# Management of Patient Information and Privacy Protection

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**Abstract:** Developments in science and technology have led to globalization in today's world. Moreover, the developments have gone far beyond the concepts of time, space, and person; they have started to reach people rapidly and easily, with individuality being reduced to a minimum. Thus, the boundaries on individuals' life/space and the values/elements belonging to this space have become transparent. The healthcare field has also taken its large share from these technological developments, and the use of information technologies in the healthcare field has gradually increased. Instant access to medical information has provided a rapid acceleration in the ease of information exchange and care quality. However, this emerging picture of transparency has brought certain concerns about privacy and privacy violations. The concept of patient rights, which had begun being discussed alongside the adoption of the Declaration of Human Rights, also embodies many significant principles such as respect for human dignity, receiving patient approval in medical interventions, privacy, and respect for one's personal life. Therefore, preventing these emerging concerns and protecting data about individuals' private lives have become quite important.

The ethical requirements begun with the Hippocratic Oath have gained strength alongside the laws states have enacted about this issue, as well as the suggestions offered by various organizations and communities toward patient confidentiality and privacy. In Turkey, activities of units established on this issue have been developing gradually since the Patient Rights Code came into effect (1998).

Protecting individual rights and patients' benefits is one of the primary responsibilities of healthcare professionals. In this context, healthcare professionals essentially must activate patient autonomy by providing privacy and confidentiality during the care and treatment process. Autonomy, which is an important part of patient-centered care, is also a basic need and necessity.

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## Confidentiality of Patient Medical Records

Limiting the transfer of information patients provide to the healthcare professionals providing them care and receiving clear and precise approval with a specific reason for being able to share this information in necessary cases underlie the concept of confidentiality in medicine. Without confidentiality, patients have nothing to gain in providing doctors/nurses with real and complete data about their subjective information. Therefore, confidential communication is the basis established between healthcare professionals and patients. In this context, healthcare professionals have no stake in sharing patient data without the patient's approval. However, cases that arise from a patient's medical condition are not included in this issue. Despite all the precautions taken and attention shown, individuals are seen to give different reactions on the point of having their information shared. Clearly certain factors will be effective on this point, such as establishing a relationship of mutual trust, strengthening the belief that information will remain anonymous, providing individual autonomy, and not exposing the patient to embarrassing practices.

Patient data involve not only the objective observations, diagnoses, and test results, but also certain subjective data such as the individual's life style and habits. Therefore, disclosing this information leads to reputational loss and certain material and moral consequences for individuals. Protecting confidentiality under all conditions will prevent the potential of unintentional disclosure. Educating healthcare professionals on this issue so that this protection of confidentiality is also maintained when the patient is not receiving any treatment from the doctor is quite important.

## Information Transfer and the Place of Technology

The concerns and worries raised by health information technologies regarding confidentiality and privacy violations are as remarkable as the advantages they provide. The use of these technologies is seen to have become widespread, especially in tele-medicine/tele-healthcare, electronic medical records, electronic clinical support systems, and online medical records. A great duty and responsibility has fallen upon healthcare professionals to eliminate the potential disadvantages in using these resources.

***Electronic Medical Records.*** The electronic medical systems used today by many healthcare institutions have given access to many patients' data. This met-

hod, which is a confidential and reliable practice, reduces medical error risks to a minimum in portability, systematic drug therapies, communication between healthcare personnel, and drug examinations. Nevertheless, these systems' specific qualities, such as correct prescriptions, legible information, remote access to information, and reminders on preventing disease are their advantages. Many countries perform their studies effectively on presenting medical information in a confidential and reliable environment. In particular, the Health Informatics Committee has been conducting certain studies on patient data usage over electronic mediums. In addition, the World Health Organization has attached quite a lot of attention and importance to this issue.

Although certain legal regulations exist about protecting the confidentiality of patient data, the concerns and worries on this issue still continue. Healthcare professionals have certain rights, such as monitoring, copying, or making change to patient data. Nevertheless, they are also responsible for all kinds of legal processes that can arise. Therefore, the key element in providing and maintaining confidentiality will be to give authorized personnel access to these records. Many systems are seen to have been used for providing this authorization, such as passwords, fingerprints, retinal scanning, and face detection.

*Internet*. The Internet, which has gained power since the 20th century, has become an important communication network. Especially along with the recent usage of small-scale and mobile devices such as smart phones, tablets, and iPads, access to the Internet and therefore to information has become quite easy. Today, the great majority of individuals who struggle with serious diseases are seen to use the Internet as their source of information. A portion of patients and doctors have also been indicated to consider the Internet as a proper source in accessing reliable information. The proliferation of smart phones is known to have increased the use of the Internet in many fields, such as in education, disease diagnosis/management, and drug therapy. Many methods, such as e-mail, texting and call systems, are understood to be in use in the health field.

*Social Media.* Developments in Internet and mobile technologies have led to changes on many issues, such as access to information, establishing communication, and sharing information/experiences; it has also led to the emergence and proliferation of social media tools. When examining performed studies, more than half of the patients are seen to use social media platforms for searching for health problems, doctors, and treatment options. Patients are additionally known to play an active part in social media for many purposes, such as sharing their feelings

and opinions and being able to communicate with doctors. Doctors' preferences on using this platform is more for sharing clinical experiences, communicating with colleagues, and conducting health advocacy. However, social media platforms are a serious potential risk for confidentiality violations. Protecting the confidentiality of patient information is also a responsibility for healthcare professionals.

*Tele-Medicine.* Tele-medicine, which has been a part of the healthcare system since the 1970s, is a system that allows healthcare to be received from a distance by patients who have limited access to care due to living in rural areas or other various reasons. It has been identified as quite effective in conducting patient follow-ups and benefitting from clinical results, especially in the post-operative period. This system, which provides savings in time and distance traveled, has been noted to make a noticeable contribution to medicine education and to be quite effective at benefitting from clinical results. However, certain concerns exist about tele-medicine weakening the doctor-patient relation, reducing the quality, causing security problems, and negatively affecting care quality. Confidentiality violations have been noted to frequently occur in this method by watching visual and audio data intentionally or unintentionally. Receiving verbal and/or written signed informed consent is required from patients, or in special conditions, from the patient's relatives.

*E-Mail.* Along with the development of online network systems, the doctor-patient relation that had been conducted face to face has been replaced by virtual mediums. Virtual mediums have been noted to increase the harmony in patient-doctor relations, patient education, and follow-ups. E-mail being one of the oldest electronic communication methods is also a dynamic and affordable method. It has advantages such as providing doctors with the opportunity to answer their patients over a longer period of time. However, because e-mail is not a system designed especially for medical use, transferring data to the electronic medium becomes difficult. Moreover, because data are not encoded properly, sharing data by either the doctor or the patient becomes a danger due to certain risks such as hacking the virtual medium or inadequate security precautions.

As a result; the developments in science and technology have also led to changes and advancements in medical information technologies. These involve many potential advantages such as quick access to health information, faster and easier information exchange, and increased quality in treatment and care. Although these developments provide many advantages to the healthcare system, they are also seen to bear many potential risks and obstacles such as confidentiality and privacy

violations. In this context, the needs to take preventive precautions, to develop proper systems, to make education plans, and to adopt an institutional policy have arisen yet again.

## Kaynakça | References

Abdekhoda, M., Dehnad, A. ve Khezri, H. (2019). The effect of confidentiality and privacy concerns on adoption of personal health record from patient's perspective. *Health and Technology, 9,* 463-469.

Abdelhamid, M., Gaia, J. ve Sanders, G. L. (2017). Putting the focus back on the patient: How privacy concerns affect personal health ınformation sharing intentions. *Journal of Medical Internet Research, 19*(9), 1-12.

American College of Surgeons. (2016). *Confidentiality of medical records.* https://www.facs.org/about-acs/statements/stonprin adresinden 13.04.2019 tarihinde erişilmiştir.

American Medical Association. (2019). *Professionalism in the use of social media.* https://www.ama-assn.org/delivering-care/ethics/professionalism-use-social-media adresinden 13.04.2019 tarihinde erişilmiştir.

Antoun, J. (2016). Electronic mail communication between physicians and patients: A review of challenges and opportunities. *Family Practice, 33*(2), 121-6.

AORN. (2019). *Information management.* https://www.aorn.org/guidelines/about-aorn-guidelines/evidence-tables adresinden 13.04.2019 tarihinde erişilmiştir.

Asiri, A., AlBishi, S., AlMadani, W., ElMetwally, A. ve Househ, M. (2018). The use of telemedicine in surgical care: A systematic review. *Acta Informatica Medica, 26*(3), 201-206.

Beltran-Aroca, C. M., Girela-Lopez, E., Collazo-Chao, E., Montero-Pérez-Barquero, M. ve Muñoz-Villanueva, M. C. (2016). Confidentiality breaches in clinical practice: what happens in hospitals? *BMC Medical Ethics, 17*(1), 1-12.

Beltran-Aroca, C. M., Labella, F., Font-Ugalde, P. ve Girela-Lopez, E. (2019). Assessment of doctors' knowledge and attitudes towards confidentiality in hospital care. *Science and Engineering Ethics, 25*(5), 1531-1548.

Blake, J. H., Schwemmer, M. K. ve Sade, R. M. (2012). The patient-surgeon relationship in the cyber era: Communication and information. *Thoracic Surgery Clinics, 22*(4), 531-538.

Chaet, D., Clearfield, R., Sabin, J. E. ve Skimming, K. (2017). Ethical practice in telehealth and telemedicine. *Journal of General Internal Medicine, 32*(10), 1136-1140.

Chiuchisan, I., Balan, D. G., Geman, O., Chiuchisan, I. ve Gordin, I. (2017). A security approach for health care information systems. *The 6th IEEE International Conference on E-Health and Bioengineering* sunulan bildiri (ss. 721-724). https://ieeexplore.ieee.org/abstract/document/7995525 adresinden 17.05.2019 tarihinde erişilmiştir.

Cook, N., Maganti, M., Dobriyal, A., Sheinis, M., Wei, A. C., Ringash, J. ve Krzyzanowska, M. K. (2016). E-mail communication practices and preferences among patients and providers in a large comprehensive cancer center. *Journal of Oncology Practice, 12*(7), 676-84.

Costa, M. A., Yao, C. A., Gillenwater, J., Taghva, G. H., Abrishami, S., Green, T. A. ve Magee, W. P.

(2015). Telemedicine in cleft care: Reliability and predictability in regional and international practice settings. *The Journal of Craniofacial Surgery, 26*(4), 1116-1120.

Daily Mail. (2011). *Four nursing students expelled from university after posting pictures of themselves posing with a human placenta on Facebook.* https://www.dailymail.co.uk/news/article-1343628/4-nursing-students-expelled-posting-Facebook-human-placenta-pictures.html adresinden 14.04.2019 tarihinde erişilmiştir.

Daniel, F., Jabak, S., Sasso, R., Chamoun, Y. ve Tamim, H. (2018). Patient-physician communication in the era of mobile phones and social media apps: Cross-sectional observational study on lebanese physicians' perceptions and attitudes. *JMIR Medical Informatics, 6*(2), 1-8.

Dash, J., Haller, D. M., Sommer, J. ve Junod-Perron, N. (2016). Use of email, cell phone and text message between patients and primary-care physicians: cross-sectional study in a French-speaking part of Switzerland. *BMC Health Services Research, 16*(1), 1-7.

Davaris, M., Barnett, S., Abouassaly, R. and Lawrentschuk, N. (2017). Thoracic surgery information on the internet: A multilingual quality assessment. *Interactive Journal of Medical Research, 6*(1), 1-13.

de Faria, P. L. ve Cordeiro, J. V. (2014). Health data privacy and confidentiality rights: Crisis or redemption? *Revista Portuguesa de Saúde Pública, 32*(2), 123-133.

Demirsoy, N. ve Kirimlioglu, N. (2016). Protection of privacy and confidentiality as a patient right: physicians' and nurses' viewpoints. *Biomedical Research, 27*(4), 1437-1448.

Denecke, K. (2014). Ethical aspects of using medical social media in healthcare applications. *Studies in Health Technolgy and Informatics, 198*, 55-62.

Dheensa, S., Fenwick, A. ve Lucassen, A. (2016). 'Is this knowledge mine and nobody else's? I don't feel that.' Patient views about consent, confidentiality and information-sharing in genetic medicine. *J Med Ethics, 42*, 174-179.

Fencl, J. L. (2016). Guideline implementation: Patient information management. *AORN Journal, 104*(6), 566-577.

Harman, L. B., Flite, C. A. ve Bond, K. (2012). Electronic health records: Privacy, confidentiality, and security. *American Medical Association Journal of Ethics, 14*(9), 712-719.

Holmes, M. M. (2019). Why people living with and beyond cancer use the internet. *Integrative cancer therapies, 18*(1), 1-6.

İlgün, G. ve Uğurluoğlu, Ö. (2019). How Turkish private hospitals use social media: A qualitative study. *Journal Of Socıal Servıce Research, 45*(1), 34-43.

Jildeh, T. R., Okoroha, K. R., Guthrie, S. T. ve Parsons III, T. W. (2019). Social media use for orthopaedic surgeons. *JBJS Reviews, 7*(3), 1-8.

Karro, J., Dent, A. W. ve Farish, S. (2005). Patient perceptions of privacy infringements in an emergency department. *Emergency medicine Australasia, 17*(2), 117-23.

Kim, K., Han, Y. ve Kim, J. S. (2017). Nurses' and patients' perceptions of privacy protection behaviours and information provision. *Nursing Ethics, 24*(5), 598-611.

Krynski, L., Goldfarb, G., ve Maglio, I. (2018). Technology-mediated communication with patients: WhatsApp Messenger, e-mail, patient portals. A challenge for pediatricians in the digital era. *Archivos Argentinos De Pediatria, 116*(4), e554-e559.

Makarem, N. N. and Antoun, J. (2016). Email communication in a developing country: Different family physician and patient perspectives. *The Libyan Journal* of *Medicine, 11*(1), 1-8.

McLawhorn, A. S., De Martino, I., Fehring, K. A. ve Sculco, P. K. (2016). Social media and your practice: Navigating the surgeon-patient relationship. *Current Reviews in Musculoskeletal Medicine, 9*(4), 487-495.

Mevzuat Bilgi Sistemi. (1998). *Hasta hakları yönetmeliği.* http://www.mevzuat.gov.tr/Metin. Aspx?MevzuatKod=7.5.4847&MevzuatIliski=0&sourceXmlSearch=hasta%20haklar%-C4%B1 adresinden 13.04.2019 tarihinde erişilmiştir.

Mohammadi, M., Larijani, B., Emami-Razavi, S. H., Fotouhi, A., Ghaderi, A., Madani, S. H. ve Shafiee, M. N. (2018). Do patients know that physicians should be confidential? Study on patients' awareness of privacy and confidentiality. *Journal of Medical Ethics and History of Medicine, 11*(1), 1-7.

Naam, N. H. ve Sanbar, S. (2015). Advanced technology and confidentiality in hand surgery. *The Journal of Hand Surgery, 40*(1), 182-187.

Niimi, Y. ve Ota, K. (2017). Examination of an electronic patient record display method to protect patient information privacy. *Computers, Informatics, Nursing, 35*(2), 100-108.

Plant, M. A. ve Fish, J. S. (2015). Resident use of the internet, e-mail, and personal electronics in the care of surgical patients. *Teaching and learning medicine, 27*(2), 215-23.

Richter, J. P., Muhlestein, D. B. ve Wilks, C. E. (2014). Social media: How hospitals use it, and opportunities for future use. *J Healthc Manag, 59*(6), 447-60.

Rimmer, A. (2017). Five facts about patient confidentiality. *BMJ,* 356(j636). https://www.bmj. com/content/356/bmj.j636 adresinden 29.06.2019 tarihinde erişilmiştir.

Rosner, F. (2006). Medical confidentiality and patient privacy: The Jewish perspective. *Cancer Investigation, 24*(1), 113-5.

Saunders, J. (2016). Confidentiality. *Medicine, 44*(10), 596-597.

Schwartz, P. H., Caine, K., Alpert, S. A., Meslin, E. M., Carroll, A. E. ve Tierney, W. M. (2015). Patient preferences in controlling access to their electronic health records: A prospective cohort study in primary care. *Journal of General Internal Medicine, 30*(1), 25-30.

Segura-Sampedro, J. J., Rivero-Belenchón, I., Pino-Díaz, V., Rodríguez-Sánchez, M. C., Pareja-Ciuró, F., Padillo-Ruiz, J. ve Jimenez-Rodriguez, R. M. (2017). Feasibility and safety of surgical wound remote follow-up by smart phone in appendectomy: A pilot study. *Annals of Medicine and Surgery, 21*, 58-62.

Shaikh, Z. (2019). Legal and ethical considerations in postingclinical images on social media. *Perspective*, *6*, 43-8.

Shenoy, A. ve Appel, J. M. (2017). Safeguarding confidentiality in electronic health records. *Cambridge Quarterly of Healthcare Ethics, 26*(2), 337-341.

Simpson, J. (2018). GMC confidentiality guidance 2017. *ADC Education & Practice, 104*(4), 214-217.

Sulmasy, L. S., López, A. M., Horwitch, C. A. (2017). Ethical implications of the electronic health record: In the service of the patient. *Journal of General Internal Medicine, 32*(8), 935-939.

Ting, X., Yong, B., Yin, L. ve Mi, T. (2016). Patient perception and the barriers to practicing pa-

tient-centered communication: A survey and in-depth interview of Chinese patients and physicians. *Patient Educ Couns, 99*(3), 364-369.

Tran, K., Morra, D., Lo, V., Quan, S. D., Abrams, H. ve Wu, R. C. (2014). Medical students and personal smartphones in the clinical environment: The impact on confidentiality of personal health information and professionalism. *Journal of Medical Internet Research, 16*(5).

U. S. Department of Health & Human Services. (2017). *HIPAA for professionals*. https://www.hhs.gov/hipaa/for-professionals/index.html adresinden 13.04.2019 tarihinde erişilmiştir.

Valente, D. S., Silveira-Eifler, L., Carvalho, L. A., Filho, G. A., Ribeiro, V. W. ve Padoin, A. V. (2015). Telemedicine and plastic surgery: A pilot study. *Plastic Surgery International,* 2015, 187505.

Varsi, C., Gammon, D., Wibe, T. and Ruland, C. M. (2013). Patients' reported reasons for non-use of an internet-based patient-provider communication service: Qualitative interview study. *Journal of Medical Internet Research, 15*(11), e246.

WHO Global Observatory for eHealth. (2012). *Management of patient information: Trends and challenges in Member States: based on the findings of the second global survey on eHealth*. World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/76794/9789241504645_eng.pdf?sequence=1&isAllowed=y adresinden 16.05.2019 tarihinde erişilmiştir.

Williams, A. M., Bhatti, U. F., Alam, H. B. ve Nikolian, V. C. (2018). The role of telemedicine in postoperative care. *Mhealth, 4*, 1-9.

Yousuf, R., Bakar, S. M. A., Haque, M., Islam, M. N. ve Salam, A. (2017). Medical professional and usage of social media. *Bangladesh Journal of Medical Science, 16*(4), 606-609.

Zibrowski, E., Shepherd, L., Booth, R., Sedig, K. ve Gibson, C. (2019). A qualitative study of the theory behind the chairs: Balancing lean-accelerated patient flow with the need for privacy and confidentiality in an emergency medicine setting. *JMIR Human Factors, 6*(1), 1-10.