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Blogs 1, 2, and Poster

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Statistics

- In the UK, more than half of people with diabetes are over 65, with a quarter over 75 (British Geriatrics Society, 2018). This means that about 10% of those over 75 and 14% of those over 85 have diabetes. Glooko, the platform for diabetes connectivity, enables the transfer and exchange of diabetes-related information across a unified platform, with the added feature of wireless upload. Previously, devices like glucose meters and insulin pumps were not compatible with other software systems (Poche, 2024). Our Glooko data repository now holds more than 5 billion data points, with 3.4 million users worldwide in over 7,500 clinics in 29 countries, in 21 languages (Glooko, 2021).
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Advantages of the App

- Periodic examination of diabetes information is essential for modifying insulin treatment and assessing the impact of variables like exercise, changes in diet, and drugs on each other.
- Real-time data on devices like CGM systems and insulin pumps helps patients make quick care decisions based on their blood sugar levels (Hoskins, 2022).
- Research shows that people who use digital diabetes tools to manage their condition see better control of their blood sugar compared to those who don't use these tools (Arbiter et al., 2019).

Disadvantages of the App

- Patients' data might not be analysed by their healthcare provider due to issues like devices not working well together, software problems, policies set by the healthcare institution, or the provider's choice.
- A big problem with getting digital data is that a lot of the information patients record (like blood sugar levels) isn't sent to their doctors for them to check.
- Given the abundance of diabetes data available in recent years, the task of analysing all this information has become increasingly complex (Arbiter et al., 2019).

Impact of the App

- Enhancing and Maintaining Glycemic Control
- Glooko Mobile App on Glycemic can improve outcomes within two months
- Weakening Glycemic Control Six to Eight Weeks After Termination of Glooko Use (Glooko, 2023)

Addressing Shortfalls

- There should step-by-step guide on achieving diabetes self-care goals
 - Less Social connection while using the app
 - The app should be simple to use (Adu et al., 2018).
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Blog 2

(Fenton, 2021)



- Obesity is a complicated condition with many causes and long-term effects, raising the chances of several diseases like type 2 diabetes, heart problems, and some cancers (Hinchliffe et al., 2023).

Statistics

- In 2022, 2.5 billion adults, aged 18 and older, were overweight, with 890 million of them being obese.
- Among adults, 43% were overweight and 16% were obese.
- Additionally, 37 million children under 5 were overweight, and over 390 million children and teenagers aged 5–19 were overweight, including 160 million who were obese (WHO, 2024)
- In the UK, about 25% of adults and 20% of 10-11-year-old children have obesity (NHS, 2023).

Obesity App

- smartphone apps for instant support, automated video exercise routine language recognition.
- Customized weight management through specific computer programs, and online methods for managing obesity that offer affordable solutions no matter where you are.
- Encouraging habits for weight management, like using apps and gadgets to easily monitor exercise and food consumption.

Impact of the App

- Promote physical activity
 - Supports healthy diet
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- Improved social interaction through the language enhancement features (Dr Young, 2024).

Advantages of the App

- Applications can offer independence and assist individuals in managing their dietary decisions.
 - Assists in assessing and overseeing eating habits and health risks associated with diet.
 - Privacy in viewing progress (Dr Young, 2024).
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Disadvantages

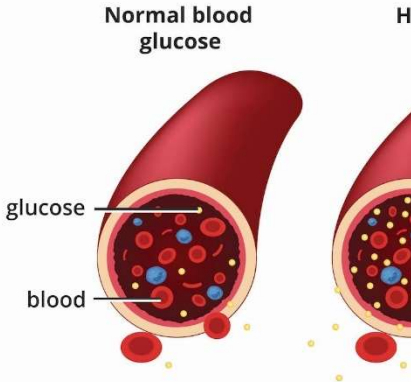
- Difficult to monitor diet
 - Financial burden (subscription cost)
 - Inaccurate data issues
 - Difficult for the elderly to use (Ghelani et al., 2020)
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Addressing Shortfalls

- Improve tailored feedback and personalisation
- Improve quality and functionality
- Cost-effective

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 (NIH, 2023)	Abdulai Turay ID - 20218268 2018268@student.uwtsd.ac.uk Supervisor – Ping Wu Diabetes and older people (65 and over) Diagnosis and Management of Type 2 Diabetes  (WHO, 2020)	 (Dr Mandal, 2024)
Background According to the British Geriatrics Society (2018), Diabetes is the most common long-term health issue in older adults. It leads to many health problems, frequent hospital visits, and more people needing to live in care facilities. In the UK, more than half of people with diabetes are over 65, with a quarter over 75. This means that about 10% of those over 75 and 14% of those over 85 have diabetes. However, most big studies on diabetes treatments don't include older adults. More men than women have diabetes, with 9.6% compared to 7.6%. People from South Asian and black backgrounds are more likely to have diabetes than those from white, mixed, or other groups, with 15.2% versus 8.0%. Older people also have a higher chance of having diabetes, with the risk increasing from 9.0% for those aged 45 to 54 to 23.8% for those aged 75 and over (Public Health England, 2016). The resources at an individual's disposal significantly impact their ability to adapt to their diabetic identity and, consequently, their engagement in self-care practices. Digital interventions are recognized as a resource that individuals can utilize to adjust to their diagnosis. Nonetheless, there appears to be a suggestion that individuals from disadvantaged backgrounds encounter greater difficulties in accessing and utilizing digital health technologies. This disparity may exacerbate existing health inequalities (Turnbull et al., 2020). This digital intervention "Glooko" is a platform that helps people with diabetes share and receive information easily, even wirelessly. It used to be hard for devices like glucose meters and insulin pumps to work with other software, but now they can (Poche, 2024). Periodic examination of diabetes information is essential for modifying insulin treatment and assessing the impact of variables like exercise, changes in diet, and drugs on each other. CGM systems and insulin pumps help patients make quick	Principle of Health Promotion Health promotion encompasses the endeavour to empower individuals to enhance their control over health outcomes and to improve their overall well-being. The objective of health promotion interventions is multifaceted, encompassing the prevention of health issues, the promotion of lifestyles conducive to health, and the facilitation of access to healthcare services and care (WHO, 2024). Health promotion is about helping people take charge of and better their health. It involves achieving full physical, mental, and social well-being by allowing individuals or groups to recognize and achieve their goals, meet their needs, and adapt to their surroundings. The quick growth of digital technologies, both in hardware and software, offers a fresh way to better public health, mainly by using digital tools for prevention and health promotion. For instance, these technologies can help Diabetic patients increase physical activity and improve eating habits, posture, and mental health through sensors and apps (Wienert Jahnel and Maab, 2022). Being diagnosed with type 2 diabetes (T2D) can drastically change a person's life and affect their self-image. The support a person receives plays a big role in how they adjust to their new identity and take care of themselves. Digital tools like Glooko are seen as helpful resources for adapting to diabetes. However, research suggests that the elderly may struggle more to access and use these digital health technologies, potentially leading to wider health disparities (Turnbull et al., 2020). Conclusion Digital technologies could greatly improve care for older people, but there are big	Behaviour Change Theory The Health Belief Model suggests that messages that tackle obstacles, boost confidence in one's ability to change, and highlight risks lead to the most successful behaviour change. Behaviour change theories are a structured approach to changing how people think and act. They outline the necessary steps to make changes easy and attainable. These theories also suggest frameworks that help create plans for interventions, showing how to apply the theories in real life (Pelly et al., 2023). The Health Belief Model suggests that individuals are more inclined to engage in health-related behaviours if they perceive themselves as susceptible to an event, understand its severity, anticipate its progression, and recognize the potential positive outcomes, as well as the associated barriers. According to Hood et al. (2018), digital technology affects how we act by Keeping track of ourselves, getting feedback on how well we do, providing information, setting goals, finding solutions Planning what to do next. The behavioural management of diabetes contributes significantly to improved health outcomes. The management of diabetes is intricate and requires considerable effort. Furthermore, it is a dynamic field, constantly evolving with the introduction of new medications, technologies, and methodologies. This evolution is exemplified by the Glooko App, among others. AI is now seen as a key measure for managing diabetes, and many studies have looked at how behavior affects it. Especially lifestyle adjustments like healthy diet, physical activity, stress reduction, and negative thinking. Besides behaviour, other factors influence AI, but a lot of it comes from how well people manage their diabetes behaviourally. Glooko, the platform for diabetes connectivity, enables the transfer and exchange of diabetes-related information across a unified platform, with the added feature of wireless upload.

care decisions based on their blood sugar levels (Arbiter et al., 2019).

Expected Outcome

The elderly using the Glooko mobile app checked their blood sugar more frequently and showed better blood glucose control than those who didn't use it. This backs up earlier research showing that digital tools can improve diabetes management in everyday life. The Glooko Mobile App is designed to seamlessly download data from over 50 commercially available blood glucose meters upon a user's request to upload (Offringa et al., 2018). This app has garnered clearance from regulatory authorities, ensuring its safety and efficacy. Furthermore, it provides a personalized digital logbook and presents data through customizable graphs, making it easy for the elderly to monitor their glucose levels, track meals, and manage medications. The app also offers feedback on their progress, as evidenced by examples provided as supplemental material (Offringa et al., 2018). By integrating routine remote monitoring of patient data collected throughout the day with telehealth coaching sessions conducted on a weekly or biweekly basis as required, patients were successful in attaining improved health outcomes. For individuals living with diabetes, the main goal of remote patient monitoring (RPM) solutions is to consistently monitor, report, and analyse various clinical indicators, including self-monitored blood glucose (SMBG) readings, insulin injections, and other patient behaviours like medication use, physical activity, and dietary intake. Healthcare providers can then leverage this data to implement personalized, timely interventions, such as modifying treatment plans, offering telehealth coaching, or engaging patients in other activities aimed at their well-being (Open Government Access, 2021).

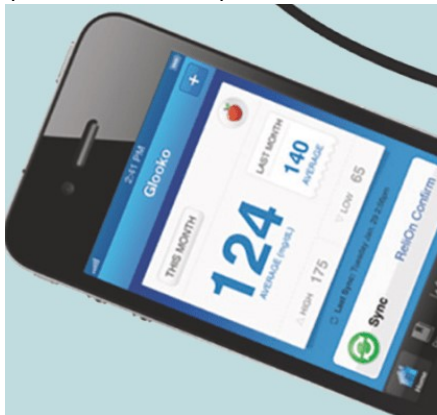
obstacles to using them effectively. These include not everyone knowing how to use digital tools well, worries about keeping personal information safe, and devices not working as well. Some problems, like how reliable sensors are, affect everyone, but others, like needing more help with digital security, are more common in older adults. Many older people like talking to health workers face-to-face, don't know much about digital technology and find it hard to use telehealth by themselves. People who know how to use digital devices and have trouble seeing might also have difficulty using smartphones with many buttons, small text, and not enough color difference. They need more support than younger people because they use digital tools less and have different health needs. Solving these issues is key to making digital technology a common part of care for older people.

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Previously, devices like glucose meters and insulin pumps were not compatible with other software systems (Poche, 2024). Regular review of diabetes information is crucial for adjusting insulin therapy and evaluating how factors such as exercise, dietary changes, and medications interact with each other. Real-time data from devices like continuous glucose monitoring systems and insulin pumps enables patients to make swift decisions regarding their care based on their blood sugar levels. Studies indicate that individuals who utilize digital diabetes management tools experience improved blood sugar control compared to those who do not use these tools (Arbiter et al., 2019). The increasing burden could stem from various factors, such as lifestyle, reduced awareness about the disease and its symptoms, physical activity, and more. However, healthcare practitioners can help the elderly by guiding them in developing realistic risk assessments and overcoming these challenges by utilizing the Health Belief Model as a theoretical foundation.

(Hoskins, 2022)



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