

MSC PUBLIC HEALTH AND SOCIAL CARE IN PRACTICE

MODULE: POPULATION HEALTH AND DIGITAL HEALTH PROMOTION

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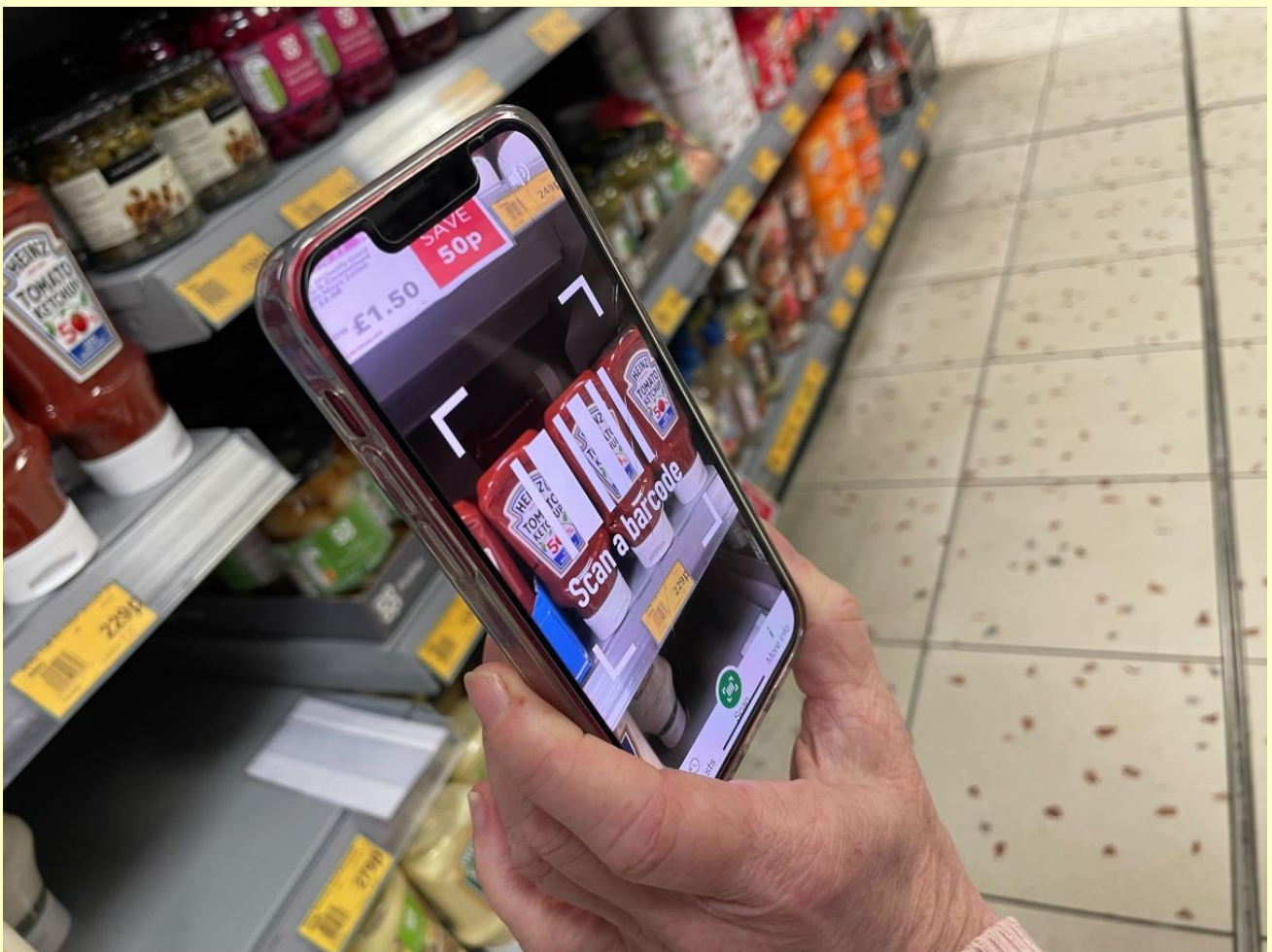
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BLOG 1

NAVIGATING DIET-RELATED HEALTH CONCERNS: A VISUAL EXPLORATION OF THE NHS FOOD SCANNER



In an era where digital solutions have emerged as powerful allies in the quest for better well-being, The World Health Organisation warns of a global surge in diet-related health issues, marking obesity, diabetes, and cardiovascular diseases as critical concerns. The gravity of the situation is underscored by recent reports from the National Health Service in the UK,

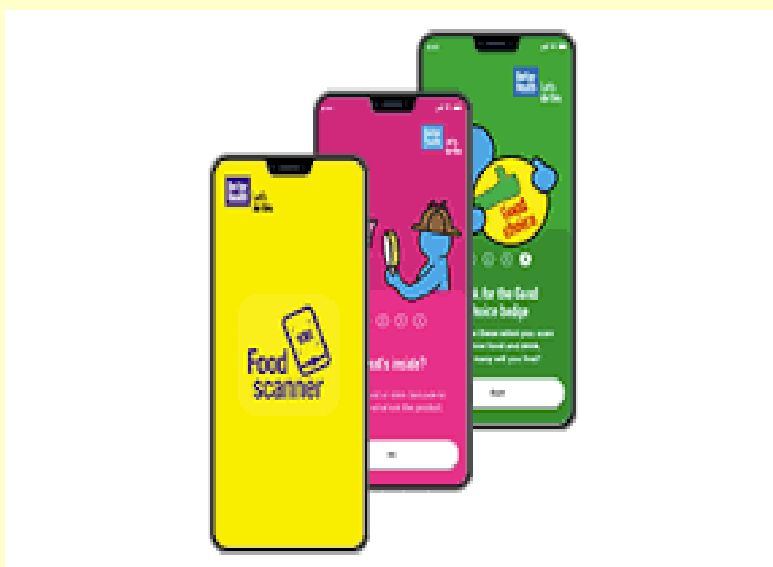
revealing that a staggering 63% of adults are classified as overweight or obese (WHO 2020, NHS 2021).

A Looming Crisis

The severity of the public health crisis demands innovative solutions. Obesity, in particular, not only impacts an individual's health but also places an immense burden on healthcare systems. It contributes to a higher risk of chronic diseases, reduced life expectancy, and increased healthcare costs. A new survey conducted with Netmums showed that 58 percent of parents give their children more sugary or fatty snacks than before the pandemic, and 64 percent of parents said they often worry about how healthy their children's snacks really are (Lyons 2022). Tackling this issue is not just about personal well-being; it's about ensuring the health and vitality of entire communities.

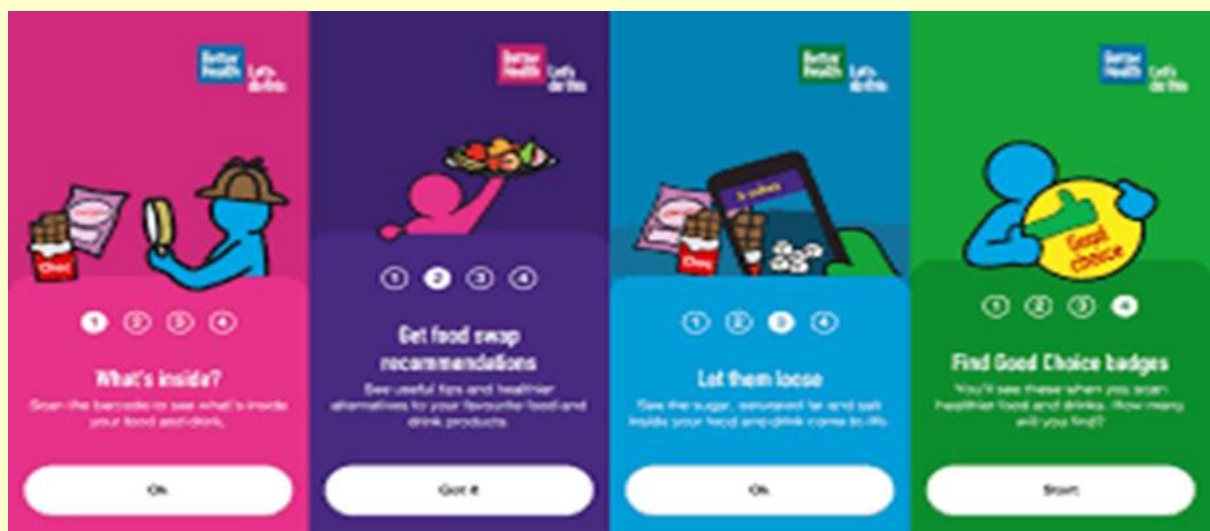
Health promotion

Enter the Better Health Campaign's response to this crisis—the NHS Food Scanner app. In the ever-evolving landscape of digital health, this application stands out as a beacon of hope. It positions technology as a catalyst for transforming dietary habits, aligning seamlessly with current research findings supporting the efficacy of digital interventions. A survey by the UK Health and Social Care Information Centre reveals that 27% of adults struggle to interpret nutritional information on food labels (UK HSCIC).



Impacts of the NHS Food Scanner App

While the NHS Food Scanner app holds promise, a survey by the UK Health and Social Care Information Centre highlights potential stumbling blocks. Recognition challenges and usability limitations currently hinder the app's effectiveness, shedding light on areas that require attention. The gravity of diet-related health concerns necessitates a thorough examination of the app's functionality to ensure it serves as a robust tool in the battle against obesity. Families can scan the product barcodes from their shop, and the app will suggest healthier alternatives to help them make an easy swap next time they shop (Lyons 2022).



Advantages and disadvantages

Its objective is to raise awareness and prompt users towards healthier choices. Food scanner apps offer advantages such as detailed nutritional information, calorie tracking, and allergen alerts. They can serve as educational tools and provide personalised recommendations. However, concerns include potential inaccuracies, limited databases, and privacy issues. User engagement and dependency on technology are also factors, while some apps may have associated costs for premium features.

Shortfalls

To address the identified shortfalls, a comprehensive strategy is imperative. Research published in the Journal of the American Medical Informatics Association advocates for continuous improvement based on user feedback and technological advancements (da Fonseca 2021). Incorporating evidence-based nutritional guidance from reputable health organisations, such as the WHO and the NHS, and collaborating with nutrition experts during app development can elevate its impact.

Conclusion

It is clear that the NHS Food Scanner app is an important component of the larger public health story, not merely a digital tool. Beyond acknowledgment, action is required due to the importance of diet-related health risks. The application has the capacity to not only address these issues but also actively contribute to creating a healthier future by combining technology, nutrition, and user-centered enhancements.

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BLOG 2

PIONEERING MENTAL WELLNESS WEARABLE: A DATA-DRIVEN APPROACH TO DIGITAL HEALTH PROMOTION



Public Health Problem

Mental health disorders such as depression, anxiety contribute significantly to the global burden of disease. According to the World Health Organization (WHO), an estimated 264 million people suffer from depression globally, with anxiety disorders affecting 284 million (WHO, 2021). The economic impact is substantial, with the global cost of mental health conditions projected to surpass \$6 trillion by 2030 (Bloom et al., 2011). This emphasizes the urgent need for effective and scalable interventions.

Health promotion

With its real-time stress detection, mood tracking, and customised mindfulness recommendations, this innovative wearable for mental well-being smoothly blends into everyday life. Through involvement and support, it enables people to take control of their mental health and promote overall well-being. One study by Faurholt-Jepsen et al. (2016), for example, showed that wearing wearables for mood monitoring in bipolar disorder patients is both feasible and acceptable. Acharya et al.'s research from 2020 also demonstrated the possibility for early intervention using real-time stress monitoring via wearables.



Modified Digital Technology

While wearable technologies with a focus on mental health exist, the proposed modified version introduces a sophisticated smartwatch that transcends traditional fitness tracking. In addition to monitoring physical parameters like heart rate and sleep patterns, this advanced version integrates mental health metrics. Equipped with real-time stress detection algorithms and mood tracking capabilities, the device offers personalized mindfulness recommendations, aiming to proactively tackle the escalating issue of mental health disorders. Current wearables often track basic physical parameters. This updated version aims to provide a more comprehensive and proactive approach to mental health promotion.

Impact of the Designed Technology: Advantages

1. **Early Intervention:** Real-time stress detection facilitates early identification of mental health challenges, allowing for timely intervention and support
2. **Holistic Wellness:** The integration of physical and mental health parameters promotes a comprehensive approach to health, aligning with the biopsychosocial model (Engel, 1977).
3. **Social Support:** The inclusion of social connectivity features reduces feelings of isolation, offering a platform for shared experiences and support (Cohen, 2004).

Shortfalls:

1. **Stigma:** Societal stigma remains a potential barrier to the adoption of mental health technologies, emphasizing the need for comprehensive education campaigns (Clement et al., 2015).
2. **Accuracy Concerns:** Ongoing efforts to enhance the accuracy of stress detection algorithms are essential to mitigate potential false positives or negatives (Noh et al., 2023).
3. **Accessibility:** Ensuring inclusivity through the development of alternative, accessible solutions is crucial to reach individuals with varying technological access (Andersson et al., 2014).

Addressing Shortfalls:

1. **Stigma Mitigation:** Robust educational campaigns should be implemented to destigmatize mental health and communicate the tangible benefits of utilising technology for mental wellness (Corrigan et al., 2012).
2. **Continuous Improvement:** Regular updates to algorithms, guided by ongoing research and user feedback, are essential to maintaining the accuracy and reliability of the technology (Christensen et al., 2019).
3. **Inclusive Design:** Parallel efforts to develop alternative, accessible solutions for individuals with limited access to advanced wearables will contribute to broader inclusivity in mental health promotion efforts (Mohr et al., 2022).

In conclusion, the proposed updated wearable technology offers a promising solution to the escalating public health challenge of mental health disorders. With a foundation in empirical evidence and a focus on novel features, this technology has the potential to significantly contribute to global mental wellness initiatives.

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POSTER

FOSTERING HEALTH RESILIENCE: INTEGRATING **SOCIAL COGNITIVE THEORY** **INTO THE NHS FOOD SCANNER APP INTERVENTION**

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FOSTERING HEALTH RESILIENCE: INTEGRATING SOCIAL COGNITIVE THEORY INTO THE NHS FOOD SCANNER APP INTERVENTION

BACKGROUND AND INTRODUCTION

In the contemporary digital landscape, the World Health Organisation (WHO) has raised a red flag on the escalating global crisis of diet-related health issues, prominently obesity, diabetes, and cardiovascular diseases (WHO 2021). Recent data from the UK National Health Service (NHS) paints a stark picture, revealing that a staggering 63% of adults are grappling with overweight or obesity, underscoring the severity of the challenge (NHS 2021).

This pressing public health dilemma necessitates innovative solutions, particularly in tackling obesity, a condition that not only jeopardises individual health but also exerts significant strain on healthcare systems. Unhealthy dietary habits contribute to a higher risk of chronic diseases, reduced life expectancy, and augmented healthcare costs. A recent survey conducted by Netmums echoes these concerns, unveiling an alarming trend of increased consumption of sugary or fatty snacks among children during the pandemic (Lyons 2022).

Responding to this multifaceted crisis is the Better Health Campaign's NHS Food Scanner app, a cutting-edge digital intervention. In the dynamic realm of digital health, this application emerges as a beacon of hope, positioning technology as a catalyst for transforming dietary habits and aligning seamlessly with research findings supporting the efficacy of digital interventions. This intervention is necessary because

- **Increasing Awareness:** Many people may not be fully aware of the nutritional content of the food they consume. A food scanner app could serve as an educational tool, helping users understand the composition of different food items.
- **Personalised Nutrition:** Individuals have unique dietary needs based on factors such as age, health conditions, and activity levels. A food scanner app could offer personalised recommendations.
- **Chronic Disease Prevention:** Dietary factors play a crucial role in the prevention of chronic diseases. Providing individuals with tools to monitor and improve their diet can contribute to the prevention of conditions like obesity, diabetes, and heart disease.

Examples of Previous Public Health Interventions:

- **Nutrition Labelling:** Mandating clear and informative nutrition labels on food packaging is a traditional intervention. It helps consumers understand the content of the food products they purchase.
- **Educational Campaigns:** Public health initiatives often include educational campaigns to raise awareness about the importance of a balanced diet and the impact of certain food choices on health.

BEHAVIOUR CHANGE THEORY

Social Cognitive Theory (SCT) is a robust framework chosen to guide the intervention. SCT emphasizes the dynamic interplay between personal factors, environmental influences, and behavior. In the context of the NHS Food Scanner App, SCT will be strategically employed to reinforce positive behaviors related to healthy eating.

❗ **Observational Learning:** One of the core tenets of SCT is observational learning. The app will integrate success stories and testimonials, allowing users to observe and model positive behaviors. Users will witness real-life examples of individuals making healthier food choices and experiencing positive health outcomes through the app (Bandura, 1986). This observational learning component aims to inspire and build users' self-efficacy, the belief in their ability to replicate these positive behaviors.

❗ **Self-Efficacy:** The app will focus on enhancing self-efficacy by providing personalised recommendations and positive reinforcement. Users will receive tailored suggestions based on their dietary preferences and health goals (Bandura, 1977). The app's user-centric design aims to instill confidence in users, fostering the belief that they can successfully make healthier food choices. As users experience the positive impact of their decisions, their self-efficacy is expected to increase, creating a positive feedback loop.

❗ **Social Support:** SCT emphasises the importance of social support in behavior change. The NHS Food Scanner app will incorporate a community feature where users can connect, share their experiences, and support each other (Bandura, 2001). The sense of community provides users with additional motivation, encouragement, and reinforcement of positive behaviors. By fostering a supportive environment within the app, SCT leverages social support to enhance the sustainability of behavior change.

HEALTH PROMOTION VALUES AND PRINCIPLES

Empowerment through Information Access:

The NHS Food Scanner app aligns with the health promotion value of empowerment by providing users with real-time nutritional information about the food they consume. This information empowers individuals to make informed choices about their diet, fostering a sense of control over their health outcomes (Nutbeam, 1998).

Enhancing health literacy:

The app contributes to health literacy by promoting an understanding of nutritional content. Health literacy is a key element in health promotion, enabling individuals to comprehend health information and apply it to their daily lives (Nutbeam, 2000).

Equity and Accessibility:

A fundamental principle of health promotion is equity, ensuring that all individuals have the opportunity to achieve their full health potential. The NHS Food Scanner app embodies this principle by prioritising inclusivity and accessibility features, ensuring that a diverse range of users, including those with varying technological skills or disabilities, can benefit (WHO, 1986).

Addressing Social Determinants of Health:

The app indirectly addresses social determinants of health by promoting better nutrition. As nutrition plays a crucial role in health outcomes, especially in preventing chronic diseases, the app contributes to reducing health disparities associated with nutrition-related conditions (Marmot et al., 2008).

Behavioural Change Support:

Health promotion often emphasises supporting individuals in adopting and maintaining healthy behaviors. The app can be designed to offer features that encourage behaviour change, such as setting personalised nutritional goals and providing feedback on progress (National Cancer Institute, 2005).

Community Engagement and Support:

To enhance the app's impact, community engagement features could be incorporated. This aligns with health promotion principles that recognise the importance of community involvement in health initiatives, fostering a supportive environment for behaviour change (WHO, 2005).

EXPECTED OUTCOME

The anticipated outcomes of the NHS Food Scanner app encompass a multifaceted approach towards fostering positive health behaviours and preventing diet-related health issues. Grounded in health promotion theories and principles, the expected impacts extend beyond mere information dissemination, aiming to bring about meaningful and sustained changes in individuals' dietary habits.

One of the primary expected outcomes is heightened awareness of nutritional choices. By providing real-time and accessible information about the nutritional content of various food items, users are empowered to make informed decisions about their diet. This aligns with the principles of health literacy, as individuals gain a deeper understanding of the nutritional value of the foods they consume (Nutbeam, 1998).

Increased self-efficacy in making healthier decisions is another key outcome. The app can be designed to incorporate features that guide users towards setting and achieving personalised nutritional goals. Self-efficacy, a concept from social cognitive theory, emphasises an individual's belief in their capability to perform a specific behaviour, in this case, making healthier dietary choices (Bandura, 1977).

Furthermore, the NHS Food Scanner app is expected to cultivate a sense of community support. Social support is a crucial factor in health behaviour change, providing individuals with encouragement, motivation, and a shared sense of purpose. Community engagement features within the app, such as forums or challenges, can facilitate a supportive environment for users on their health journey (Berkman et al., 2000).

The ultimate goal is the adoption of long-term changes in dietary behaviours, contributing to the prevention of diet-related health issues. Sustainable behaviour change is a complex process that requires ongoing support and reinforcement. The app's design should consider incorporating behaviour change theories, such as the transtheoretical model, to guide users through stages of readiness to change (Prochaska & Velicer, 1997).

In alignment with broader public health goals, the NHS Food Scanner app has the potential to positively influence behaviour and contribute to reducing the burden of chronic diseases. By addressing lifestyle factors through informed decision-making, self-efficacy enhancement, and community support, the app becomes a valuable tool in the arsenal against health issues stemming from inadequate dietary practices.

CONCLUSION

The NHS Food Scanner app not only transforms individual health behaviours but also holds significant implications for broader public health initiatives. Policymakers can utilise the app's comprehensive data to formulate evidence-based nutrition policies that adapt to the dynamic dietary landscape and promote healthier choices on a societal level. Educational institutions have the opportunity to integrate the app into curricula, fostering health literacy among students and preparing them for informed decision-making about their nutrition. The app's rich dataset also opens avenues for research, enabling a nuanced understanding of dietary patterns and facilitating the development of targeted, evidence-based interventions to address public health challenges (Bandura, 2004). In essence, the NHS Food Scanner app, rooted in social cognitive theory, serves as a pioneering model for the integration of digital health interventions into comprehensive strategies aimed at mitigating health inequalities and advancing population-wide well-being.

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