

Use of My Kanta in Finland 2010–2022

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Abstract. In Finland, descriptive performance indicators point towards increasing and sustained use of the national Kanta Services among adults from May 2010 to December 2022. Adult users have accessed the web-based My Kanta, sent electronic prescription renewal requests to healthcare organizations, and caregivers and parents have acted on behalf of their children. Furthermore, adult users have recorded consents, consent restrictions, organ donation testaments and living wills. In this register study, 11% of the young person cohorts (<18-year-olds) and over 90% of the working age cohorts had used the My Kanta portal in 2021, whereas 74% of the 66–75-year-olds and 44% of the at least 76-year-olds.

Keywords. My Kanta, use, Kanta Services, Finland

1. Introduction

A patient portal is a service that enables patient to access their health information online [1,2]. As health systems around the world digitize, developing systems that will enable patients to access their patient records will become an increasingly important way of empowering patients to make decisions about their health and care [3]. Shared nationwide patient portals have been introduced in many countries, including Nordic-Baltic region, for example in Denmark, Estonia, Finland, Iceland, Norway and Sweden [4–9], and the US [10,11], but only few studies have reported the use of national patient portals.

In this study, we aimed to assess long-term use of the web-based My Kanta Pages and the Patient Data Repository in Finland 2010–2022.

2. Methods

The Kanta Services is the name of Finland's centralized, shared, and integrated electronic data systems for healthcare and social welfare service provision [12–14]. My Kanta Pages (My Kanta) is a nationwide online service allowing users to view their information about electronic prescriptions and health data via an internet web page. We followed-up

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use of the healthcare My Kanta from May 20, 2010 to December 31, 2022, and the Patient Data Repository's Patient Data Management Service from November 2, 2013 to December 31, 2022. We based the follow-up on utilizing the Kanta Services' log-based register data on descriptive performance indicators' time series on national level provided by the Social Insurance Institution of Finland (Kela).

In this study, adults are at least 18 years old persons. We present monthly and annual time series in figures, tables and a map. We calculated proportions of adult users as percentages (%) of the relevant national cohorts. There are 5.5 million inhabitants in Finland.

3. Results

Descriptive performance indicators in general point towards increasing use of the national Kanta Services since May 2010.

Adult users have accessed (sign-ins) the web based My Kanta 179 million times since May 2010 (Figure 1) and sent 18.8 million electronic repeat prescription renewal requests to healthcare organizations since November 2015. Caregivers and parents have made 12.2 million visits on behalf of their children since October 2016. Furthermore, adult users have recorded 4.8 million consents, 0.16 million consent restrictions, 0.88 million organ donation testaments and 0.28 million living wills into the Patient Data Management Service.

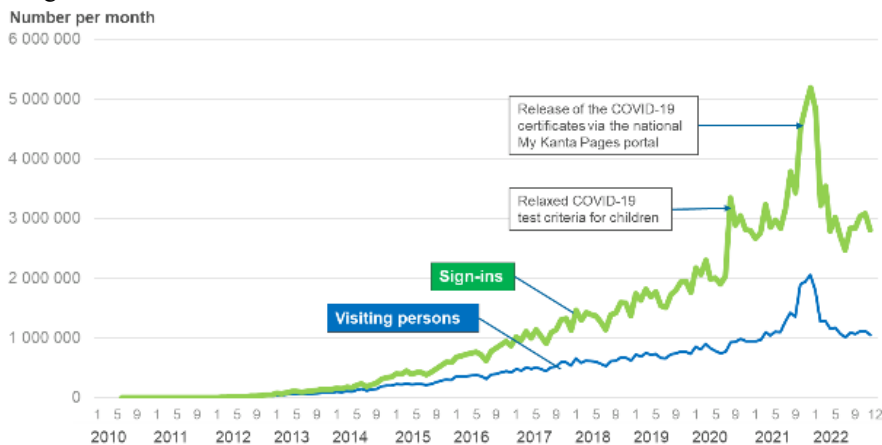


Figure 1. Adult users' monthly sign-ins to the national My Kanta web-based portal and number of visiting persons from May 2010 to December 2022 in Finland.

Over 40% of adults in 2017 accessed (sign-ins) My Kanta portal at least once, and the proportions rose to 82% in 2021 (Figure 2). The COVID-19 epidemic in Finland started in March 2020, and My Kanta portal delivered the release of the COVID-19 certificates in 2021. Use of My Kanta is on increasing trend within all national age-group cohorts. Particularly, portal use in 2021 reached 74% among the 66–75-year-olds and 44% among those at least 76-year-olds.

In 2020, we observed large variation in My Kanta use by municipalities, as the lowest proportions were less than 45% and the highest proportions over 65%.

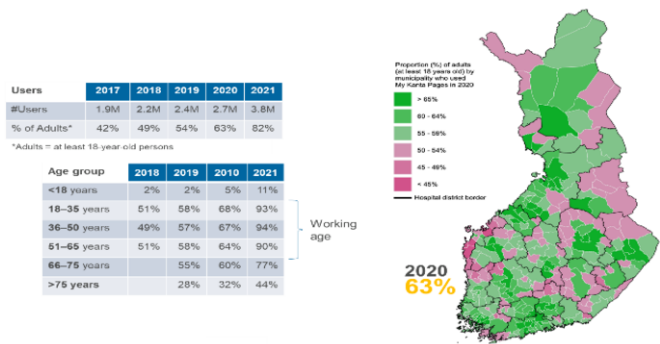


Figure 2. Adult users’ number and proportion of the adult (at least 18-year old persons) population who had used My Kanta in 2017–2021, use of My Kanta by proportions of age group cohorts in 2018–2021, and use of My Kanta by proportions among municipalities in Finland. Black lines refer to Hospital District boundaries and white lines refer to public primary healthcare centre boundaries.

4. Discussion and Conclusions

The results of this research suggest that it is possible to implement and adopt large-scale national Kanta Services covering all public primary healthcare centres, community pharmacies and hospitals together with most private healthcare service providers in a country with 5.5 million inhabitants. Even rigorously utilizing log-based register data of the Kanta Services, however, must accompany parallel and independently conducted research (e.g. general public and/or professionals’ surveys) in order to gain more in-depth insights and experiences of the subject matters [14,15]. The functionality of the clinical record is evolving [16]. No longer will the medical record serve primarily as an aide memoire or communication tool for clinicians, or as a billing device. A Cochrane systematic review on clinical trials of adult patient access to electronic health records (and extra services) concluded that they may provide little to no benefit for patients’ feelings of empowerment or satisfaction, nor for risk factors for diabetes, cardiovascular disease, and high pressure inside the eye [17]. Such access, however, may slightly increase how many patients keep up with monitoring for risk factors. Adult users’ My Kanta use has increased during the 10 years from 16% in 2014 to 64% in 2020–2021 [18,19], to 83% in 2019 [14] and as high as 89% in October 2020 [20]. Against the odds, nationwide patient portal adoption rates and sustainable use in Finland are in general higher than in real-world or controlled experiments, in which an overall 52% adoption proportion has been observed and it was 23% [95% CI: 13–33%] in real-world experiments [21].

In this register study, use of My Kanta increased from 55% in 2019 to 74% in 2021 among the 66–75-year-olds and from 28% in 2019 to 44% in 2021 among those at least 76-year-olds. Similar level or even higher use of the Internet was prevalent previously among 65–98-year-old Finnish population in Northern Finland [22]. In general, age is a strong indicator of differences in use of information and communication technology [23,24]. Over 55-year-old adults may have different attitudes towards and reasons for using technologies [24]. However, the study has some weaknesses and limitations. Further research exploring factors influencing adoption, incorporating qualitative data, examining barriers to adoption, and assessing the impact on health outcomes could provide a more comprehensive understanding of the My Kanta service and its potential

for improving healthcare in Finland. Due to text volume restrictions we kept the reporting very short, and thus lost much of valuable details, indeed. The results of this study suggest that it is possible to introduce a nationwide patient portal that is available 24/7/365 for all potential users, and system availability leads to ongoing and increasing sustained portal use.

References

- [1] Osborn VY, Mayberry LS, Wallston KA, et al. Understanding patient portal use: implications for medication management. *J Med Internet Res* 2013;15(7):e133.
- [2] Essén A, Scandurra I, Gerrits R, et al. Patient access to electronic health records: differences across ten countries. *Health Policy Technol* 2018;7(1):44–56.
- [3] Hägglund M, McMillan B, Whittaker R, et al. Patient empowerment through online access to health records. *BMJ* 2022;378:e071531.
- [4] Rahbek JN. E-record-access to all Danish public health records. *Stud Health Technol Inform* 2013;192:1121.
- [5] Hardardottir GA, Thoroddsen Á. National eHealth implementation: country experience. *Stud Health Technol Inform* 2016;225:168–172.
- [6] Nohr C, Parv L, Kink P, et al. Nationwide citizen access to their health data: analyzing and comparing experiences in Denmark, Estonia and Australia. *BMC Health Serv Res* 2017;17:534.
- [7] Hägglund M, DesRoches C, Petersen C, et al. Patients' access to health records. *BMJ* 2019;367:15725.
- [8] Zanaboni P, Kummervold PE, Sorensen T, et al. Patient use and experience with online access to electronic health records in Norway: results from an online survey. *J Med Internet Res* 2020;22:e16144.
- [9] Hägglund M, Scandurra I. Usability of the Swedish accessible electronic health record: qualitative survey study. *JMIR Hum Factors* 2022;9:e37192.
- [10] Delbanco T, Walker J, Bell S, et al. Inviting patients to read their doctors' notes: a quasi-experimental study and a look ahead. *Ann Intern Med* 2012;157(7):461–470.
- [11] Walker J, Leveille S, Bell S, et al. Open notes after 7 years: patient experiences with ongoing access to their clinicians' outpatient visit notes. *J Med Internet Res* 2019;21(5):e13876.
- [12] Jormanainen V. Large-scale implementation and adoption of the Finnish national Kanta services in 2010–2017: a prospective, longitudinal, indicator-based study. *Finnish J eHealth eWelfare* 2018;10(4):381.
- [13] Jormanainen V, Parhiala K, Niemi A, et al. Half of the Finnish population accessed their own data: comprehensive access to personal health information online is a cornerstone of digital revolution in Finnish health and social care. *Finnish J eHealth eWelfare* 2019;11(4):298–310.
- [14] Sääskilähti M, Ahonen R, Timonen J. Pharmacy customers' experiences of use, usability, and satisfaction of a nationwide patient portal: survey study. *J Med Internet Res* 2021;23(7):e25368.
- [15] Vehko T (Ed.). E-health and e-welfare of Finland: Check Point 2022. *THL Report 6/2022*. Helsinki: Finnish Institute for Health and Welfare (THL); 2022.
- [16] Blease C, McMillan B, Salmi L, et al. Adopting to transparent medical records: international experience with “open notes”. *BMJ* 2022;379:e069861.
- [17] Ammenwerth E, Neyer S, Hörbst A, et al. Adult patient access to electronic health records. *Cochrane Database Systematic Rev* 2021; Issue 2. Art. No.: CD012707.
- [18] Hyppönen H, Hyry J, Valta K, et al. Electronic services in the social welfare and health care sector: citizens' experiences and development needs. *Report 33/2014*. Helsinki (Finland): National Institute for Health and Welfare; 2014.
- [19] Kyytsönen M, et al. Social and health care online service use in 2020–2021: experiences of the population. *Report 7/2021*. Helsinki (Finland): Finnish Institute for Health and Welfare (THL); 2021.
- [20] Jormanainen V. Over 89% adoption rate of the nationwide online patient portal in Finland. *Stud Health Technol Inform* 2022;294:589–593.
- [21] Fraccaro P, Vigo M, Balatsoukas P, et al. Patient portal adoption rate: a systematic review and meta-analysis. *Stud Health Technol Inform* 2017;245:79–83.
- [22] Keränen NS, Kangas M, Immonen M, et al. Use of information and communication technologies among older people with and without frailty: a population-based survey. *J Med Internet Res* 2017;19:e29.
- [23] Huvila I, Cajander Á, Moll J, et al. Technological and informational frames: explaining age-related variation in the use of patient accessible electronic health records as technology and information. *Inform Technol People* 2022;35:1–22.
- [24] Ma Q, Chen K, Chan AHS, et al. Acceptance of ICTs by older adults: a review of recent studies. In: Zhou J and Salvendy G (Eds.): *ITAP 2015, Part I, LNCS 2015*;9193:239–249.