The Promise of Apps in Diabetes

Challenges, Societal Benefits & Recommendations

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OBJECTIVES

Digitalisation is proceeding rapidly in the health sector. Medical and non-medical apps have the potential to improve the self-management and decision-making for people with diabetes, leading to better personalised care and better outcomes. Medical apps can furthermore facilitate communication between people with diabetes, their HCPs and wider care teams, by sharing data and enabling coaching, support and guidance.

Fortunately, there are many countries and healthcare systems that already integrate apps into health systems and into clinical practice. The following guide provides best practices examples from different countries and systems – which features work well, what could be improved upon, how to navigate trade-offs, which outstanding questions need answering.

The paper draws conclusions by providing recommendations on how to facilitate a swift and appropriate integration of medical apps into health systems for the benefit of better diabetes management.

The goal of policy should be to nurture a responsible and responsive environment that unlocks the positive potential of digital innovation, one that puts the needs of people with diabetes first.

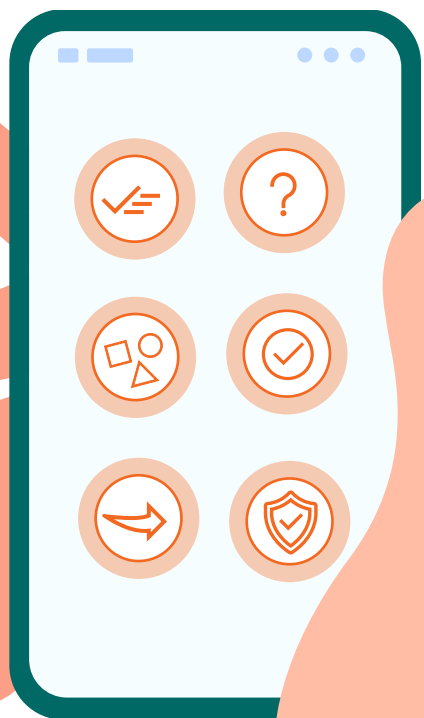**To realise the potential of mobile apps, two conditions must be in place:**

1 Apps must be easily **available and accessible to people with diabetes and HCPs**

2 Apps should meet high standards of **effectiveness and quality**

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CHALLENGES

Quantity and Quality:

The sheer number of health apps in the marketplace makes it difficult for people with diabetes and healthcare professionals to sort through the vast and overwhelming jungle of digital solutions.

Similarly, while there are many good apps on the marketplace, there are many poor ones as well. People with diabetes typically have to peruse through blogs, forums, or literature to learn more about apps. Finding a way to identify and then guide people living with diabetes and HCPs towards trustworthy and useful apps is a prerequisite to playing a more prominent role in diabetes care.

Digital Hesitancy:

The awareness of digital solutions both among people with diabetes and their healthcare providers remains rather low. Moreover, knowledge about how to use and take advantage of apps can be lacking. There is a risk that a widening digital divide could lead to schisms in diabetes care and outcomes. Though in Type I diabetes, which often affects people at a younger age, the issue of digital literacy is not as strong.

In addition, for a variety of reasons, physicians and payers sometimes feel indifferent towards digitalisation. Overcoming this hesitancy will be critical to achieve a more widespread use of apps.

Attrition:

The uptake of many digital apps can be small, and many people with diabetes abandon apps after only a short period of use. A framework or perceived added value of an app is needed – with backing from HCPs – to increase usage over the long-term.

Evidence:

Evidence supporting the effectiveness of apps can be difficult to obtain. There is no agreement on even how to measure the effectiveness of an app. There are multiple factors influencing the effectiveness of an app and it is highly dependent on how it is used. Must clinical evidence and real-world performance link apps to improvements in quality of care and the management of health conditions? Or is to some extent the satisfaction of those with diabetes – in terms of ease of use or quality of life – itself a validation of efficacy?

Furthermore, to accumulate evidence takes time and requires resources. This often discourages the development of new apps because of the uncertainty of financial viability. There is typically a trade-off between evidence and availability. In regulatory systems that impose comprehensive efficacy requirements, there may be fewer apps that make it to the marketplace. While clear guidance and transparency on evidence are certainly needed, the regulatory environment should be sufficiently flexible to account for different evidence levels, depending on the function and the relative medical risk levels of the app.

Integration:

For meaningful uptake by people with diabetes and HCPs, apps need to be more integrated into healthcare processes and pathways. This requires more reimbursement/funding, investing in the appropriate technical infrastructure, and putting incentives in place to encourage healthcare providers to prescribe apps. The key requirement for the integration of apps is the need to demonstrate benefits for all actors in the diabetes landscape – people with diabetes, HCPs, payers, and app developers. Otherwise, success is not guaranteed.

Data security & interoperability:

Health data is by its nature sensitive which creates challenges in navigating the balance between privacy and security, and the ability to access, integrate, and share data.

SOCIETAL BENEFITS OF APPS IN DIABETES

People with diabetes

Flexibility

Digital apps can lead to more flexibility, allowing people to better access care when and where they need it. One of the characteristics of diabetes is the need for care is not always constant but may fluctuate over months and years at a time.

Communication

Smartphone apps can allow for greater connectedness between clinicians and patients, enabling people with diabetes to communicate more quickly and effectively with healthcare providers, maintaining connection with clinics beyond annual check-ups.

Patient Empowerment

Apps can empower people to have more agency over the management of their health and wellbeing. People with diabetes can also have easier access to their own health records through apps.

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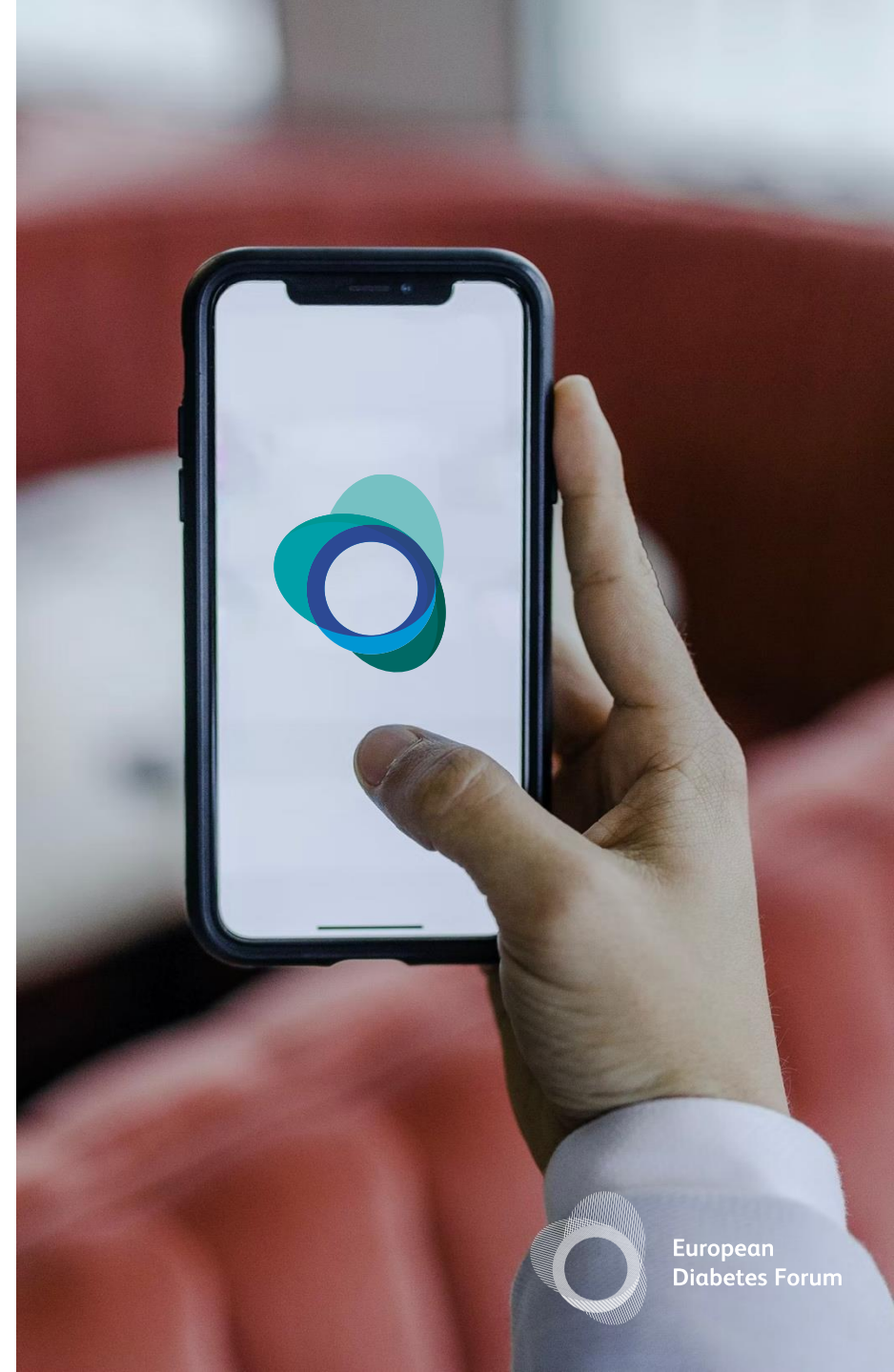
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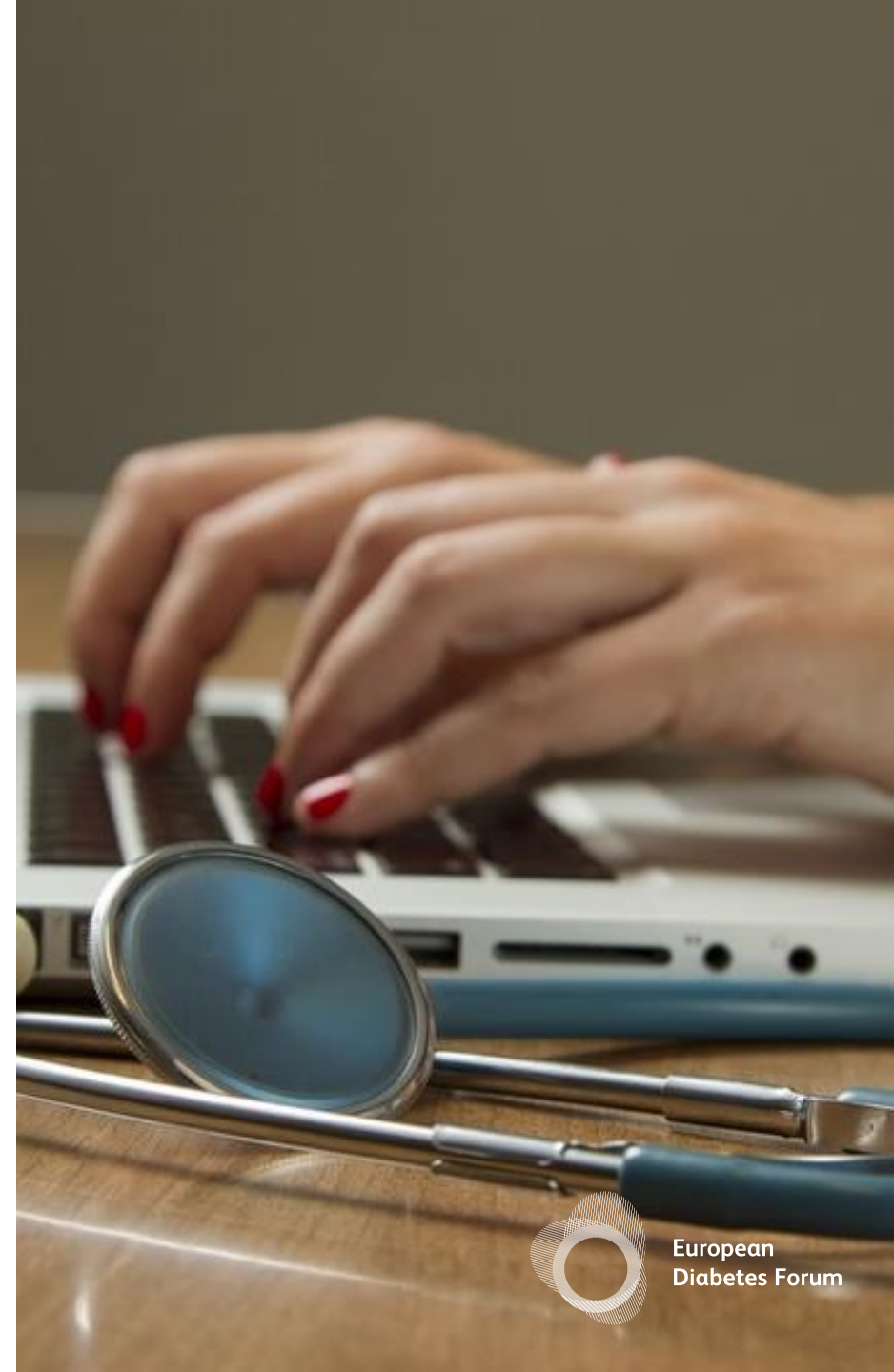
Health Systems

Data: Digital apps can facilitate the flow of data and can support decision-making by generating, storing, and leveraging this information. Digital tools can give healthcare providers an extensive overview of a patient's health and health records, making it easier to make informed choices about treatments and care. Apps that display data can offer insights into trends and developments in diabetes, and provide benchmarks to comparisons against other people or with international platforms. Digital apps can also support the growth of personalised medicine by collecting data on the efficacy of different treatments or medicines.

Decision-making & treatments: Apps can lead to more informed decision-making by HCPs , who can be able to access the information from the apps used by people living with diabetes. New technologies are opening the door to remote monitoring for disease management by clinicians, and improving patient self-sufficiency.

Health efficiencies: Healthcare systems were already under enormous pressure even before the pandemic, but workforce shortages coupled with an ageing population are likely to cause further strains in managing the inflow of diabetes patients. Digital tools like apps have the potential to enable healthcare systems to save time and allocate resources more effectively. Individual data from different resources gives the opportunity to individually tailor treatment pathways, securing the best possible efficiency for the whole healthcare and social system.

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RECOMMENDATIONS

1 Develop a User-Centred App → **2** Develop a best practice access pathway for apps → **3** Support the integration and uptake of high-quality apps into the health ecosystem

1 Develop a **User-Centred** App

Design and technical specifications:

- ✔ People with diabetes and healthcare professionals should be included in all stages in the development and validation of apps

- ✔ The app should be user-friendly and easy to navigate

- ✔ High standards of data security are essential, and consideration must be given to ownership of data

- ✔ Data must be interoperable

Objectives/features of the app:

- ✔ Apps should focus on empowering people with diabetes by offering support for self-management

- ✔ Apps should support a personalised, data-driven approach to diabetes care, one that improves decision-making in a meaningful way

- ✔ Data collected should be relevant and actionable

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2

Develop a best practice access pathway for apps

Identify requirements for access:

- ✔ Each member state should create a process to enable/accelerate access to digital health apps and agree on requirements/criteria... The process should be harmonised at the EU level

- ✔ People with the diabetes should be consulted throughout the process

- ✔ Patient-reported outcomes (PROMS criteria) should be part of the evaluation of apps

Reimbursement:

- ✔ Apps that can prove real value – by supporting patient self-management and reducing the efforts of HCPs – should be reimbursed/funded.

- ✔ Real life evaluations of apps should be published to provide data to payers to assess apps

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3

Support the integration and uptake of high-quality apps into the health ecosystem

Develop training opportunities to become more familiar with apps

- ✓ Develop "digital diabetes training programs" for healthcare professionals and people with diabetes that includes education on the use of selected apps. HCPs should be able to advise people living with diabetes about which app to use. And people with diabetes should have a better sense of what is currently on the market.

- ✓ Digital health training should be incorporated into all healthcare professional and specialist training

- ✓ Highlight the benefits of apps to payers to ensure they are allocated proper funding

Encourage uptake and integration of apps into healthcare pathways:

- ✓ Apps should be prescribed, as a drug or a medical device, to increase credibility and encourage full patient involvement.

- ✓ Data should be automated as much as possible to encourage the long-term use of these apps.

- ✓ Incentives should be in place for HCPs to recommend apps

- ✓ Payment models should focus more on outcomes versus visits . Likewise, the clinical model should be person-centred instead of service-based.

- ✓ Engage with medical societies to elicit the support HCPs for apps and digital solutions

Integrate apps in diabetes treatments and care:

- ✓ Apps can play an important role in telemedicine and personalised care, although they should complement, not restrict, access to in-person care

- ✓ Apps should share information with HCPs , and data should be integrated into monitoring and treatment schemes.

- ✓ Apps that are validated, licensed, and have proven efficacy should be considered for inclusion in chronic disease including diabetes management programs and guidelines

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DIGITAL TOOLS:

BENEFITS OF APPS

Track targets
- Glucose levels
- Medications

Data
Access to data that can inform decision-making

Access to Care
- Communication with HCPs
- Telemedecine
- E-prescriptions

CHALLENGES

Quantity and Quality

Evidence

Digital Hesitancy

Integration

Attrition

Data security & interoperability

CALL TO ACTION:

The goal of public policy should be to nurture a responsible and responsive environment that unlocks the positive potential of digital innovation, one that puts the needs of people with diabetes first. To realise the potential of mobile apps, two conditions must be in place: apps must be easily available and accessible to people with diabetes and HCPs, and they should meet high standards of effectiveness and quality.

A ROADMAP FOR APPS IN DIABETES

1. Develop a User-Centred App

2. Develop a best practice access pathway for apps

3. Support the integration and uptake of high-quality apps into the health ecosystem

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