



Research Article

ADVANTAGES OF THE INTRODUCTION OF ELECTRONIC HEALTH CARE PRESCRIPTIONS

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ABSTRACT

According to past research, a common worldwide health issue is the dispersion of health information based on medical prescriptions. Several nations, including Germany, have implemented the computerized health system in an effort to eliminate these medical blunders (Rahmner *et al.*, 2004). The elimination of prescription mistakes and patient safety are two of the most pressing concerns of today's healthcare providers. Therefore, our goal is to implement electronic prescriptions instead of handwritten. Hypothesis is to using electronic prescriptions is the most effective health plan for the long run, which replaces handwritten prescriptions. (Boonstra *et al.*, 2004). Medical records are stored electronically in a huge patient database in electronic health. Despite its anticipated advantages to the health business, the introduction of e-prescriptions has encountered several obstacles as patients and pharmacists demonstrate resistance (Busse *et al.*, 2014). Consequently, this article examines the health advantages of electronic prescriptions in German point of view.

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INTRODUCTION**Advantages of electronic health care prescriptions****Enhance efficiency**

As advised by specialists, the introduction of electronic prescriptions is safe and expedient (Cripps *et al.*, 2011)¹. An electronic prescription system is more efficient and quicken the retrieval of the right medication for the patient. In addition, large lines at health clinics are reduced since e-prescription services are significantly quicker than physical handwriting (Hibberd *et al.*, 2012)². In addition, the e-prescription does not include mistakes that might endanger the patient's health, which confirms its efficacy.

Quick and secure data retrieval for patients

Compared to offline data, electronic prescriptions provide quicker access to patient data. It reduces the likelihood of errors and misleading perceptions that might negatively affect the quality of treatment. Joining e-prescription during the time spent on medical treatment may significantly enhance the quality of care (EVERSANA, 2020)³. Instead of paying for a transcriptionist, you may use the framework to interpret the

doctor's prepared notes or other documents during a patient visit. Principally as a result of the usage of e-prescription, the degree of care has increased. Frequently, automated information is easier to read than a specialist's handwriting.

Increased patient medication compliance

E-prescription frameworks may assist medical professionals in selecting an alternative that requires less work on their part but may provide patients with better clinical outcomes. By minimizing temptation, increasing adherence to prescription therapy may improve health outcomes and save expenditures, which is practical. When programming considers robotized preparation (Dünnebeil *et al.*, 2009)⁴, the process of inputting solutions at a pharmacy is facilitated. In addition to ensuring that patients take their drugs as prescribed, switching to non-exclusive medications or opting for models that are less costly may help bring down the overall cost to patients as well as insurance providers (Gullslett & Bergmo, 2022)⁵. E-recommending results in an increase in inefficiency, mostly as a result of less administrative labor and fewer difficulties awaiting resolution.

Advantages of electronic document: Patient demographics and data are recorded and provided in a comprehensive and orderly manner.

¹ Cripps, H., Standing, C., & Prijatelj, V. (2011). The implementation of electronic health records: A two country comparison.

² Hibberd, R., Barber, N., Cornford, T., & Lichtner, V. (2012). The evaluation of the electronic prescription service in primary care: interim report on the findings from the evaluation in early implementer sites.

³ . EVERSANA (2020). Germany To Mandate E-Prescriptions By 2022 | EVERSANA. Eversana. <https://www.eversana.com/2020/04/02/germany-prescriptions/>.

⁴ Dünnebeil, S., Sunyaev, A., Mauro, C., Leimeister, J. M., & Krcmar, H. (2009). Integration of patient health portals into the german healthcare telematics infrastructure.

⁵ Gullslett, M. K., & Bergmo, T. S. (2022). Implementation of E-prescription for Multidose Dispensed Drugs: Qualitative Study of General Practitioners' Experiences. *JMIR Human Factors*, 9(1), e27431.

It's possible that taking part in electronic prescriptions while you wait for medical treatment may result in an improvement in the level of care you get. A medical services organization must recruit workers for various positions, such as recording and decoding (Dwivedi et al., 2015)⁶. It essentially reduces the possibility of errors and erroneous perceptions that might adversely affect the nature of treatment. As a result of the usage of e-prescription, the extent of the type of treatment has increased significantly. Business expenses may erode profits. Nonetheless, using e-prescription, you may eliminate the majority of documenting duties. Experts can at least reduce them to the point that employee hours can be reduced (Engberg A., 2019)⁷. Electronic prescriptions are often easier to read than handwritten prescriptions.

Capacity to recruit a new generation of doctors

Young medical school graduates are accustomed with the digital system, unlike their elder counterparts. Adoption of the digital system within the healthcare industry will increase the number of possibilities for recent graduates to fill these newly formed e-prescription (Gohlisch J., 2018)⁸ positions. An analogue generation of doctors must be replaced by those who are more comfortable with the digital environment in order to embrace e-prescription implementation. They must be able to replace their predecessors within a reasonable amount of time. The innovation provided by an e-prescription has been a constant for new experts throughout their residency training (Omotosho et al., 2018)⁹. Electronic prescriptions make jobs easier and more productive; thus, inform them that training is evolving and keeping up with industry advances.

Educators' talents

The patient's complete medical history is included in the e-prescription. It is not difficult to make improvements to the quality of healthcare services by ensuring that medical professionals have access to accurate patient information (KILIÇ et al., 2016)¹⁰. In addition, e-prescription is web-based, allowing patients and healthcare practitioners to communicate and socialize online in order to educate them about health concerns.

Streamlined paperwork

As time goes on, the amount of paperwork that collects in a doctor's office grows. Electronic prescriptions eliminate the need to keep reports in huge file organizers (Greenhalgh & Stones, 2010)¹¹. Additionally, several office supplies, such as

paper, dividers, and graph prices have been eliminated because of the new arrangement. There is a lot of area taken up by paper sketches and notes. In addition, as they grow, it becomes more important to find new storage locations for older outline volumes. In any case, experts may replace paper outlines with e-prescription.

Implementation of E-prescriptions in Germany

Health care professionals and patients in Germany, mainly in Finland and Estonia have both benefited from the use of e-prescriptions (Helsinki, 2013)¹². There has been a lack of information for patients in Estonia and Finland, which has led to health risks for patients. Patients and doctors alike have benefited from the adoption of electronic prescriptions in Finland and Estonia, which have made it easier for them to access a wide variety of health information. There is no longer a health danger for elderly individuals in Estonia and Finland owing to the dispersion of health information. Like Finland and Estonia, several nations are already using e-prescriptions to develop a national electronic medical approach. Several countries, including Germany, whose early implementation efforts were unsuccessful are now striving to provide every patient with a prescription that is flexible, accurate, and up to date. this includes both the prescriptions that are dispensed and the prescriptions that are prescribed (Bukowski et al., 2020)¹³.

However, exactly as in Germany, e-prescriptions in Finland and Estonia took a long time to process. E-prescription acceptability by patients and healthcare providers was seen in all countries (Kela, 2020)¹⁴.

Why E-prescription introduced late in Germany?

Despite the fact that e-prescription has been a huge success in Estonia and Finland, Germany has had a difficult time putting it into practice. Several issues have caused a lag in the digitization of German healthcare. In Germany, the implementation of the electronic prescription was reportedly fraught with challenges, as stated by the Federal Ministry of Health in Germany (Kierkegaard, 2013)¹⁵. After going through a number of trial and error stages in the years leading up to the year 2020, the electronic prescription system in Germany was successfully established.

Reasons of late introduction

During testing in Germany, system faults or e-prescriptions were spotted quite early on. Patients and healthcare professionals both expressed mistrust and skepticism about the system's effectiveness. The early inflexibility of the digital medical platform is shown by this erroneous e-prescription experience. In addition, the first introduction of e-prescriptions resulted in delays for both patients and medical practitioners. People in Germany feared legal and privacy difficulties when they received electronic prescriptions. When it came to filling

⁶ Dwivedi, Y. K., Wastell, D., Laumer, S., Henriksen, H. Z., Myers, M. D., Bunker, D., Elbanna, A., Ravishankar, M., & Srivastava, S. C. (2015). Research on information systems failures and successes: Status update and future directions. *Information Systems Frontiers*, 17(1), 143-157.

⁷ ENGBERG A (2019) German Health Minister Spahn Promotes Use Of E-prescriptions At The DMEA 2019. *Healthcare IT News*. <https://www.healthcareitnews.com/news/eme-a/german-health-minister-spahn-promotes-use-of-prescriptions-dmea-2019>.

⁸ GOHLISCH J (2018) Digital Health in Germany—2018 and beyond. *Opgehaald van Medium*: <https://medium.com/@jangohlisch/digital-health-in-germany-2018-andbeyond-2b2df6032688>.

⁹ Omotosho, A., Emuoyibofarhe, J., Ayegba, P., & Meinel, C. (2018). E-prescription in Nigeria: A survey. *Journal of Global Pharma Technology*.

¹⁰ KILIÇ, T., BOSTAN, S., & ŞAHİN, G. (2016). Example of Lean management in the health sector; e-prescription application. *International Journal of Health Management And Tourism*, 1(1), 29-40.

¹¹ Greenhalgh, T., & Stones, R. (2010). Theorising big IT programmes in healthcare: strong structuration theory meets actor-network theory. *Social science & medicine*, 70(9), 1285-1294.

¹² HELSINKI, (2013) eHealth Strategy And Action Plan Of Finland In A European Context.

¹³ Bukowski, M., Farkas, R., Beyan, O., Moll, L., Hahn, H., Kiessling, F., & Schmitz-Rode, T. (2020). Implementation of eHealth and AI integrated diagnostics with multidisciplinary digitized data: are we ready from an international perspective? *European radiology*, 30(10), 5510-5524.

¹⁴ KELA (2020) Estonian Citizens Can Now Purchase Medicines In Finland With An EPrescription Issued In Their Own Country - News Archive For Customers. Kela

¹⁵ Kierkegaard, P. (2013). E-prescription across Europe. *Health and Technology*, 3(3), 205-219.

out an e-prescription in Germany, patients were hesitant since they were accustomed to receiving paper prescriptions and were concerned that providing their bank information might put them at risk. E-prescriptions, for example, use wires to transmit information, making them web-based (Racek & Czirfusz, 2021)¹⁶. Because of the widespread problem of cybercrime on the digital platform, German residents were strongly opposed to e-prescriptions. When electronic prescriptions are used, the patients' information may not be kept private if the necessary security measures, such as intrusion and firewall protection, are not properly implemented. In Germany, many efforts at testing e-prescriptions were unsecure owing to a variety of problems; as a result, patients opted to utilize prescriptions obtained via traditional means (Aldughayfiq & Sampalli, 2021)¹⁷.

For Germany, the Federal Ministry of Health underestimated how long it would take to shift from analogue medicine to digital medicine (Racek & Czirfusz, 2021)¹⁸. Both doctors and consumers did not have enough time to prepare for the transition to electronic prescriptions (Nyakov S., 2018)¹⁹ as indicated by the study specialists. Most of the time, the e-prescription implementation procedure was plagued by delays and problems due to the program's timing being off. As a consequence of this, medical professionals and patients did not get the serious attention they deserved since the government believed the process of implementation would be as smooth as it is in Finland and Estonia. Patients in Germany are used to obtaining their medical prescriptions on paper, which is why electronic prescriptions have not gained as much traction there (Radi et al., 2021)²⁰.

In the first phase, the telematics foundation was abandoned or not considered (UEMO, 2019)²¹ as a possible step-by-step recognition of the overall engineering design. In addition, the overall design may have been improved step-by-step by project outcomes. Because of delays or other obstacles, it's possible that the intercession acted as a teaching tool as it progressed. Component complexity and the inclusion of several equal progress projects were necessary for these methods to work (Heider et al., 2017)²². The deferrals in grasping the telematics framework necessitated the progressive acceptance in the end. The overall design may

have had the ability to manage and recognize all of the many after-tasks, informing both merchants and health-care providers alike.

CONCLUSION

There is a progressive change from handwritten prescriptions to e-prescription in the healthcare industry throughout the world. E-prescriptions have become more important in the current healthcare system since they eliminate patients' information inaccuracies. As an example, e-prescription is now the major goal of electronic health initiatives in Finland, Estonia, and Germany. As a result of opposition from patients and healthcare professionals, the implementation process has been slower than projected in all nations. It is also noted that the implementation hurdles stem from political, security, and privacy concerns.

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