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Digital Transformation in the Health and Care Professions (BMHP6026)

Freestyle Libre

Component 1: Written Report

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1.Introduction

Digital technologies have transformed the way we handle chronic health conditions. A notable example is the FreeStyle Libre. Developed by Abbott Laboratories, this continuous glucose monitoring system is designed for individuals with diabetes. It features a small sensor worn on the skin that continuously measures glucose levels in the interstitial fluid. Users can access their readings at any time via a reader or a smartphone app (Abbott, 2024). This method represents a significant improvement over traditional finger-prick tests. Patients and healthcare providers can now identify patterns and monitor changes in real time. Increasingly, healthcare systems such as the NHS are adopting this technology. It enables better diabetes management, provides clinicians with more comprehensive information for decision-making, and supports personalized care for everyone (NHS, 2024).

2.Impact on work force

Digital health technologies such as the FreeStyle Libre system are transforming diabetes care. With continuous glucose monitoring, healthcare professionals receive a constant flow of real-time data instead of just occasional finger-prick measurements. This allows them to identify trends, detect issues early, and make more informed treatment decisions (NICE, 2022). The era of relying solely on once-daily blood sugar checks, care is informed by comprehensive data. This development brings new responsibilities for clinicians and diabetes specialists. The professional responsibilities within healthcare practice extend beyond pharmacological intervention, involving the analysis of digital health data and interpretation of complex glucose trends to inform personalised care planning. While this means more work, it results in better, more proactive decisions and treatment plans that are customized to individual needs (NICE, 2022)

Another benefit is that these technologies make it much simpler to discuss health with patients. When both doctor and patient can view several weeks of glucose trends on a screen, conversations become more focused and effective (Diabetes UK, 2023). It becomes easier to determine what is working and what is not, and patients receive guidance that fits their day-to-day lives. This collaborative approach not only improves blood sugar control, but it also fosters a true partnership in

diabetes care, with patients and healthcare professionals making decisions together (Diabetes UK, 2023).

2.1 Changes in Job Roles and Competencies

Digital monitoring systems have required healthcare professionals to enhance their digital competencies. Nurses, diabetes specialists, and clinicians must understand how to interpret digital data from monitoring devices and apply it to treatment decisions. They are also responsible for teaching patients how to use these devices and interpret the numbers and charts displayed (World Health Organization, 2024). Therefore, maintaining proficiency with digital health tools is no longer optional; for instance it has become an essential aspect of the role, necessitating continuous training and professional development. However, it is important to acknowledge that the process is not without its challenges. Digital technologies introduce new difficulties as well. Healthcare workers now manage large volumes of patient data, striving to identify every relevant detail and prevent errors. The workload can become demanding (World Health Organization, 2024). This underscores the importance of comprehensive training, organizational support, and clear clinical guidelines. With appropriate training and organisational support, digital technologies can enhance healthcare practice by supporting, rather than hindering, the work of healthcare professionals (World Health Organization, 2024).

3.Impact on service delivery

3.1 Integration of FreeStyle Libre in NHS Diabetes Care

According to National health services the FreeStyle Libre system has transformed diabetes care in the UK. Since 2019, the NHS has included flash glucose monitoring as a standard part of diabetes treatment (NHS London, n.d.). Now, eligible patients can receive these devices through NHS prescriptions. This marks a significant shift from finger-prick blood tests to a continuous, data-driven approach. Digital monitoring is no longer just an add-on; it has become central to the NHS's strategy for managing diabetes (NHS London, n.d.).

3.2 Changes in Day-to-Day Service Delivery

This is most clear in everyday practice with FreeStyle Libre, patients monitor their blood sugar throughout the day without the need for constant finger-pricking (Diabetes UK, 2025). They scan the sensor, view their readings, and gain insight into their glucose trends. When patients attend appointments, clinicians review these digital reports instead of sifting through paper logs or relying on patients' recollections. This allows for more precise and individualized treatment decisions (Diabetes UK, 2025).

3.3 Improved Patient Monitoring and Remote Care

Moreover, access to real-time data enhances patient autonomy by facilitating early identification of fluctuations and enabling proactive management to prevent escalation. The technology enables patients to share their data with clinicians from home, so providers can review the information remotely and adjust treatment plans without waiting for the next in-person visit (Al Hayek, Robert and Al Dawish, 2021). This flexibility encourages collaboration between patients and professionals sharing responsibility, catching problems early, and keeping care focused on the patient (Al Hayek, Robert and Al Dawish, 2021).

3.4 Challenges in Digital Service Implementation

Digital monitoring, however, is not without its challenges. The volume of patient data generated is substantial, requiring clinicians to interpret complex information rapidly while minimising the risk of overlooking critical patterns or making errors (NHS, 2019). In addition, healthcare organisations must invest in robust digital infrastructure, provide comprehensive staff training, and ensure adequate patient support as individuals adapt to new technologies and platforms. Without these essential provisions, the increased data burden and evolving workflows may become overwhelming for both clinicians and patients. Consequently, while FreeStyle Libre and similar technologies have significantly advanced diabetes management, they have also prompted the NHS to reconsider how best to balance innovation with the emerging challenges associated with digital transformation at every stage of care (NHS, 2019).

4. Impact on patients

4.1 Improved Patient Experience and Convenience

Digital health tools like the FreeStyle Libre system have transformed how people with diabetes manage their lives. With continuous glucose monitoring, patients no longer need to stop and perform finger-prick tests constantly. That previous method was pricking the patient's finger multiple times a day, was not only painful but also disrupted daily routines (Alcántara-Aragón, 2019). Flash glucose monitors have simplified this process. Now, the patient just scans the sensor with a reader or the phone to instantly see the glucose level. The device can also monitor how your levels change over time, which helps you better understand your body (Alcántara-Aragón, 2019). Having immediate access to data increases confidence. People feel more in control and less anxious about their health. It is not surprising that many report greater satisfaction with their diabetes care now and are more consistent in monitoring their glucose (Alcántara-Aragón, 2019).

4.2 Patient Empowerment and Self-Management

According to National health services, digital monitoring technology is transforming diabetes management. When patients can track their glucose levels in real time, they

begin to understand how food, exercise, stress, or medication influence their blood sugar. Patterns become evident. The data is not just numbers; it serves as a guide. With immediate feedback, people make more informed decisions about diet, activity, and adherence to treatment plans (NHS London, n.d.). They move beyond simply following instructions to actively taking charge of their care. Consider devices like FreeStyle Libre. Now, instead of a hastily written logbook, patients arrive with comprehensive records of their glucose patterns. Everything is accessible. This development transforms the nature of patient–clinician interaction, shifting patients from passive recipients of care to active collaborators. Patients engage in informed discussions, ask relevant questions, and work in partnership with clinicians to optimise their management strategies. Such a collaborative approach enhances trust and supports the delivery of genuinely patient-centred care. They highlight digital technologies as a crucial factor in empowering patients to manage diabetes independently, while also improving the overall standard of care (NHS London, n.d.).

4.3 Safety, Quality of Life, and Challenges

FreeStyle Libre stated that digital monitoring technologies offer significant advantages, particularly for individuals managing diabetes. Continuous glucose monitoring systems enable patients to detect high or low glucose levels more quickly, allowing them to intervene before situations become dangerous. This rapid response helps prevent complications such as hypoglycaemia or hyperglycaemia. Monitoring glucose levels throughout the day reduces the anxiety associated with unpredictable fluctuations. For many people, this leads to an improved overall quality of life (freestyle.abbott, n.d.). However, these benefits are not without challenges. Some patients are concerned about data privacy and who can access their personal health information. Others face difficulties due to a lack of digital skills, absence of smartphones, or unreliable internet connections. The high cost of digital monitoring devices and unequal access to technology further exacerbate disparities in healthcare. Therefore, healthcare providers must provide education, training, and support. They should ensure that patients feel confident and capable using these tools. At the same time, healthcare organizations must strive to keep digital services inclusive and accessible to everyone who could benefit from them (freestyle.abbott, n.d.).

5. Impact on community

5.1 Influence on Families and Local Healthcare Services

Digital health tools like the FreeStyle Libre system are not only transforming life for people with diabetes and their healthcare providers but they are also changing care for entire communities. Continuous glucose monitoring has changed the way we provide diabetes care, whether it is in hospitals, community clinics, or at home. When

people can monitor their own glucose levels, they avoid many unnecessary clinic visits (Gregory and Curtis, 2022). This allows healthcare teams to focus their efforts where they are most needed on patients who require direct care. We are witnessing a move towards care models that give more responsibility to patients while keeping expert support close by. These technologies benefit not only patients, but they are also important for families and caregivers. When someone with diabetes can monitor their levels in real time, their loved ones experience less worry. In some cases, family members can even access that data themselves and step in when something seems wrong (Gregory and Curtis, 2022). This type of collaboration strengthens how families manage chronic conditions and often leads to better health outcomes for everyone involved. However, there is a challenge. Not everyone has equal access to digital health tools. Some people encounter barriers such as limited digital literacy, financial constraints, or unreliable internet. If we do not address these issues, we risk leaving parts of the community behind. For digital healthcare to benefit everyone, it must be truly accessible and inclusive (Gregory and Curtis, 2022).

5.2 Co-Production, Public Health, and Community Wellbeing

Digital monitoring technologies do not just affect families or healthcare services, they help reshape how care gets delivered. When we talk about co-production in healthcare, we mean a real partnership: patients, clinicians, and entire communities coming together to shape how healthcare works. Tools like FreeStyle Libre push patients to step up and take charge by tracking their own health data and sharing it. This gives clinicians better, real-time information and helps them adjust care as needed (NHS England, 2023). It is not just about numbers; it is about building a relationship where both patients and professionals can listen, respond, and learn from each other. When communities get involved too, they help steer services so they truly fit what people need. They help spot health problems earlier, prevent some issues altogether, and make living with chronic conditions like diabetes a bit more manageable. Continuous glucose monitoring is not about catching a high or low reading, but it nudges people toward healthier choices in their daily lives (NHS England, 2023). Better control means fewer complications, fewer emergency trips to the hospital, and less strain on the whole healthcare system. In the end, this kind of technology lifts entire communities by supporting healthier habits and making healthcare more sustainable. Still, to keep this momentum going, healthcare organizations need to stay committed. That means investing in solid digital infrastructure, making sure everyone understands how to use these tools, and building policies that welcome everyone in. The real promise of digital health only gets realized when nobody is left out (NHS England, 2023).

6.Conclusion

In conclusion, the FreeStyle Libre system has significantly transformed diabetes management by improving patient monitoring, supporting self-management, and

enhancing service delivery. Although digital technologies offer substantial benefits for patients and healthcare services, challenges related to digital literacy, data privacy, and equitable access must be addressed to ensure inclusive and effective healthcare provision.

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