, make referrals, disseminate their research and market practices for health advocacy (Ventola, 2014).

Organizational Promotion: In addition to networking with other professionals, healthcare providers also use social media to promote their organization or services, access continuing education and professional development, or create interest groups. Notably, healthcare professionals can use social media for patient care (Lagu et al., 2016).

Patient Care: The use of social media to directly interact with patients is increasing in popularity. Some healthcare facilities have established platforms where patients can directly contact their doctor to ask questions or request prescription refills.

Patient-Provider Communication: Social media opened the door to better communication between the patient and the provider, offering patients the chance to interact with providers to which they would normally have no access (e.g. providers from other cities or countries)(Junhan & Wang, 2021). Research in this field showed that some challenges exist regarding privacy, confidentiality and skills related to using social media. Still, overall the interactions between patients and providers on social media have benefited them all (Junhan & Wang, 2021).



Patient Education and Public Health Programs: Additionally, social media platforms can provide patient education and health monitoring or encourage behavioral changes and drug adherence. The purpose of this is to promote better education, “increased compliance and better outcomes (Ventola, 2014, p. 495).” Further, such platforms could be used to obtain feedback from their patients/clients or link their patients with support groups. The patient can also benefit from social media in health because social media can improve patients access to health care information. Physicians can use social media to promote patient education by making health-related posts, videos or participating in specific forums. Forums allow providers an opportunity to distribute evidence-based information or to counter inaccurate material on the Internet (Ventola, 2014). Similarly, the patient participating in these forums have the opportunity to interact with individuals who may have similar health conditions to them. On these platforms, individuals can exchange health information or tips. Over the years, social media has been widely used to offer health resources and reach and direct campaigns audiences and intervention participants, especially populations that otherwise would have no access to health information. Moreover, social media is extremely useful in bridging the communication between health professionals and institutions and the people at large (Junhan & Wang, 2021). Social media is a valuable tool in helping people document and share their progress of different health behaviors and engage in competitions or other challenges related to their health with their peers (Junhan & Wang, 2021).

Facilitate Health-Related Research: Social media has a dual role in facilitating health-related research. First, it provides additional data about patients disease experiences by analyzing their conversations on social media, which ultimately leads to an enhanced understanding of patients experiences. Second, social media has the potential to recruit participants for health-related research as data shows that social media performs better than traditional methods in terms of recruitment, especially for hard-to-reach populations (e.g. immigrants) (Junhan & Wang, 2021).

Infoveillance: Infoveillance can be defined as “the application of infodemiology with the aim of surveillance”. In other words, it refers to surveilling and analyzing the information found over the internet in an unstructured manner to inform public health and policies (Junhan & Wang, 2021). Social media can be used to predict future illness onset for users by analyzing the language and keywords used on social media. Moreover, analyzing emojis and special characters used in social media posts can help predict certain mental health illnesses, asthma, or difficulty breathing syndrome (Edo-Osagie et al., 2019; Thorstad & Wolff, 2019). Infoveillance also has the potential to predict different infectious disease outbreaks, such as in the COVID-19 where data shows that social



media has the potential to accurately predicts the disease outbreak case count and to use geographical data from social media to inform medical research and practice (Junhan & Wang, 2021).

Seek and Share Health-Related Information: Social media is widely used by the general population for finding and sharing health-related information. Many studies raised concerns related to the quality of the information mentioned above and urged not only for efforts to reduce misinformation on social media but also for more sources of reliable health-related information on social media (Junhan & Wang, 2021)

Disseminate Health Information and Combat Misinformation: Social media can help health institutions to disseminate health information by rapidly sharing information with the population. Information about healthy living, immunization, disease outbreaks, prevention can be offered to populations via social media (Junhan & Wang, 2021). Moreover, social media can potentially combat the spread of misinformation by refuting rumors, fact-checking algorithms, and optimization strategies to only display evidence-based health information to users (Junhan & Wang, 2021; Mheidly & Fares, 2020).

Offer and Exchange Social Support for Health-Related Problems: Social media offers an excellent outlet for social support as people with different medical conditions can connect and provide and receive informational support content (Junhan & Wang, 2021). Moreover, people can offer and receive emotional support and network support to better manage and cope with their medical condition. Research in the field demonstrated that people with health concerns benefit from participating in online communities by suffering from less discrimination and stigmatization, receiving support promptly, and having a sense of control over the help-seeking process. Overall, it was found that online communities offered better perceived social support and predicted increased subjective well-being of users (Junhan & Wang, 2021).

Concerns when using social media in health:

A primary concern with the use of social media in health is maintaining confidentiality, privacy, and boundaries concerns. In a breach of confidentiality, a health care professional and their organization may become liable under federal HIPPA and state privacy laws. To comply with HIPPA laws, social media posts must exclude any personal identifying information (of the patient). This is known as “de-identification” and should assure that absolutely no identifiable information is shared. It is



suggested that healthcare organizations establish employee guidelines regarding the use of social media and type of information that can be posted.

Generally, the guidelines should (Ventola, 2014):

- Address leaking of confidential or proprietary information, damage to the organization's reputation, discrimination, harassment, and wrongful termination of service.
- Address expectations regarding employee behavior outside work perimeters.
- Forbid, limit, and/or monitor employee access to the internet and/or to social networking sites while at the job.
- Define employees' responsibilities and actions when witnessing inappropriate use of social media.
- Design policies regarding the use of organizational email addresses and graphics or logos.
- Define disciplinary actions for employees for the inappropriate use of social media.
- Assign and define who can access social media on the organization's premises and for what purpose.
- Ensure that employees acknowledge that they are not representing the organization when they post material on their personal social media sites.
- Ensure that employees disclose any possible conflicts of interest.
- Ensure that the employees are familiar with state guidelines regarding patients' privacy.
- Ensure that the employees include a disclaimer when they are not speaking on behalf of the organization.
- Ensure that employees understand the need to adhere to the organization's social media policy.
- Revise or expand current policies regarding informed consent.

For example, in 2012, the American Society of Health-System Pharmacists released guidelines for social media use. These guidelines state that:

- A pharmacist should only provide clinical advice in adherence to professional standards
- Providers should recognize when a patient's needs would be better met with a different form of communication
- Providers should provide timely and accurate information
- Providers should rebut any misleading information
- Providers must protect patient's privacy

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- Providers must maintain their reputation during anonymous or personal use of social media

Another risk with social media in health pertains to difficulties in upholding a professional image. Because social media inevitably convey information about an individual's personality, values, and priorities, posting unprofessional images poses a risk to healthcare providers, and their organizations preserved professionalism. Unprofessional content can include violations of a patient's privacy, discriminatory pictures or use of discriminatory language etc. (Ventola, 2014). The guidelines established by a healthcare organization should address what is deemed to be unprofessional content.

3. Lesson plans for the Social Media in Health module

[The objective of this section is to provide the foundational knowledge for each concept studied in a lesson plan and offer real-life, practical examples of all the concepts studied in the module. This will be done with the help of lesson plans, during which each concept is explained and exemplified with analogies of real-life examples. Lesson plans will include examples, analogies, application of the concepts, and areas for further enquiries for participants. Each lesson plan should have the format from below. There are 10 weeks of intensive study program with a total of 40 hours for the entire curriculum, so a maximum of 5 lesson plans, each with the duration of one hour should, be developed for every module since we have 5 hours allocated for every module]

[This part should ideally not exceed 30 pages]

Lesson plan 1: Social media in healthcare

Foundational knowledge

[For each lesson plan please include a detailed explanation of the concepts, theories, models, terminology, principles, and methods being currently used related to the concept explained in this lesson plan. In doing so please create synergies withing the two domains (IT and health and social science) to create mutual understanding among students]

Social media is constantly evolving. Therefore, it is impossible to cover the thousands of platforms that exist both globally and locally. What is trending now can become obsolete a year from today. MySpace was once the largest social networking platform globally, with over 200 million users in 2008. Today, only a fraction of users are still active. While Youtube, Facebook, Twitter, Instagram, Snapchat and Tik Tok are currently the most widely used social media platforms, that statistic can change in the coming years (Brooke & Anderson, 2021).

With the expansion of the internet worldwide, social media quickly became part of most people's life – see and use statistics images from: <https://www.broadbandsearch.net/blog/internet-statistics> and <https://ourworldindata.org/internet>

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Social media offers significant opportunities for global health organizations to enhance their engagement in community dialogue, contribute to ongoing problem-solving, recognize the work of partner organizations, and help improve mass media coverage of global health issues. Social media can be an addition to traditional media methods (television, print media, billboards, etc.), further expanding the reach and reinforcement of critical health and development messages. Research in the field shows that social media currently reshapes health information management by providing cost-effective ways to improve patient-provider communication and exchanging health-related information and experience for medical professionals (Zhou et al., 2018). More and more people are searching for information online, especially with the new pandemic of COVID-19. Data from Eurostat from 2020 shows that prior to 2019, 53% of the EU citizens aged 16-74 sought online health information (Eurostat, 2020). In 2020, one in two EU citizens aged 16-74 reported seeking health information online, the total percentage growing to 55%.

Additionally, 20% of EU citizens reported consulting their doctor using the internet and 13% accessed other health services via apps and websites instead of visiting a doctor in person (Eurostat, 2021). The health information sought varies from online discussions about specific diseases (e.g. cancer) to different public health concerns (e.g. food waste, pollution) (Zhao & Zhang, 2017). During the COVID-19 pandemic, a lot of health information was related to the virus, from prevention methods to quarantine and self-isolation practices (Soroya et al., 2021).

These trends lead to more people using the internet and web search engines for obtaining health advice or information online (Arora, McKee, and Stuckler 2019). This phenomenon led to the apparition of new terms, such as “Dr Google” and mobile health apps, being used especially by younger and e-health literate patients (Cocco et al. 2018; Jungmann et al. 2020; Huisman, Joye, and Biltereyst 2019; Ieraci 2018; Thapa et al. 2021). For these types of patients, using Google positively impacted doctor-patient interaction and was unlikely to reduce adherence to treatment (Cocco et al. 2018). Social media can empower people to make better and informed health decisions and develop personal health information management. Health information management is defined as “activities that people perform in order to acquire, organize, maintain, share, retrieve, and use health information items to complete healthcare tasks and fulfil their needs” (Zhou et al., 2018).

Moreover, social media provides the opportunity to generate a vast amount of content from social media users, advancing health science and creating support communities for patients (Zhou et al.,

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2018). This phenomenon also offered the chance for health professionals to transition from simple consumers of social media to educators for the public (Giustini et al., 2018; Ieraci, 2018) and for social media to be used in medical education with promising results (Cheston et al., 2013).

Also, by joining online professional networks, clinicians may be encouraged toward new ways of learning, not just access to content. Still, they can also become “skilled in the arts of critical appraisal and willing to interact with knowledge producers to provide thoughtful and meaningful critiques of their work.” (Chan et al., 2018).

The major benefits of social media in healthcare settings are as follows:

- increased interactions among healthcare stakeholders
- more available, shared, and tailored information
- increased accessibility and widening access to health information
- peer/social/emotional support
- public health surveillance
- potential to influence health policy (Chan et al., 2018).

Although social media showed promising results in improving healthcare, research in this field is still relatively novel, with many technical, behavioral, and data management issues to be fixed in the future (Zhou et al., 2018). Studies in the field show that many available websites and health apps only increase emotional distress and have inadequate information accuracy, quality, trustworthiness, and readability (Rothrock et al. 2019; Jungmann et al. 2020). Research, especially during the COVID-19 pandemic, also showed that health literacy plays an essential role in managing online health information, and globally most people have poor health literacy skills, thus leading to poor skills in managing online health information (Paakkari and Okan 2020). Social media resources’ volume and instant accessibility means that learners (and their educators) need new skills. These skills refer to filtering the volume of material available, critically appraising social media content, and reconciling the use of social media resources with those considered more “traditional” (Roland and Brazil 2015). To filter the relevant, quality content for clinical learning, people require to have a strategy, including some technical skills (e.g., using web-based aggregators) and familiarity with contemporary (and emerging) platforms.

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Examples and analogies

[For each lesson plan please provide examples and analogies that show how the concept can be applied in real life, focusing on standards for quality and qualification within the two domains (IT and health and social science)]

Examples of good practices in using social media:

1. Official social media accounts for WHO, CDC, etc: <https://www.youtube.com/channel/UC07-dOwgza1IguKA86jqxNA>, <https://www.youtube.com/user/cdcstreaminghealth>
2. Contributing to science together – example of a research article stating as authors the participants to the intervention

Cooper, Seth, Firas Khatib, Adrien Treuille, Janos Barbero, Jeehyung Lee, Michael Beenen, Andrew Leaver-Fay, David Baker, Zoran Popović, and Foldit players. 2010. “Predicting Protein Structures with a Multiplayer Online Game.” *Nature* 2010 466:7307 466 (7307): 756–60.
<https://doi.org/10.1038/nature09304>.
3. Social Networks for patients: such as Patients Like Me - <https://www.patientslikeme.com/>
4. Google Trends: <https://trends.google.com/trends/?geo=RO>
5. Preparedness information for certain disasters:
<https://blogs.cdc.gov/publichealthmatters/2011/05/preparedness-101-zombie-apocalypse/> and <https://emergency.cdc.gov/> and <https://www.challenge.gov/>
6. Digital Disease Detection via Health Map -<https://healthmap.org/en/>
8. Health apps: Certified by the Food and Drug Administration - <https://apps.healthskouts.com/>
9. How Social Media Impacts Healthcare: <https://www.youtube.com/watch?v=xBBgnyD3A5Y>
10. Andrew Huberman – Huberman Lab Podcast – Discussing neuroscience:
<https://www.youtube.com/channel/UC2D2CMWXMOVWx7giW1n3LIg>

Examples of bad practices in using social media:

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Germani, Federico, and Nikola Biller-Andorno. 2021. "The Anti-Vaccination Infodemic on Social Media: A Behavioral Analysis." *PLOS ONE* 16 (3): e0247642.
<https://doi.org/10.1371/JOURNAL.PONE.0247642>.

Application and integration

[For each lesson plan please provide exercises and practical activities that will help students apply what they have learned about this concept. For this section non-formal activities are strongly advised to be used]

Think about how you might use or have used the internet for the purpose of health and care. Did you have any benefits from that search? Are there any other benefits you would add and weren't mentioned in this lesson? Besides misleading advice, what would you consider to be negative aspects of social media in healthcare? Please share your thoughts in the discussion.

References for further information and areas on inquiries

[For each lesson plan please provide references and connected areas for students to further inquiry and read more about. There are 20hrs of individual work for the entire curriculum, which means 2.5 hours for each module, so 30 minutes for each lesson plan (if you decide to have 5 lesson plans). Books, scientific publications, and other activities connected with the topic of the modules can be offered as references in this section]

All articles referenced above

Social media in healthcare: <http://thecourse.webicina.com/presentations/Healthcare/>

Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of medical Internet research*, 15(4), e1933.

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Lesson plan 2: Infodemic, disinformation, misinformation, and fake news: how to spot and verify them

We live in a time where any information can be transmitted around the globe in seconds, regardless of its correctness (Maxwell, 2021). Individuals need to develop critical thinking to select the correct, updated and error-free information as much as possible. Unverified online information can shake public beliefs about science, health, politics, cultural norms etc. (Maxwell, 2021). With the large amount of information available, a lot of confusion might appear regarding health information. This phenomenon was first coined in 2003 when the words “information” and “epidemic” were combined into the word infodemic (Briand, 2021). The World Health Organization defines the term infodemic as the “overabundance of information, both online and offline – including mis/disinformation, that occurs during an epidemic” (Briand, 2021). The infodemic spreads among people similar to a disease epidemic, and it makes it hard for people to find reliable and trustworthy sources of information; and during the COVID-19 pandemic, the infodemic was exacerbated by the global scale of the emergency (WHO, 2020). This phenomenon has led to poor observance of public health measures, stigmatization of different groups, health risks and a reduction in the effectiveness of efforts to contain and stop the pandemic (WHO, 2020). Below, we can see some terms that are important when we discuss health information.

Disinformation is defined as intentionally false information, while **misinformation** is unintentionally false information. So when we talk about “mis-“and “dis-“, we talk about the intentionality to spread such news (Crawford et al., 2016).

How to identify, expose and understand disinformation online?

The 4D model of disinformation campaigns:

- Dismiss: “Don't listen to them, because [...]” – trying to silence the witness (adding an insult)
- Distort: “If the facts don't suit your story, make your own facts”- inventing data (fake evidence)
- Distract: “If the conversation is getting uncomfortable and unfavorable, change the subject and accuse somebody else of the same thing” – changing the path of the conversation, focus on something else

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- Dismay: "Try to scare people off" – if someone says that is going to do something unfavorable to you, explain to them what the disadvantages will be (rhetorical perspective)(Crawford et al., 2016).

Fake news can be seen as a deception intended to influence someone else's perception of a specific subject. This deception can be done through false or misleading content released on social channels (Crawford et al., 2016). Research showed that fake news related to health could create confusion and influence the uptake of different treatments and vaccination (Domenico et al., 2021). Moreover, research conducted in the COVID-19 pandemic showed that fake news in health could cause different psychological disorders, fear, fatigue, confusion, panic and depression in different nationalities and populations. All reports indicate that people trust information found on social media and that it affects their health decisions (Rocha et al., 2021). The latest COVID-19 pandemic showed that health professionals are willing to combat fake health information and consider it their duty as medical professionals (Bautista et al., 2021). Researchers in the field developed a conceptual model for healthcare professionals to correct health misinformation on social media, as shown in Figure 1 (Bautista et al., 2021).

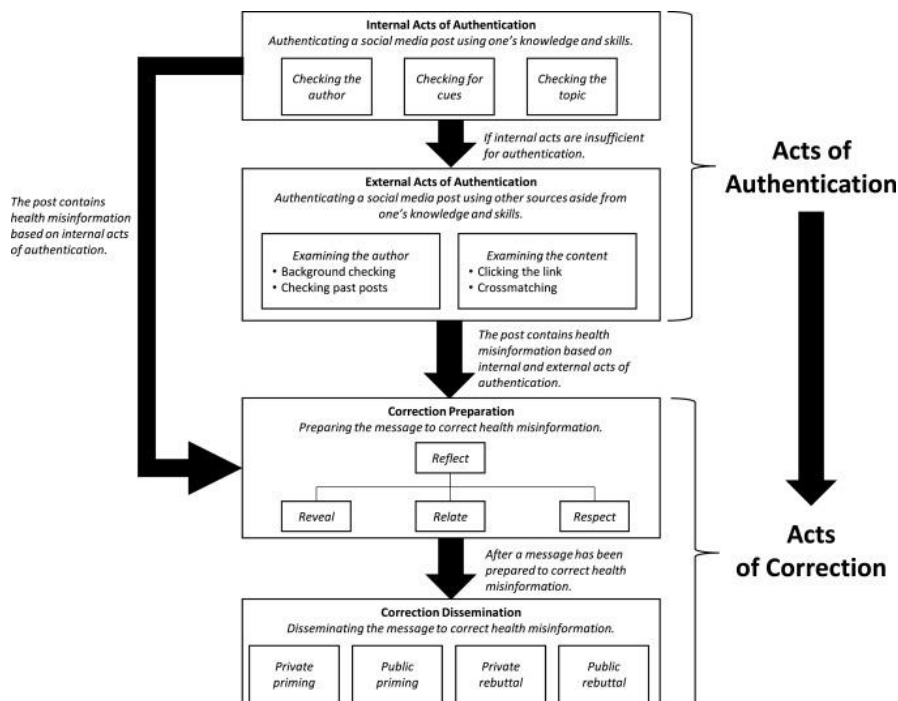


Figure 1 – Conceptual model for healthcare professionals to correct health misinformation (Bautista et al., 2021)

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COVID19 pandemic and vaccines: a case study

To give you a sense of how fake, the best example is how the COVID-19 pandemic and vaccination generated a lot of discussions on social media platforms. Sarah Brandt, the Vice President of the News Literacy Program at NewsGuard, discussed how over 300 websites with a big audience had spread dangerous lies about the disease since March 2020, when it was brought into attention (Brandt, 2021). Many websites which were spreading alarming news about the deadly effect of vaccines also have official-sounding names like "CDC.News", "Science.news" that are more appealing to individuals and eventually generate a big audience (Brandt, 2021). Inserting small amounts of false information into many places works as a strategy to spread a larger message of disinformation (Crawford et al., 2016). To understand this association better, think about money laundering. To give you an example, to get rid of suspiciousness, individuals who do such things as money laundering do not deposit a large amount of money in a bank account, so they will not be questioned about it. So, fake news spread quickly among the population by inserting a small amount of health information in many places over social media (Youtube, Twitter, Facebook, etc.).

Research in the field that used sentiment analysis as a tool for analyzing social media posts from Reddit related to COVID-19 shows that although sentiments expressed in the community are overall positive than negative, vaccine hesitancy was highly prevalent in the discussion. They call for action to strengthen vaccine confidence on social media (Melton et al., 2021).

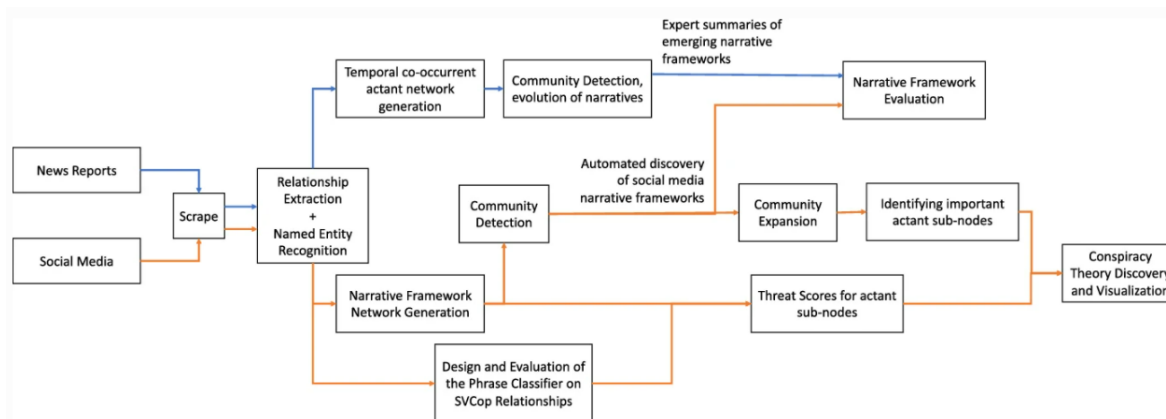


Figure 2 - Automated pipeline of processing data and discovering fake news (Shahsavari et al., 2020).

However, it is hard to destroy all those news and educate populations in a relatively short amount of time since these kinds of websites arise overnight. Research in the field focuses on developing tools

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for early detecting fake news to neutralize them in the shortest possible time. Such tools include machine learning neural networks (Liu & Brook, 2020; Shahsavari et al., 2020) and detection tools to identify fake news (Saxena et al., 2022). An example of an automated pipeline of processing data and discovering fake news in social media is presented in Figure 2 (Shahsavari et al., 2020).

Moreover, due to the amplitude of the infodemic at global level, WHO established the Network for Epidemics (EPIWIN) to disseminate and amplify evidence-based information about COVID-19, and to track and respond to misinformation, myths and rumours (Briand, 2021). The EPIWIN network developed a competency framework for infodemic management that can assist institutions in strengthening their infodemic management capacity. The framework is conceptualized around the five workstreams for infodemic preparedness and response along the epidemic curve, analogous to an epidemic response, as it can be observed in Figure 3 (Briand, 2021).

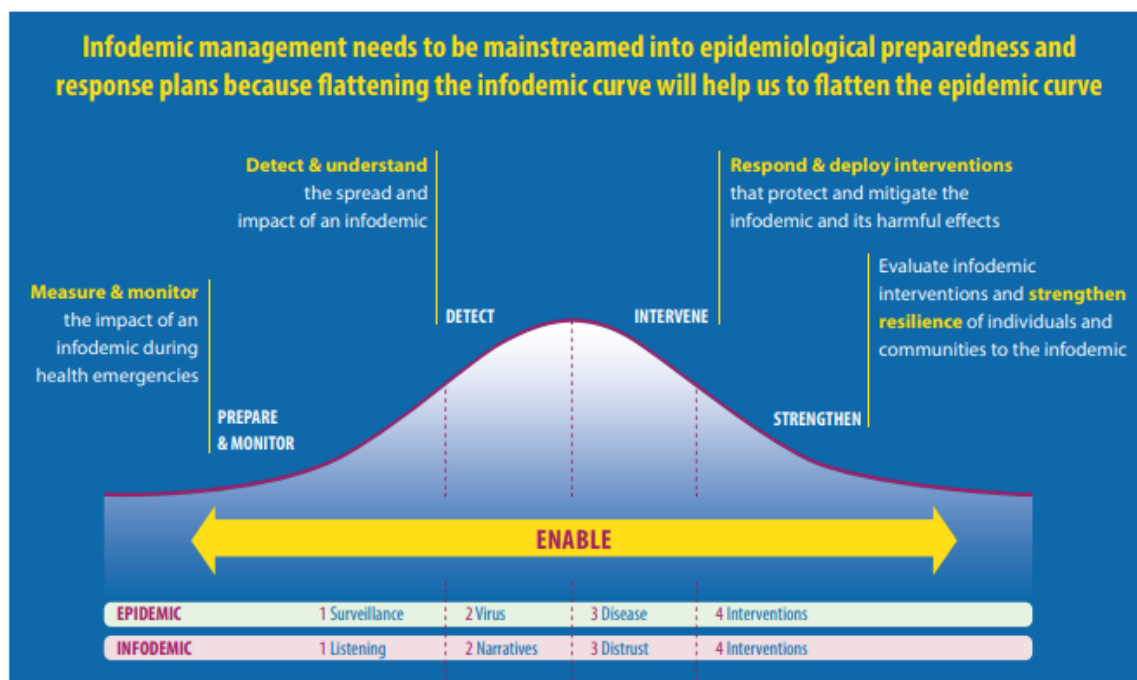


Figure 3 - The five workstreams in the epi curve of an infodemic response, analogous to the epidemic response (Briand, 2021)

The five workstreams of the framework are (Briand, 2021):

Workstream 1. Measure and monitor the impact of infodemics during health emergencies.

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The application of standardized metrics and tools is needed to track the evolution of infodemics among individuals, communities, societies, and health systems in both digital and physical information environments.

Workstream 2. Detect and understand the spread and impact of infodemics.

A common approach is needed to understand how information and mis/disinformation is spread and how it affects online and offline behaviour in different populations.

Workstream 3. Respond and deploy interventions that mitigate and protect against the infodemic and its harmful effects.

An evidence base is needed to identify effective interventions in different contexts and for different types of acute health events.

Workstream 4. Evaluate infodemic interventions and strengthen the resilience of individuals and communities to infodemics.

Standard evaluation frames are needed to improve the development of interventions and programmatic responses to infodemics.

Workstream 5. Enable, promote the development, adaptation and application of tools for the management of infodemics.

There is a need to enhance the transferability of lessons and evidence-based interventions between contexts, countries and infodemics

The competency framework also comprises four main domains:

1. Infodemic management – competencies in infodemiology;
2. Prepare and monitor - competencies in the use of effective tools to listen to target audiences and how to design and share appropriate health information;
3. Detect and intervene - competencies to design, implement and evaluate interventions to promote resilience to mis/disinformation and to empower individuals and communities to exercise their right to access quality health information;

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4. Strengthen - competencies to empower health systems to ensure healthier populations through better IM in health emergencies and in regular contexts (Briand, 2021).

This competency framework also has a set of related tasks, knowledge and skills needed to perform the activities presented under each main domain. This framework can be helpful in stopping the present and future infodemics (Briand, 2021).

Examples and analogies

[For each lesson plan please provide examples and analogies that show how the concept can be applied in real life, focusing on standards for quality and qualification within the two domains (IT and health and social science)]

Disinformation, Misinformation and Fake News in Teach-Out: <https://online.umich.edu/teach-outs/disinformation-misinformation-and-fake-news-teach-out/lessons/>

1. Some practical manners to discover fake news detection in the following article:

Saxena, A., Saxena, P., & Reddy, H. (2022). Fake News Detection Techniques for Social Media. *Smart Innovation, Systems and Technologies*, 246, 325–354. https://doi.org/10.1007/978-981-16-3398-0_15

2. Case study of fake news related to health:

Waszak, P. M., Kasprzycka-Waszak, W., & Kubanek, A. (2018). The spread of medical fake news in social media—the pilot quantitative study. *Health policy and technology*, 7(2), 115-118.

3. Sentiment Analysis on social media posts related to vaccination:

Melton, C. A., Olusanya, O. A., Ammar, N., & Shaban-Nejad, A. (2021). Public sentiment analysis and topic modeling regarding COVID-19 vaccines on the Reddit social media platform: A call to action for strengthening vaccine confidence. *Journal of Infection and Public Health*, 14(10), 1505–1512. <https://doi.org/10.1016/J.JIPH.2021.08.010>



Application and integration

[For each lesson plan please provide exercises and practical activities that will help students apply what they have learned about this concept. For this section non-formal activities are strongly advised to be used]

Consider how you've shared information lately: have you shared on a social media post? Emailed a news story to a family member? Had a conversation about a current event? Pick one example, then answer:

- Why did I think this was important to share or talk about?
- Did I review the social media post or a news story before sharing?
- Did I add any personal perspective?
- Who was my audience? How did I think they'd react to the story?

Please share your answer in the discussion section.

References for further information and areas on inquiries

[For each lesson plan please provide references and connected areas for students to further inquiry and read more about. There are 20hrs of individual work for the entire curriculum, which means 2.5 hours for each module, so 30 minutes for each lesson plan (if you decide to have 5 lesson plans). Books, scientific publications, and other activities connected with the topic of the modules can be offered as references in this section]

Wang, Yuxi, Martin McKee, Aleksandra Torbica, and David Stuckler. 2019. "Systematic Literature Review on the Spread of Health-Related Misinformation on Social Media." *Social Science & Medicine* 240 (November): 112552. <https://doi.org/10.1016/J.SOCSCIMED.2019.112552>.

Suarez-Lledo, Victor, and Javier Alvarez-Galvez. 2021. "Prevalence of Health Misinformation on Social Media: Systematic Review." *J Med Internet Res* 2021;23(1):E17187
<https://www.jmir.org/2021/1/E17187> 23 (1): e17187. <https://doi.org/10.2196/17187>.

Germani, Federico, and Nikola Biller-Andorno. 2021. "The Anti-Vaccination Infodemic on Social Media: A Behavioral Analysis." *PLOS ONE* 16 (3): e0247642.
<https://doi.org/10.1371/JOURNAL.PONE.0247642>.

Shahsavari, S., Holur, P., Wang, T., Tangherlini, T. R., & Roychowdhury, V. (2020). Conspiracy in the

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time of corona: automatic detection of emerging COVID-19 conspiracy theories in social media and the news. *Journal of Computational Social Science* 2020 3:2, 3(2), 279–317.

<https://doi.org/10.1007/S42001-020-00086-5>

Saxena, A., Saxena, P., & Reddy, H. (2022). Fake News Detection Techniques for Social Media. *Smart Innovation, Systems and Technologies*, 246, 325–354. https://doi.org/10.1007/978-981-16-3398-0_15

Briand, S. (2021). *WHO competency framework Building a response workforce to manage infodemics*. <https://www.who.int/publications/i/item/9789240035287>



Lesson plan 3: Gamification and social media

Foundational knowledge

[For each lesson plan please include a detailed explanation of the concepts, theories, models, terminology, principles, and methods being currently used related to the concept explained in this lesson plan. In doing so please create synergies within the two domains (IT and health and social science) to create mutual understanding among students]

Game-playing, in general, is characterized by its voluntary nature, a set of goals, and predetermined rules that limit the scope of one's activity. Following this same concept, gamification is an emerging area of research and practice that incorporates game design elements in a non-gaming context to engage better and motivate consumers (Garett and Young 2018).

Most of the research on games and health has focused on their potential for harm. Exposure to violent games has been related to aggressive behaviors, desensitization to violence, and decreased pro-social behavior. However, more data is suggested to be achieved for better conclusions (Ferguson, Copenhaver, and Markey 2020).

Games also have been associated with (Primack et al. 2012):

- Inactivity and development of obesity
- Game addiction
- Seizures
- Motion sickness
- Musculoskeletal pain related to computer and video game use

However, there is research showing that games are being used to improve health outcomes by:

- increasing physical activity, and therefore to reduce obesity (Sween et al. 2014)
- distracting patients from acute/chronic pain (Primack et al. 2012)
- educating on self-management for different diseases such as asthma, cancer and diabetes (Gentry et al. 2019)
- training different medical professions (e.g surgeons) (Primack et al. 2012; Gentry et al. 2019)

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Researchers in the gamification field suggested that gamification needs to be tailored according to the target audience and developed a taxonomy for the best game elements to be used in gamification, as shown in Figure 2 (Toda et al., 2019).

Concept	Description	Affected Behaviour
Acknowledgement	All kind of feedback that praises the players' specific actions. Some examples and synonyms are badges, medals, trophies.	Engagement
Chance	Randomness and probability characteristics to increase or decrease the odds of certain actions or outcomes. Some examples and synonyms are randomnesses, luck, fortune.	Engagement
Competition	When two or more players compete against each other towards a common goal. Some examples and synonyms are Player vs Player, scoreboards, conflict.	Engagement Motivation
Cooperation	When two or more players collaborate to achieve a common goal. Some examples and synonyms are teamwork, co-op missions.	Motivation
Economy	Transactions within the game, monetising game values and other elements. Some examples and synonyms are markets, transaction, exchange.	Engagement
Imposed Choice	Decisions that the player is obliged to make in order to advance the game. Some examples and synonyms are judgements, forced choices. (<i>not to be confused with Narrative</i>).	Engagement Motivation
Level	Hierarchical layers present in a game, which provide a gradual way for the player to obtain new advantages as they advance. Some examples and synonyms are character levels, skill level.	Engagement
Narrative	Order of events where they happen in a game. These are choices influenced by the players' actions. Some examples and synonyms are the strategies the player uses to go through a level (stealth or action), also the good or bad actions that influence the ending, karma system. (<i>not to be confused with Imposed Choice</i>).	Motivation
Novelty	New, updated information presented to the player continuously. Some examples and synonyms are changes, surprises, updates.	Engagement Motivation
Objectives	Guide the players' actions. Quantifiable or spatial, from short to long term. Some examples and synonyms are missions, quests, milestones.	Engagement Motivation
Point	Unit used to measure users' performance. Some examples and synonyms are scores, number of kills, experience points.	Engagement
Progression	This allows players to locate themselves (and their progress) within a game. Some examples and synonyms are progress bars, maps, steps.	Engagement
Puzzles	Challenges within the game that should make a player think. Some examples and synonyms are actual puzzles, cognitive tasks, mysteries.	Engagement
Rarity	Limited resources and collectables. Some examples and synonyms are limited items, rarity, collection.	Engagement
Renovation	When players are allowed to redo/restart an action. Some examples and synonyms are extra life, boosts, renewal.	Engagement
Reputation	Titles that the player accumulates within the game. Some examples and synonyms are titles, status, classification.	Engagement Motivation
Sensation	Use of players' senses to create new experiences. Some examples and synonyms are visual stimulation, sound stimulation.	Engagement
Social Pressure	Pressure through social interactions with another player (s) (playable and non-playable). Some examples and synonyms are peer pressure, guilds.	Engagement Motivation
Stats	Visible information used by the player, related to their outcomes within the game. Some examples and synonyms are results, health bar, magic bar, HUD, indicators, data from the game presented to the user.	Engagement
Storytelling	It is the way the story of the game is told (as a script). It is told within the game, through text, voice, or sensorial resources. Some examples and synonyms are stories told through animated scenes, audio queues or text queues during the game.	Engagement
Time Pressure	Pressure through time within the game. Some examples and synonyms are countdowns, clock, timer.	Engagement Motivation

Figure 3 – Taxonomy of game elements for gamification (Toda et al., 2019)

One aspect mentioned about gamification is the need to use more evidence-based theory-driven empirical evaluations of the gamified solutions (Gentry et al. 2019; Sardi, Idri, and Fernández-Alemán 2017; Cotton and Cotton and Patel 2018).

Case study: What elements should be used for gamification in the virtual learning environments

Tenório M.M., Reinaldo F.A.F., Góis L.A., Lopes R.P., dos Santos Junior G. (2018) Elements of Gamification in Virtual Learning Environments. In: Auer M., Guralnick D., Simonics I. (eds) Teaching and Learning in a Digital World. ICL 2017. Advances in Intelligent Systems and Computing, vol 716. Springer, Cham. https://doi.org/10.1007/978-3-319-73204-6_12

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Examples and analogies

[For each lesson plan please provide examples and analogies that show how the concept can be applied in real life, focusing on standards for quality and qualification within the two domains (IT and health and social science)]

Examples of gamification in health:

Fitness and nutrition – preventive measures:

1. [FitBit](#) - common challenges can be set up through the Fitbit community interfaces and how competition could motivate better gym performances and step counts
2. [Fitness Syncer](#) - collects data from trackers and apps we already use to allow friends to compare one another's progress
3. [CafeWell](#) – gives guidance and support to people who want to live healthier lives. Its personalized programs focus on your own needs to eat better, incorporate exercise into your life, reduce stress, or walk that extra mile.
4. [Vivofit jr.](#) - encourages kids to stay on the move.
5. [My Fitness Pal](#) – manages nutritional data

Management of diseases:

1. [Mango Health](#) - motivate patients to take their medications on time. Users set the times when medications should be taken, and the app reminds them. It also provides information about the medications and warns about drug interactions and side effects. Users earn points towards gift cards or charitable donations in raffles held weekly by taking the medications properly.
2. [Bayer's Didget blood glucose meter](#) - which connects to a Nintendo DS gaming platform, is intended for kids between 4 to 14. It helps manage their diabetes by rewarding them for consistent blood glucose testing. As points accumulate, new game levels and options unlock. There are leader boards with kids who collected the most points, web games and an online community.

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3. [MySugr](#) - gamified solutions for diabetes management in a fun way both for children (mySugr Junior app) and adults.
4. [Monster Guard](#) - helping prepare children for emergencies. It teaches kids through "Monster Guard Academy" how to prepare and stay safe during home fires, hurricanes, floods or other disasters, and they get points and medals for completing tasks.
5. [Cohero Health](#) – help asthma patients with their medication and treatment
6. [Medi&Cate](#) – offer a range of stimulating games for medication adherence

Rehabilitation:

1. [SCI Hard gaming app](#) developed by the University of Michigan. Gamified therapies could help in making rehabilitation more fun, stretching abilities playfully and divert attention from pain.
2. [GestureTek Health](#) - applications specific to health, disability, and rehabilitation. Its VR exercise programs enable patients to have fun while stretching their physical and cognitive capabilities.
3. [MindMaze](#) – devices which use virtual reality, brain imaging and gaming technologies to retrain the brain in stroke victims. It also works on solutions for spinal cord injury and amputee patients.

Coping and improving health

1. [Re-mission game series](#) - helping children and young adults suffering from various forms of cancer (Kato et al. 2008)
- 2 [Ayogo](#) - employs validated measures of perceived self-efficacy and other psychosocial factors to understand better what people value in their lives – not just their health. This enables timely, personalized and relevant interventions aimed at enhancing self-management and improving health outcomes.

Mental health

1. [Eqoo](#) – mental health app to grow resilience, improve relationship skills and increase mental well-being.



2. [Balance](#) – offers personalized meditation to improve mental health.
3. [Headspace](#) – offers meditation and mindfulness techniques to relieve stress.
4. [MindShift](#) – uses CBT (cognitive behavioral therapy) to help people living with anxiety.

Application and integration

[For each lesson plan please provide exercises and practical activities that will help students apply what they have learned about this concept. For this section non-formal activities are strongly advised to be used]

Use gamification to design a health app to increase the sexual education among teenagers. What are specific and mandatory the elements that the app should contain?

References for further information and areas on inquiries

[For each lesson plan please provide references and connected areas for students to further inquiry and read more about. There are 20hrs of individual work for the entire curriculum, which means 2.5 hours for each module, so 30 minutes for each lesson plan (if you decide to have 5 lesson plans). Books, scientific publications, and other activities connected with the topic of the modules can be offered as references in this section]

All articles and websites referenced above

Tenório M.M., Reinaldo F.A.F., Góis L.A., Lopes R.P., dos Santos Junior G. (2018) Elements of Gamification in Virtual Learning Environments. In: Auer M., Guralnick D., Simonics I. (eds) Teaching and Learning in a Digital World. ICL 2017. Advances in Intelligent Systems and Computing, vol 716. Springer, Cham. https://doi.org/10.1007/978-3-319-73204-6_12

Toda, A. M., Oliveira, W., Klock, A. C., Palomino, P. T., Pimenta, M., Gasparini, I., Shi, L., Bittencourt, I., Isotani, S., & Cristea, A. I. (2019). A taxonomy of game elements for gamification in educational contexts: Proposal and evaluation. *Proceedings - IEEE 19th International Conference on Advanced Learning Technologies, ICAALT 2019*, 84–88. <https://doi.org/10.1109/ICALT.2019.00028>

DeSmet, Ann, Ross Shegog, Dimitri van Ryckeghem, Geert Crombez, and Ilse de Bourdeaudhuij.

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2015. "A Systematic Review and Meta-Analysis of Interventions for Sexual Health Promotion Involving Serious Digital Games." *Https://Home.Liebertpub.Com/G4h* 4 (2): 78–90. <https://doi.org/10.1089/G4H.2014.0110>.



Lesson plan 4: Developing a Social Media Strategy

Foundational knowledge

[For each lesson plan please include a detailed explanation of the concepts, theories, models, terminology, principles, and methods being currently used related to the concept explained in this lesson plan. In doing so please create synergies within the two domains (IT and health and social science) to create mutual understanding among students]

In global health and development, social media can be used in many ways:

1. Disseminate vital health information and research, such as the [World Health's Organization Facebook page](#), which has constant events such as [World Health Organization's live Q&A on Facebook announcing the updated 2015 Medical Eligibility Criteria](#) or the [Live Briefing of COVID-19](#)
2. Create a community of practice around a specific topic, such as Global Health (via [Meetup](#)), an online social networking site that facilitates offline local "meet-ups")
3. Connect with other professionals on closed or open Facebook Group for medical laboratory scientists
4. Track and monitor disease outbreaks, such as the use of [social media during the Ebola crisis](#) and COVID-19 pandemic (Topf & Williams, 2021)
5. Advocate for change, such as the #BringBackOurGirls or #MeToo campaign
6. Promote individual and/or organizational accomplishments and knowledge
7. Expand on fundraising efforts

Individuals and organizations participate in social media for a range of reasons. Some use social media as a platform to engage with others who share a concern or passion in hopes of learning how to do it better. As they interact regularly, they ultimately create a community of practice. Others use social media as a way of pushing information forward about a topic they care about.

Below we provide a list of resources for those interested in participating in global health communities of practice specifically and in developing social media content in general.



Communities of Practice

- [+Social Good](#): This is a global community where people share world-changing ideas and spark action via social media. The group also hosts the annual +Social Good Summit, a two-day conference held during United Nations Week.
- [SM4GH Working Group](#): Social Media for Global Health connects those working in global health development and social media.

Resources for developing good social media content

- **Social Media Toolkits**: A social media toolkit or packet that allows to share social media campaigns with others. Social media toolkits provide others with a campaign @ and #, sample Tweets and Facebook updates, and visuals/infographics to share, as well as a schedule of events. For example, [End Malaria](#) develops a social media toolkit annually for [World Malaria Day](#)
- [Bit.ly](#): Many social media platforms have limits that restrict the number of characters per posting. Consider free URL (or website address) shortening services such as a bit.ly to maximize relevant content.
- **Photo Editing**: Photo-editing programs, such as Photoshop, [PicMonkey](#), and [Canva](#) can help create captivating visual content.
- **Infographics**: Great visual content comes in the form of infographics (visual images with illustrations, charts, or diagrams to represent information or data). Programs like [Piktochart](#), [Canva](#), [Infogr.am](#) and [Visual.ly](#) can help create illustrative infographics.

Social media's popularity consists of its accessibility: it is easy to use and is free in most parts of the world. With the potential for people to connect, express, learn, engage, and act with the simple push of a button, the power of social media is undeniable.

Social media most easily fits into the communications and dissemination activities within projects or organizations. The actual social media posts can be a joint effort, but management and strategy should be centralized within the communications staff. Developing a social media strategy and budget allows social media to be easily integrated into programmatic work plans and proposals.

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Creating a Social Media Strategy

One of the first considerations for an organization or project is to develop a social media strategy. This will help determine how involved they will be in social media and the expected outputs. Every organization has different needs and different audiences that will impact the development of the strategy.

A well-developed strategy includes the following nine steps:

1. Goals and objectives to match the communication or dissemination strategy
2. Identification of audience
3. Selection of appropriate social media platforms based on goals and audience
4. Definition of metrics and data collection tools to reach goals and objectives
5. Content management guidelines for staff
6. Adoption of a follower policy
7. Social media budget
8. Benchmarking
9. Considerations for maintaining security and privacy

Once the organization or project has a strategy policy in place, it is recommended to review it each year to see if the needs and audiences have changed over time.

Step 1 - Step 1: Define Goals and Objectives

Consider the following questions:

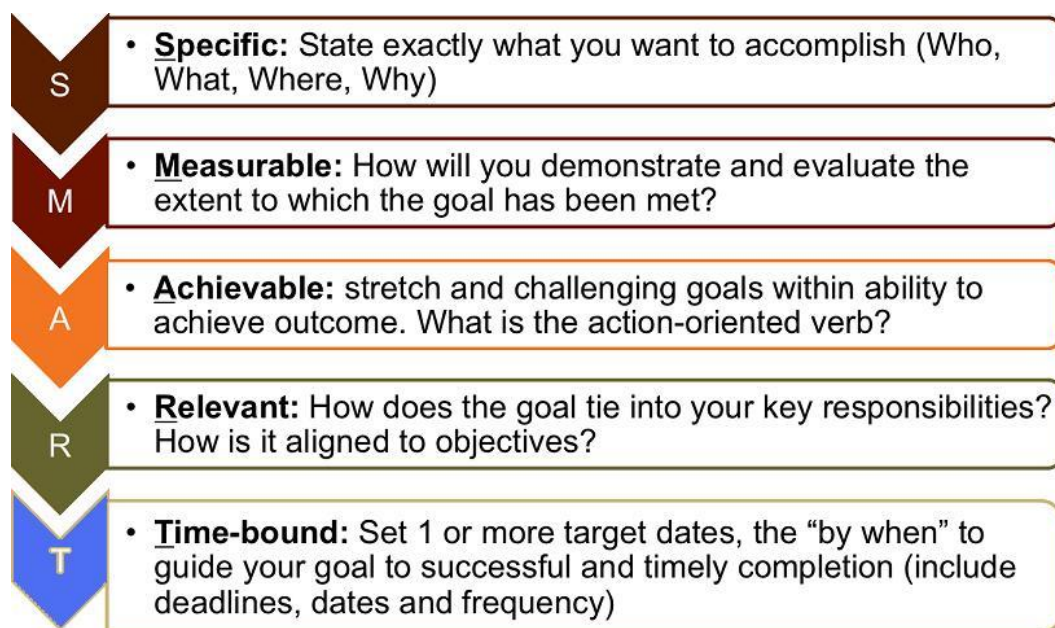
- Does the organization have a mission and programmatic goals? How can social media help the organization meet that mission or increase brand awareness?

- Does the organization have donors or other stakeholders? How can social media be used to improve or establish relationships with these stakeholders? Will social media be used for fundraising?
- Does the organization advocate for policy or behavior change? How can social media increase actions or behaviors?
- Does the organization produce publications and resources on a global health and development topic? How can social media be used to reach different stakeholder groups with the relevant information?

Answers to these questions can guide in developing social media goals. These goals should clearly define what it is hoped to be achieved through social media. Goals are broad principles that guide decision-making. *An example would be: To increase brand awareness of my organization in 2022.*

Objectives are specific and describe how the determined goals will be reached. If the goal is to increase brand awareness, the objective could be: *To increase fans on Facebook by 5% through two awareness campaigns in 2022.* In order to be able to measure if the objectives are achieved, they should be [SMART](#).

Figure 4 is conveying what S.M.A.R.T. means.



Source: <https://fuhsharon.wordpress.com/2015/09/09/why-have-smart-objectives-in-a-social-media-marketing-plan/>



S stands for Specific - The objective should say who or what is the focus of the effort and what type of change is intended.

M stands for Measurable - The objective should include a verifiable amount or proportion of change expected.

A stands for Achievable - The objective should be feasible and easy to put into action

R stands for Realistic - The objective should include a degree of change that can reasonably be achieved under the given conditions.

T stands for Time-bound - The objective should clearly state the time period for achieving these behavior changes

Step 2: Identify the audience

Consider the following questions:

- Who is the organization trying to reach?
- Where can they be found on social media?

It is important to understand the audience, what platforms they are already using, and how your organization is currently connecting with them. Once the audience is known, information on where to target them on various platforms and how to allocate resources is needed.

There are two main types of audiences:

- **Local:** May include students and faculty from a local university, journalists, community members, program managers at local NGOs, or private groups such as clients or a community of practice.
- **International:** May include donors, cooperating agencies such as NGOs, Ministry offices and officials, policy makers, or a community of practice.

Below are some strategies for identifying the social media audience:

- Develop a list of various stakeholders, individuals, and groups that influence your organization and mission.

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- Search for their social media accounts and follow, like, or subscribe.

Once the audience is identified, the social media content should be tailored to different audience segments. It is important to remember that social media campaigns will attract other audiences who may not have considered beforehand.

Step 3: Select the platforms

Now that the audience was identified, social media platforms need to be selected. Channels include Facebook, Twitter, WhatsApp, LinkedIn, Pinterest, Tik Tok, YouTube, and more.

Consider the following questions before selecting the social media platform(s):

- Where does the audience connect: Via text, mobile app, or online social media platforms?
- Which platforms does the audience use?
- How much time needs to be committed to each platform?
- Are you able to monitor and provide ongoing feedback, support, and participation?

Some helpful resources include the following:

- [Conversation Prism 5.0](#) - is a visual map of social media platforms with categorizations of platform functionalities and purposes.
- [Statista](#) – shows real time statistics of social media platform use.
- [Buffer Analyze](#) is a social media analytics tool for online brands that want to make better decisions about their social media strategy and measure their results without feeling overwhelmed.
- [Sprout Social](#) is a comprehensive social media management and monitoring tool that provides a host of enterprise-level options.
- [Hootsuite](#) is a great combination of social media management, listening, publishing and analytics tools.

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- [Zoho Social](#) is a unique and powerful software suite with CRM, collaboration, and other SaaS options that take care of your entire operational workflow.
- [Sendible](#) is a social media management tool with considerable monitoring, listening, and reporting features.
- [Keyhole](#) offers various trackers that help you monitor your events, campaigns, influencer activity, brand mentions, and industry-specific social conversations.
- [Rival IQ](#) lets you track a number of different companies and compare their performance across social media platforms and SEO.
- [Social Report](#) - provides an overview of your activity on multiple social networks and blogs (Read, 2021).

Remember that sometimes not using a specific technology is fine. Do not get caught up in being on every social media platform. Start out small on Facebook and/or Twitter or any other relevant platform in your country. As you learn more about your audience, build other social media platforms to meet them.

Step 4: Define the Metrics and Data Collection Tools

Measurement of social media activity allows your organization to understand and improve your social networks. Key performance indicators (KPIs) are metrics that are most important for charting progress toward your SMART goals and objectives.

Many social media platforms as well as social media management systems (SMMS) provide their own analytics. It is essential to keep track of how activity is measured. A great way to start is to create a spreadsheet to monitor and report.

Collect the data, analyze the data, turn what you have learned from your data into action, and start measuring again. Collect data in regular weekly or monthly increments.

Step 5: Develop Content Management Guidelines

It is important to create simple guidelines for staff members regarding what is appropriate to post, an overview of privacy and legal issues, and general rules about using social media during office hours. These guidelines should address the following:

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- Outline the tone of your organization's social media content. It is essential to remain professional, accurate, and respectful but also personable and accessible. Be prepared to accept and respond to comments. Understand that some comments may not be positive, and respond to negative comments professionally by providing additional information that may help resolve the issue.
- What is the frequency of social media messages? This will depend on the channel and what content your organization has to use. Keeping a calendar of important campaigns and dates is an easy way to organize your organization's social media efforts.
- One of the great benefits of social media is sharing information almost instantly with a global audience. This timeliness is also one of the expectations of the audience. Set guidelines as to when staff must respond to user comments and questions, both during and outside office hours. There will be exceptions to this timeframe, as some comments may require immediate response.
- Social media requires that your organization follow and engage other similar global health and development agencies. This engagement allows your organization to participate in global conversations. Set guidelines on who your organization will not follow or endorse, such as politicians, vendors, and advertisements for other companies.
- Most social media channels allow you to select your username and an avatar. Your organization will want to have the same name and a consistent look and feel across all social media channels, otherwise known as branding.

Step 6: Adopt a Follower Policy

It is important that the social media channels accept feedback and comments. Your organization should be courteous and professional in your messaging and ask that users do the same.

Usually, disagreement is welcomed on social media to foster engagement and discussion. Your organization may maintain a specific position but can also respect different viewpoints if they are presented in a civilized manner. Comments on social media platforms should go through a moderation process and should be posted provided that they do not contain content that is abusive, uses offensive language, is off-topic, or is obviously spam.

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It is also important to set guidelines for staff on what you will not address, such as financial matters or other elements of your business.

Step 7: Create a Budget

Although signing up for various social media platforms is free, there are costs involved in maintaining, managing, and measuring your efforts. Therefore, a budget must be created to cover the following:

- **Staff time/labor:** At least one person should be dedicating 33%-100% of his/her time to social media.
- **Technology and equipment:** Items such as a computer, smartphone, and internet access are essential for participating in social media.
- **Advertisements or ads:** Platforms such as Facebook have made it difficult to reach your audience without spending money on advertisements. Ads can be as cheap as \$5 to reach your followers. Platforms such as Twitter, LinkedIn, Instagram, and Pinterest also have ads available.
- **Social Media Management System (SMMS) monthly fees.**
- **Other relevant social media tasks:** Other costs to consider could include a graphic designer to develop visuals and infographics for social media platforms, or funds needed to create videos for YouTube.

Step 8: Benchmark the organization

Measurement is a comparative tool, so to measure success the organization should be compared to a benchmark or peer organization that is performing well.

Example: Facebook Insights allows you to do this with the "Pages to Watch" function. Facebook Page admins can see how their own page compares to others in terms of new likes, posts, and engagement. Moreover, the "Insight" function that most social media pages offer (Facebook, Instagram, Tik Tok, Youtube, Twitter – all have them) helps your organization see the metrics of the posts and decide what is the benchmark of the organization.

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Step 9: Manage Security and Privacy

It is important to keep a secured master list of social media logins and passwords to make sure passwords are safe and secure. This should only be shared with people who will need this information. In the event someone working on social media for your organization leaves, it is a good practice to change all passwords to not allow them to access the organization's accounts once they leave.

Some organizations don't allow staff to use Facebook or other social media platforms during working hours. Work with your IT staff to ensure that the key people working on social media within your organization have permission on their computers and/or smartphones to utilize social media.

What if you or someone in your organization wants to use their personal Facebook account to represent the organization? Keep in mind that there is a fine line between personal and professional in the social media sphere. Set guidelines for staff. For example, if a staff member wants to put his/her job title and represent your organization on Facebook or any other social media, this is okay as long as he/she follows the guidelines set by the organization. For example, you do not want a staff member to tweet points of view that conflict with your organization's stated goals.

For more information on managing security and privacy, review this [Pinterest board of various companies' social media policies](#) or other [social media policy examples](#) from more than 100 companies.

Measuring Social Media Success

A social media management system (SMMS) is an online management tool that integrates various social media platforms into one dashboard. You can schedule messages, monitor metrics, view conversations, and allow multiple staff to work within the SMMS to manage workflow.

When choosing a SMMS, it is important to consider costs. SMMS vary from free to expensive. When choosing an SMMS, consider the following:

1. Size of your organization (small, medium, or large)
2. Optimal integration of all your social media platforms

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3. Your organizational budget

SMMS examples include [HootSuite](#), [Sprout Social](#), [Buffer](#), and [TweetDeck](#), and new ones keep popping up every day.

It is easy to get overwhelmed with the amount of data available via SMMS and other analytics sites. How can you start measuring your social media activity? By keeping it simple.

- Determine the frequency of your data collection (weekly or monthly).
- Do not collect more than seven data points per social media platform.
- Start small with manageable measures such as followers and mentions, plus an Excel Spreadsheet for keeping track.
- Ask questions such as, "What went wrong? What went right?"
- Provide recommendations for improvement for future social media efforts.

Beth Kanter describes the [Crawl, Walk, Run, Fly Model of social media practice and measurement](#). Each level is a small but strategic step to becoming a networked and data-informed organization. The crawl, walk, run, fly hierarchy demonstrates that the process to becoming a data-informed organization takes time, but in the end helps an organization determine what type of measurement it is ready to implement.

Examples and analogies

[For each lesson plan please provide examples and analogies that show how the concept can be applied in real life, focusing on standards for quality and qualification within the two domains (IT and health and social science)]

Michelle, Karen, Emily S Borleis, Linda Brennan, Mike Reid, Tracy A McCaffrey, and Megan SC Lim. 2018. "What People 'Like': Analysis of Social Media Strategies Used by Food Industry Brands, Lifestyle Brands, and Health Promotion Organizations on Facebook and Instagram." *J Med Internet Res* 2018;20(6):E10227 <https://www.jmir.org/2018/6/E10227> 20 (6): e10227.

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<https://doi.org/10.2196/10227>.

How to Use Social Media in Healthcare: A Guide for Health Professionals:

<https://blog.hootsuite.com/social-media-health-care/>

8 Exceptional Examples of Social Media Marketing in Healthcare:

<http://education.healthcaresource.com/social-media-marketing-healthcare/>

The World's Best Public Health Social Media Campaigns:

<https://www.bangthetable.com/blog/public-health-social-media-campaigns/>

Application and integration

[For each lesson plan please provide exercises and practical activities that will help students apply what they have learned about this concept. For this section non-formal activities are strongly advised to be used]

Develop a social media strategy for a healthcare organization following all the steps presented in the lesson.

TBD Develop a 1-pager handout with a summary of all the steps and a checklist for them to use when working on this application? – TO DISCUSS THIS IN THE IMPLEMENTATION PHASE

References for further information and areas on inquiries

[For each lesson plan please provide references and connected areas for students to further inquiry and read more about. There are 20hrs of individual work for the entire curriculum, which means 2.5 hours for each module, so 30 minutes for each lesson plan (if you decide to have 5 lesson plans). Books, scientific publications, and other activities connected with the topic of the modules can be offered as references in this section]

Measuring the Networked Nonprofit - <https://www.youtube.com/watch?v=G7Lu3JfrWSM> and <https://bethkanter.org/>

Social Media Monitoring and Evaluation eBook: <http://digital-liaisons.icad-cisd.com/wp-content/uploads/03-CBA-Social-Media-ME-eBook.pdf>

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4. Appendices

[In the appendix, it can be useful to share your sources and list the documents used as in a bibliography. Please cite any information sources using the APA citation style]

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