Interreg Danube Region

Co-funded by the European Union

DIGI4Care

Closing the Diabetic Retinopathy Screening Gap with AI

Integrating AI-supported eye screening into annual preventive diabetes check-ups in Slovakia

Policy Factsheet

Recommendations to support national decision making in taking up digital medical technologies in Slovakia, prepared by CEE HPN (Slovakia)

Key messages

1. In Slovakia **51% of diabetic patients** (approx. 250 000 people) **do not go to ophthalmologists**, who are in charge of screening and detecting diabetic retinopathy in Slovakia.
2. In the Digi4Care pilot, AI supported screening of diabetic retinopathy performed by diabetologists revealed a **16% prevalence of diabetic retinopathy among these diabetic patients** (approx. 40 000 people).
3. AI supported screening should become an integral part of "The annual preventive check-up" done by diabetologist to screen retinopathy, neuropathy, nephropathy

Learnings & Results

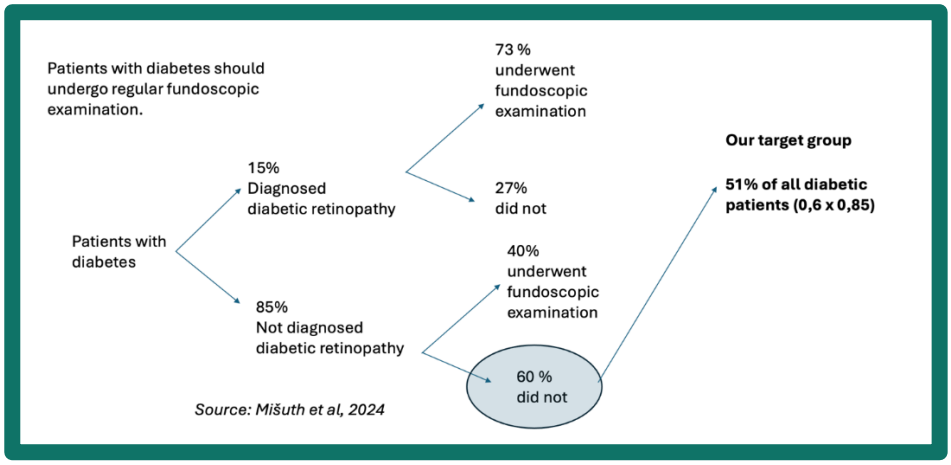
The project **DIGI4Care** project (*Digital Medical technologies reshaping the Danube Region Healthcare systems throughout the patient journeys from prevention to rehabilitation*) aimed at redefining patient pathways by testing, validating and strategically integrating digital and AI solutions.

In a DIGI4Care pilot, an AI supported fundus camera, allowed to **screen diabetic patients** also **in diabetological offices instead of ophthalmologist offices**, that are normally responsible for the detection of diabetic retinopathy.

There are approx**. 500 000 diabetic patients in Slovakia**, of which **51% do not undergo ophthalmological examination**. According to the protocols, this examination should be done once a year.

Main results achieved in the project include:

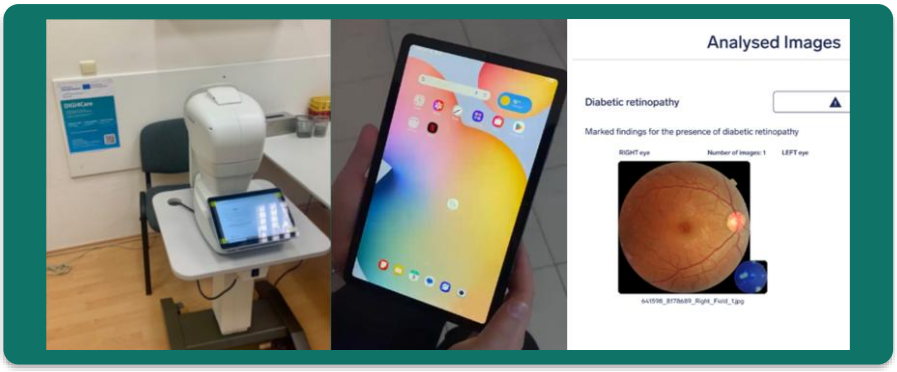
- **Increase of institutional capacity:** The AI supported fundus camera allows diabetic retinopathy screening from the ophthalmologist to the diabetologist, where also the nurse can perform the screening. There was a 16% prevalence of diabetic retinopathy found among screened persons.
- **Digital transformation:** Especially the developed coordination app helped the workflow – smooth administration and fast care coordination between the diabetologist and the ophthalmologist.
- **Uptake and use of Digi4Care solutions:** There is very high level of satisfaction with the AI screening among patients (94%) and high technology acceptance among medical personnel.



Benefits for policymakers

The societal impact of s**hifting the diabetic retinopathy screening from ophthalmologists to diabetologist** has advantages:

It allows to screen **more people** and screen the people **where they usually go** and are familiar with the environment (diabetologist office).
It allows to find those people (from all diabetic patients), that have a diabetic retinopathy, and who do not know about it. When diagnosed with diabetic retinopathy, they can start the treatment earlier **to prevent higher medical costs** in the future.



Recommendations for policymakers

Applied to Slovakia, the pilot showed that nationally those persons with diabetic retinopathy without knowledge about it can be more easily identified when screened at the diabetologist offices. Patients then can start their treatment early to avoid high-cost treatment, vision loss and blindness. Moreover, the pilot experience allows to redefine the integrated care model in diabetes, where diabetologists with the help of the AI supported fundus camera can screen patient directly in their offices.

AI supported screening could thus become an integral part of so called “Triple annual preventive check-up” done by diabetologist to screen Retinopathy, Neuropathy, Nephropathy