



UNIVERSITY OF
EASTERN FINLAND

The impact of the pandemic on type 2 diabetes patients in the North Karelia region of Finland

Laura Inglin, MSc Public Health

Swiss Public Health Conference 2024 | 3 September 2024



Background

- The COVID-19 pandemic has challenged health systems and their ability to deliver essential health services.
- Several studies revealed **severe declines in provided diabetes care and treatment outcomes** during the early pandemic phase.
- In Finland, a national lockdown was imposed from 16 March until mid-May 2020, when restrictions were gradually loosened.



Aims

Study 1: Essential care services usage at different stages of the pandemic

Inglin L, Wikström K, Lamidi ML, Laatikainen T. **The adverse effect of the COVID-19 pandemic on health service usage among patients with type 2 diabetes in North Karelia, Finland.** BMC Health Serv Res. 2022 Jun 1;22(1):725. doi: 10.1186/s12913-022-08105-z. PMID: 35650580; PMCID: PMC9156619.

Study 2: Service usage among patient groups with different care needs and service use frequencies under normal circumstances

Inglin L, Wikström K, Lamidi ML, Laatikainen T. **Consistent service use before the COVID-19 pandemic predicted the continuity of face-to-face appointments during the lockdown among type 2 diabetes patients.** Prim Care Diabetes. 2024 Apr;18(2):230-237. doi: 10.1016/j.pcd.2023.12.003. Epub 2024 Jan 6. PMID: 38185577.



Study design



Patient population

- Type 2 diabetes (T2D) patients in North Karelia, living in the region continuously until the end of follow-up

Data

- Electronic health records comprising all primary and specialized healthcare contacts and laboratory values

Essential care contact	Type of contact	Study
T2D-related contacts with nurses and doctors	In-person appointment / remote consultation	1 + 2
Laboratory measurements HbA1c & LDL-C <i>HbA1c: glycated hemoglobin, LDL-C: LDL cholesterol</i>	In-person appointment	2

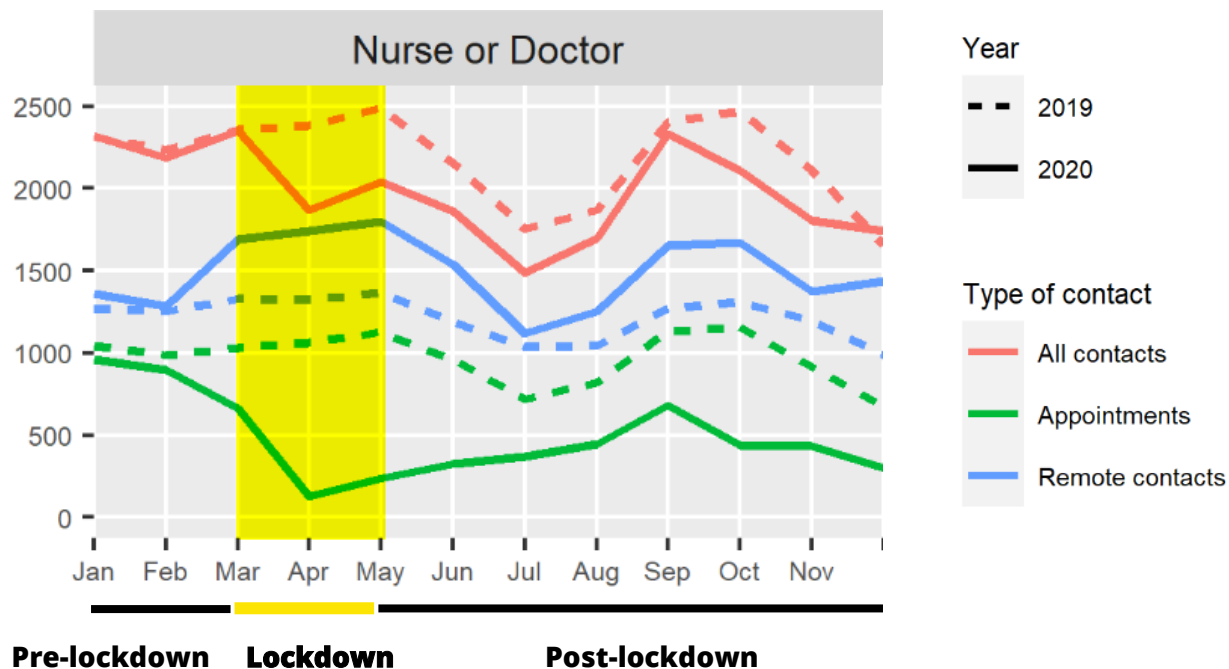


Results study 1: Diabetes-related contacts

Follow-up: 2019-2020

11,458 patients, 69 years mean age, 46% women.

Fig 1. Monthly absolute **diabetes-related** primary care contacts by contact type and year



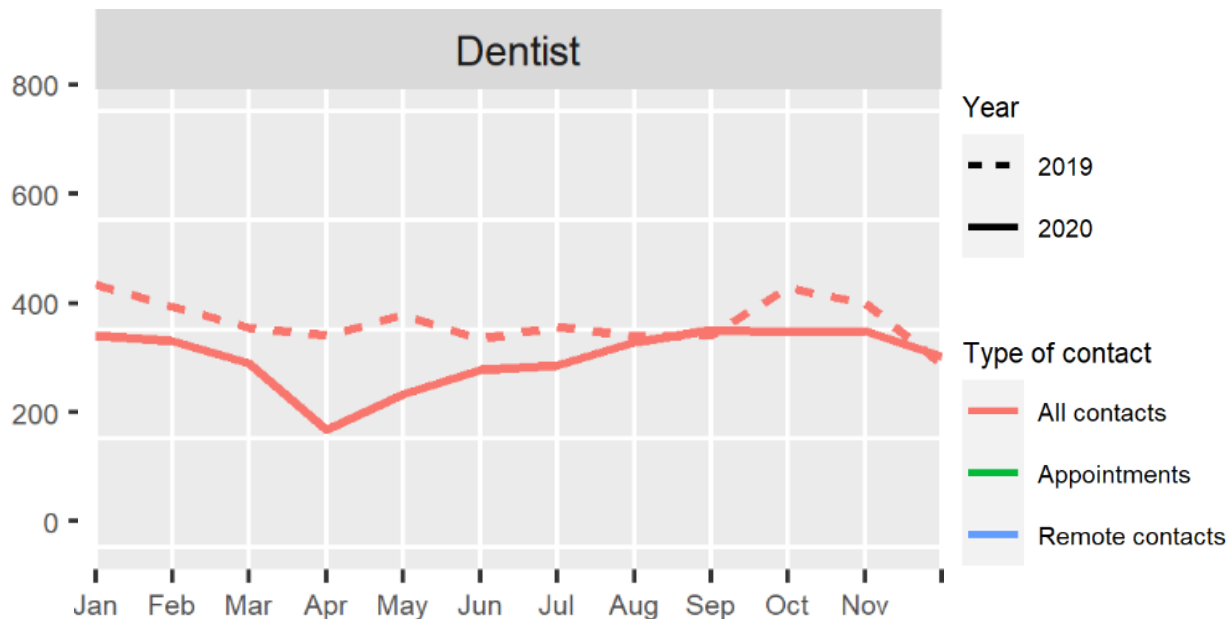
Key results 2020 vs 2019

- During lockdown period 2020 (16.3-31.5.2020), there were
 - 77% fewer **appointments**
 - 36% more **remote consultations**
 - 16% fewer **total care contacts**...compared with the comparison period in 2019
- Overall lower healthcare usage in 2020 than 2019:
 - 9% decrease in **total care contacts** per person



Study 1: Oral health-related primary care contacts

Fig 2. Monthly absolute oral health-related health care contacts by year (appointments only)



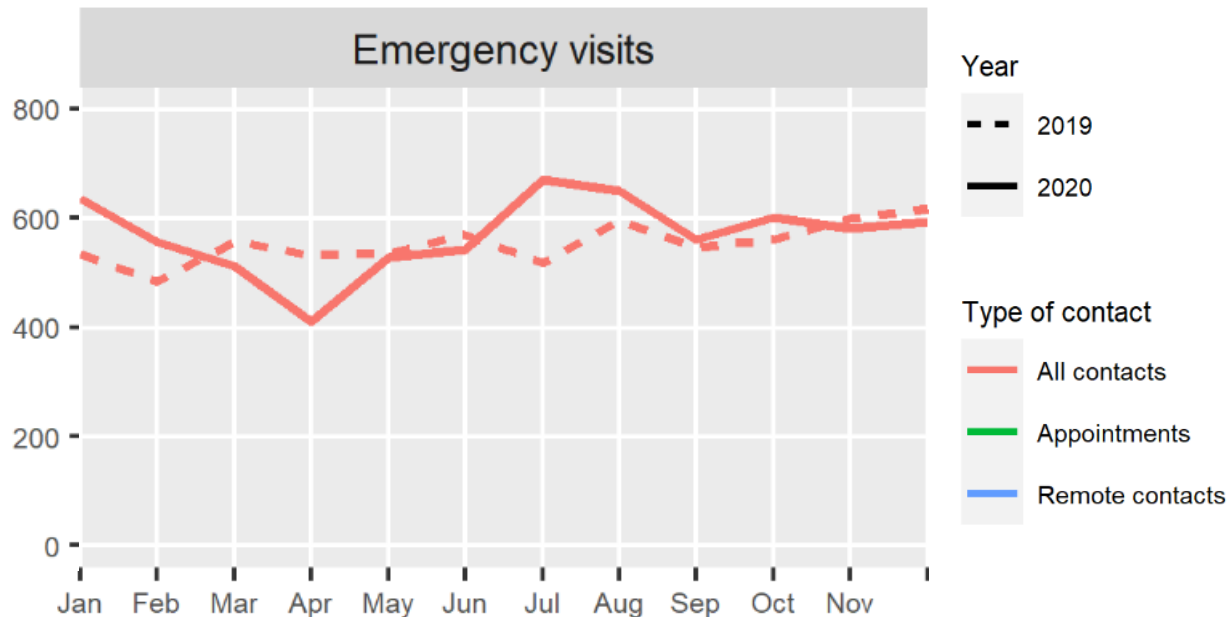
Key results

- Striking drop during the lockdown period
- Partial recovery after lockdown
- Compared with 2019, in 2020
 - the mean number of **appointments per person** was 16.6% lower and
 - and the proportion of **patients with appointments** was 10.9% lower.



Study 1: Specialised emergency care (all reasons)

Fig 3. Monthly absolute specialised emergency care appointments by year



Key results

- Drop during lockdown with “rebound-effect”
- During lockdown in 2020, 14.1% fewer appointment than in 2019
- No significant difference in the overall usage of emergency services between 2019 and 2020



Conclusion

- Despite significant decrease in face-to-face appointments in all analyzed areas, essential care in primary care was provided continuously.
- The effects were more pronounced for patients ≥ 70 years but there were not gender differences.
- The delivery of many essential services was facilitated by processes that strongly relied on telemedicine already before the pandemic and were widely used also by elderly patients aged ≥ 70 years.

Were all patients affected similarly?



Results study 2: In-person service use

Follow-up: 15.3.2017 – 15.3.2021

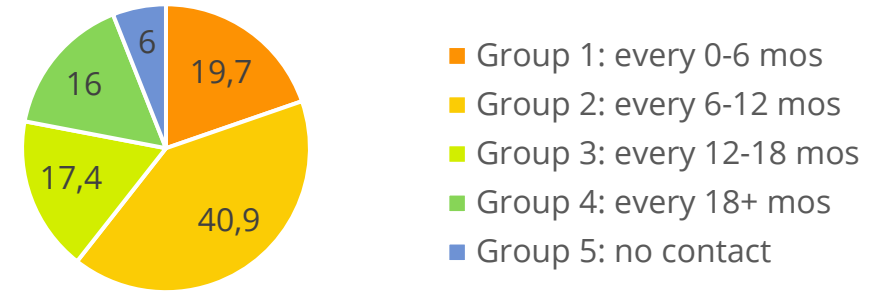
11,088 patients, 70 years mean age, 45% women.

1) Grouping based on the frequency of in-person contacts during 3 years before the pandemic (16.3.2017-15.3.2020)

- **In-person contacts:** T2D-related appointment or laboratory value (HbA1c and LDL-C)

→ The more frequent those services are sought, the older a patient is and the more comorbidities there are.

Fig. 4. In-person service use frequency groups



2) We compared the first two 6-month periods during the pandemic with the comparison periods before

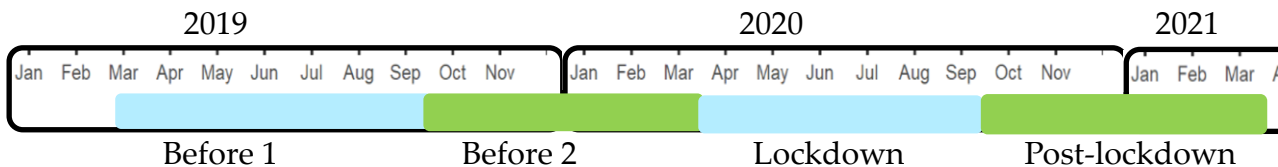
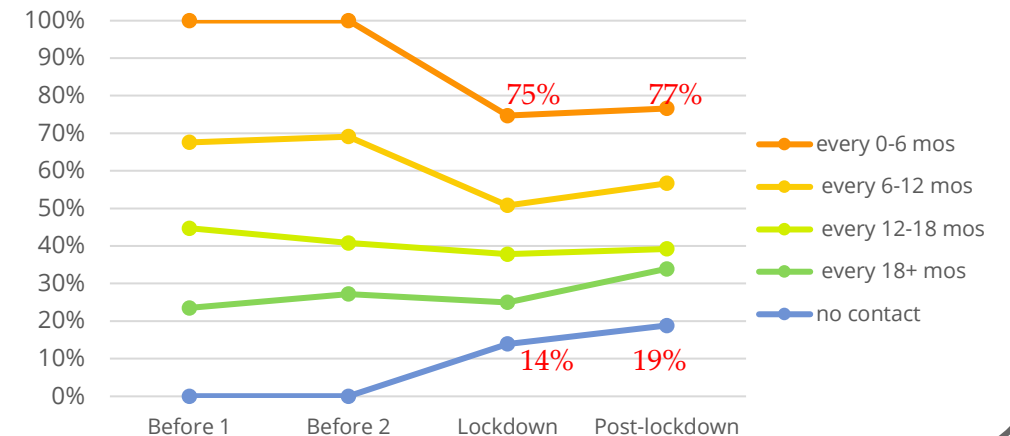


Fig. 5. Proportion of patients with in-person contact





Conclusion

- The impact of the COVID-19 pandemic on health care use of type 2 diabetes patients differed between patient groups.
- Patients with the most frequent pre-pandemic visits displayed the largest declines in health care use but remained at the highest level.
- One in six with no pre-pandemic visits sought in-person care during or after lockdown.
- The proportion patients with remote contacts only was very small (max. 10%)
- HbA1c and LDL treatment outcomes were not negatively affected by the pandemic.



UNIVERSITY OF
EASTERN FINLAND

Contact: lauraing@student.uef.fi

uef.fi

