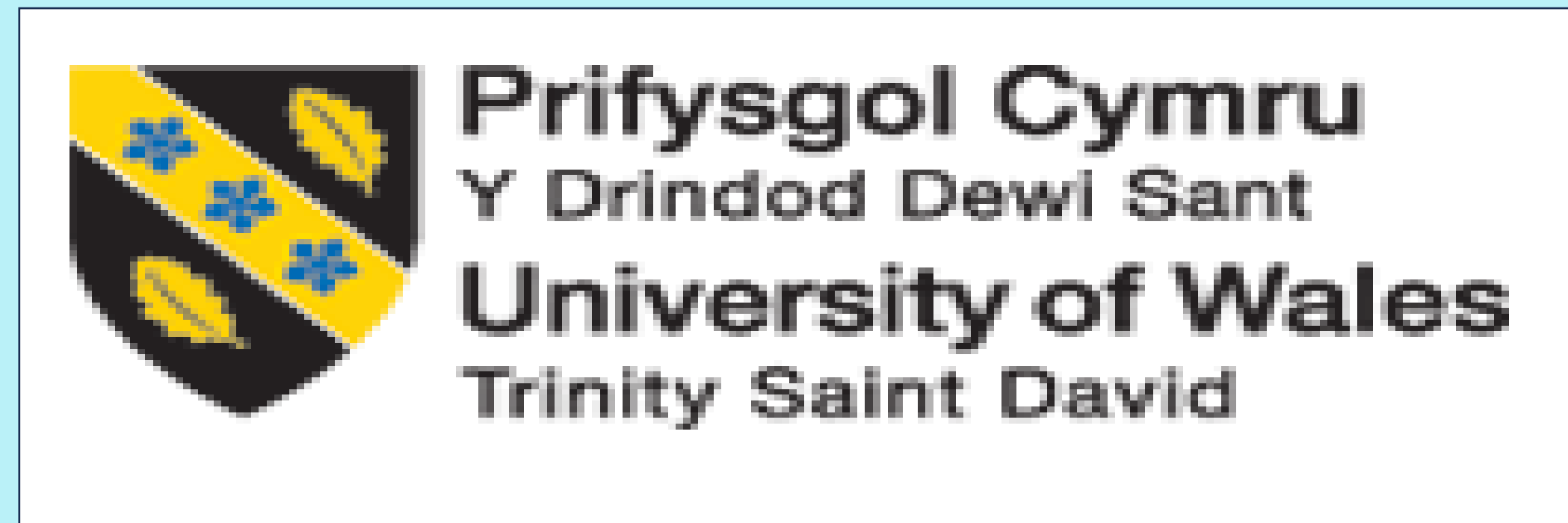




Programme: MSc Public Health and Social Care in Practice

Module: Population Health and Digital Health Promotion

Module code: LCHS7009

Cardiovascular Disease (CVD) and Home Blood Pressure Monitoring (HBPM)

Assignment Title: Component 2 Poster

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Overview of Cardiovascular disease and Home Blood Pressure Monitoring (HBPM)

Public Health Issue

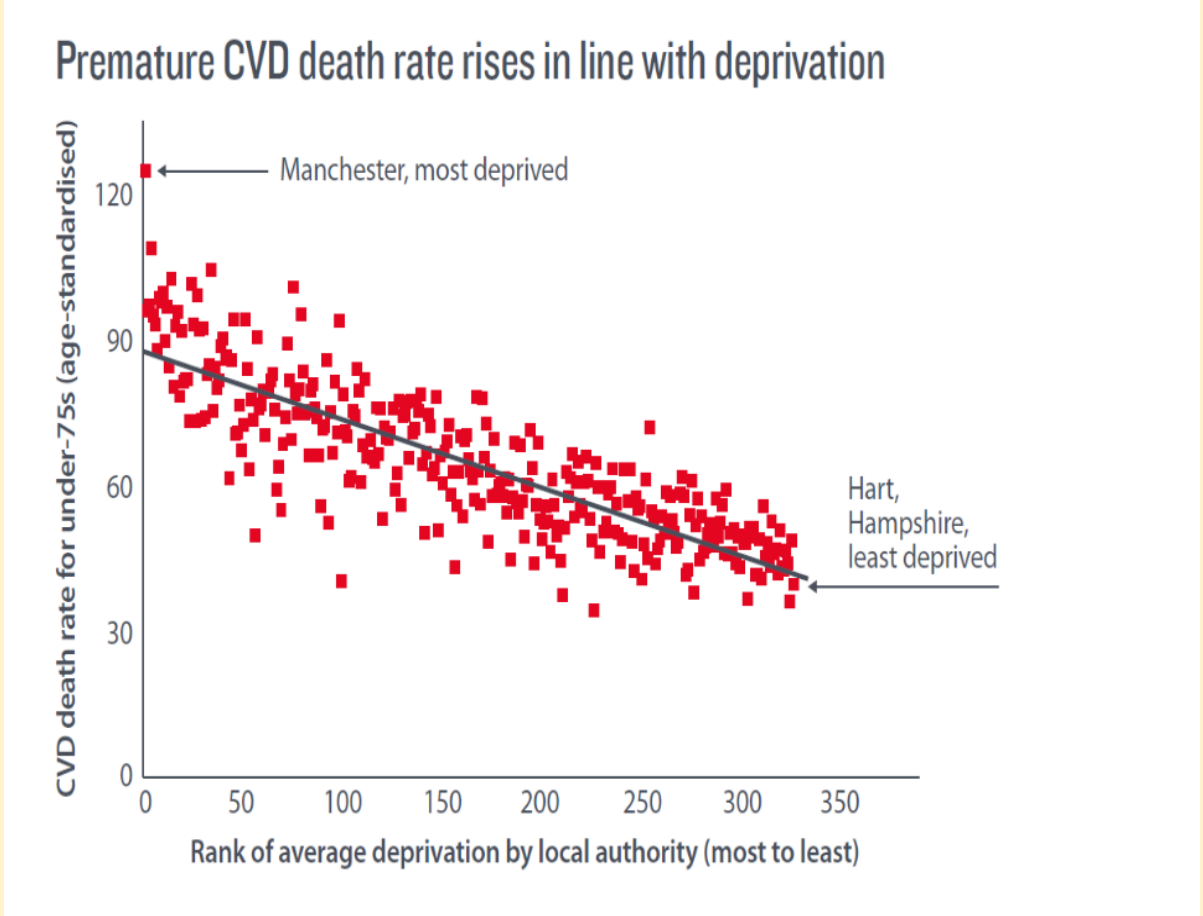
Cardiovascular disease is considered one of the largest health issues globally. It has an influence on a great number of people, and it may cause such severe complications as heart attacks and strokes. Heart-related conditions cause the death of millions of people every year.

Necessity of the Intervention

According to the British Heart Foundation (2025), approximately 33,700 deaths every year are caused by cardiovascular disease (CVD), which is the cause of 22% of all premature deaths in England. This is why there is a need to establish ways of preventing and managing this disease at an early age.

Interventions to Prevent Cardiovascular Disease

Digital health interventions (DHIs) refer to technology-based solutions that are intended to enhance the health and care of patients efficiently and safely (Devani, Kirubakaran and Molokhia, 2022). Public health teams have adopted various intervention types to keep people healthy. This can be smartphone-based applications and email automation (Devani, Kirubakaran and Molokhia, 2022). Other remote patient monitoring devices include Home Blood Pressure Monitoring (HBPM), Pulse Oximeter, Electrocardiogram (ECG), and more. These technologies assist individuals in knowing their health conditions and doing something before things get out of control.



(British Heart Foundation [BHF], 2025)

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something before things get out of control.

Health Promotion Values and Principles

Digital health services, such as Home Blood Pressure Monitoring (HBPM), assist with such values and principles.

Empowerment: National Youth Council of Ireland [hereafter NYCI] (2025) unveils that there are five levels of Health promotion, and they are Developing Personal Skills, Creating Supportive Environments, Strengthening Community Action, Developing Public Policy and Re- Reorienting the Health Services. Such values are constructed to reduce health disparities in groups and create equitable access to a healthy life. HBPM supports empowerment because patients are allowed to manage and check their well-being independently.

Holistic Approach: The home-based approach based on continuous measurements also provides an opportunity to track their blood pressure and monitor hypertension among patients who were not previously diagnosed with hypertension (Hare, Chokshi and Adusumalli, 2021). When used appropriately, digital tools, including HBPM, can facilitate health promotion to be more personal, more equitable, and effective for everyone.

Participation: HBPM is a digital application which contributes to the active engagement of the user, and it may help him or her to make daily health choices based on health situations. This enhances co-operation between patients and health care.

Equity and Social Justice: The application of digital health services now gains the relevance of health care practitioners, patients, and citizens (Rosenlund, Kinnunen and Saranto, 2023). These applications can be used to minimise care barriers, in addition to enhancing equitable access, particularly to the underserved groups.

Intersectoral Collaboration: It is necessary to promote well-being through the involvement of an enlarged and varied range of users, disciplines and sectors beyond the field of public (Pronk *et al.* 2021). Cross-sector partnerships, with technology and education, and healthcare, would increase the accessibility and effectiveness of digital health interventions.

Behavioural Change Theory

Application in the Intervention

Perceived Susceptibility: This is the level to which an individual perceives that he or she is subject to the risk of developing a health issue. When it comes to HBPM, people will feel more vulnerable since they are aware that they have a family history of heart illness or high blood pressure and will be more willing to use the device.

Perceived Severity: This concerns the weight given by the individual to the seriousness of the health problem. When a person realises that, without treatment of high blood pressure, he or she may suffer a stroke or a heart attack, he/she will be more serious in monitoring (Saiz *et al.* 2022).

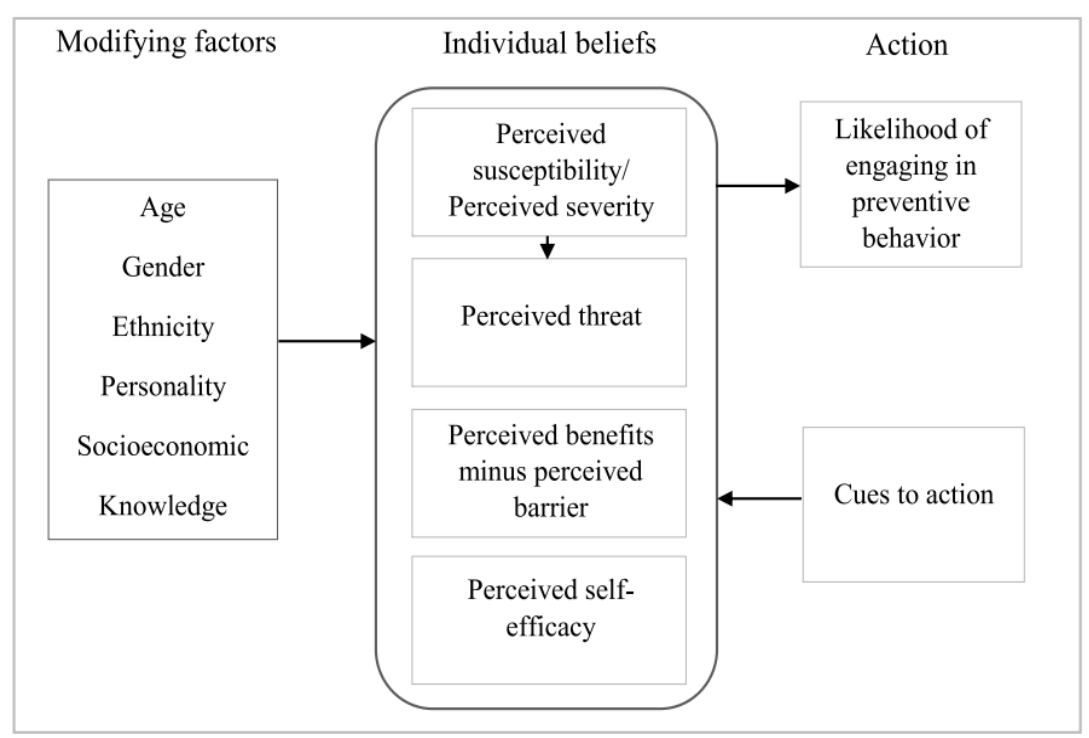
Perceived Benefits: The reason why individuals will employ HBPM is that they will realise that it offers better patient compliance, and eventually better BP control rate (Lee, 2024).

Perceived Barriers: The barriers can include the price of monitors, the absence of a system that can communicate to transfer abnormal values, and poor health literacy (Atluri *et al.* 2023). These can be resolved by means of training and low-cost access to help usage.

Self-efficacy: This is the trust that one has in operating the device in the right way. This confidence can be increased by simple instructions and the help of medical personnel.

Cues to Action: App alerts, physician communications, or health promotions can encourage individuals to use HBPM daily.

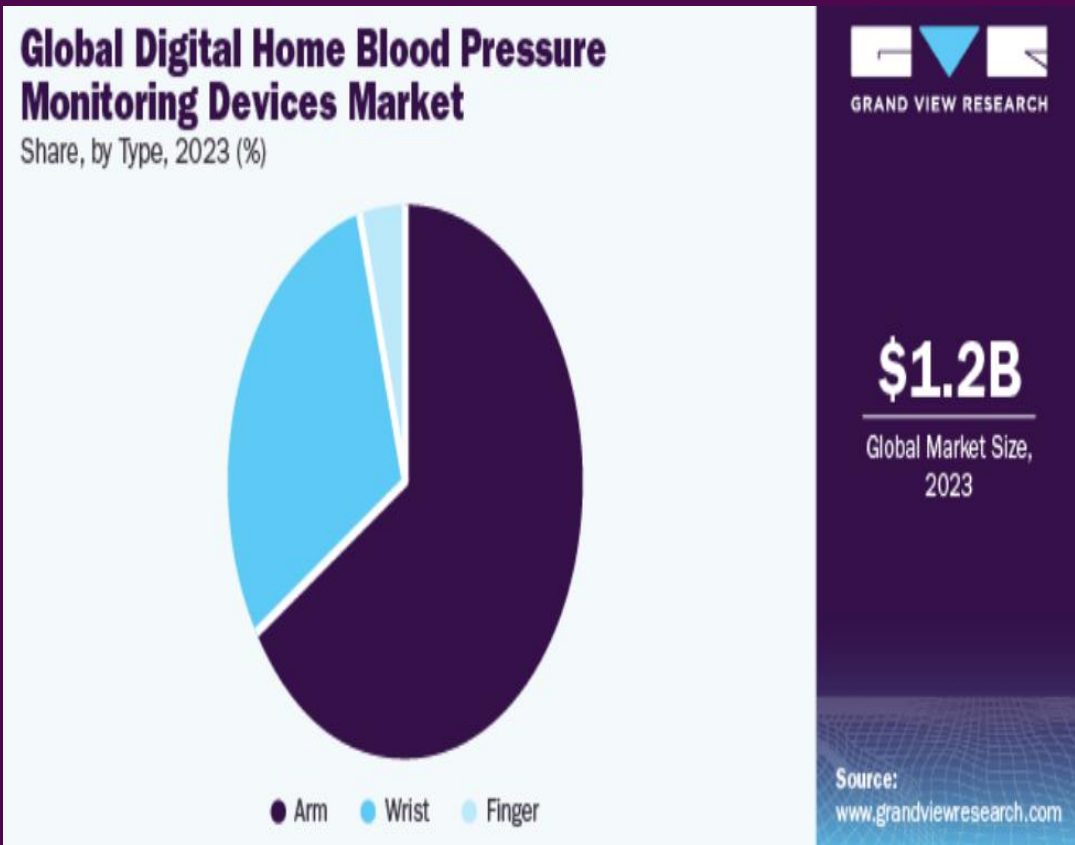
Finally, HBPM is a better tool that will promote sustainable health behaviour and enhance the results by utilising the HBM.



(Subedi, Leal Filho and Adedeji, 2025)

Chosen Intervention: Home Blood Pressure Monitoring (HBPM)

Home Blood Pressure Monitoring (HBPM) is one of the helpful digital devices. For the diagnosis and management of hypertension, HBPM is a consistent, suitable, and less costly substitute of ambulatory blood pressure monitoring (ABPM). It has been demonstrated to have greater predictive ability of cardiovascular risk (Hare, Chokshi and Adusumalli, 2021). The NHS supports HBPM, and it is used to detect the early signs of high blood pressure. With this type of technology, healthcare became more personal and accessible.



(Grand View Research, 2025)

Expected Outcome

When a digital health tool, such as the Home Blood Pressure Monitoring (HBPM), is guided using the Health Belief Model, the anticipated result is that the behaviour of individuals in the management of their health will be positively transformed. Overall, the existence of a reliable theory and a practical tool facilitate the changes in behaviour in the long term and assists in enhancing the health outcomes of individuals and communities.

Critical Discussion

Evaluation of Chosen Intervention

According to the England National Health Service [hereafter England NHS] (2025), HBPM has been given a priority in managing cardiovascular diseases because it ensures patients can manage their hypertension effectively and remotely, avoiding the need to visit a GP. With time, when people start using the device regularly, they will be more self-confident and in charge of their health. Also, HBPM can put less strain on hospitals and expand care access.

Advantages and Disadvantages

Advantages of HBPM

- Digital monitors enable blood pressure measurements from the comfort of the home without the necessity of visiting clinics frequently (England National Health Service [England NHS], 2025).
- It allows people to play an active role in controlling their cardiovascular health.
- Most digital blood pressure monitors are user-friendly and do not require a lot of technical skills to be used.

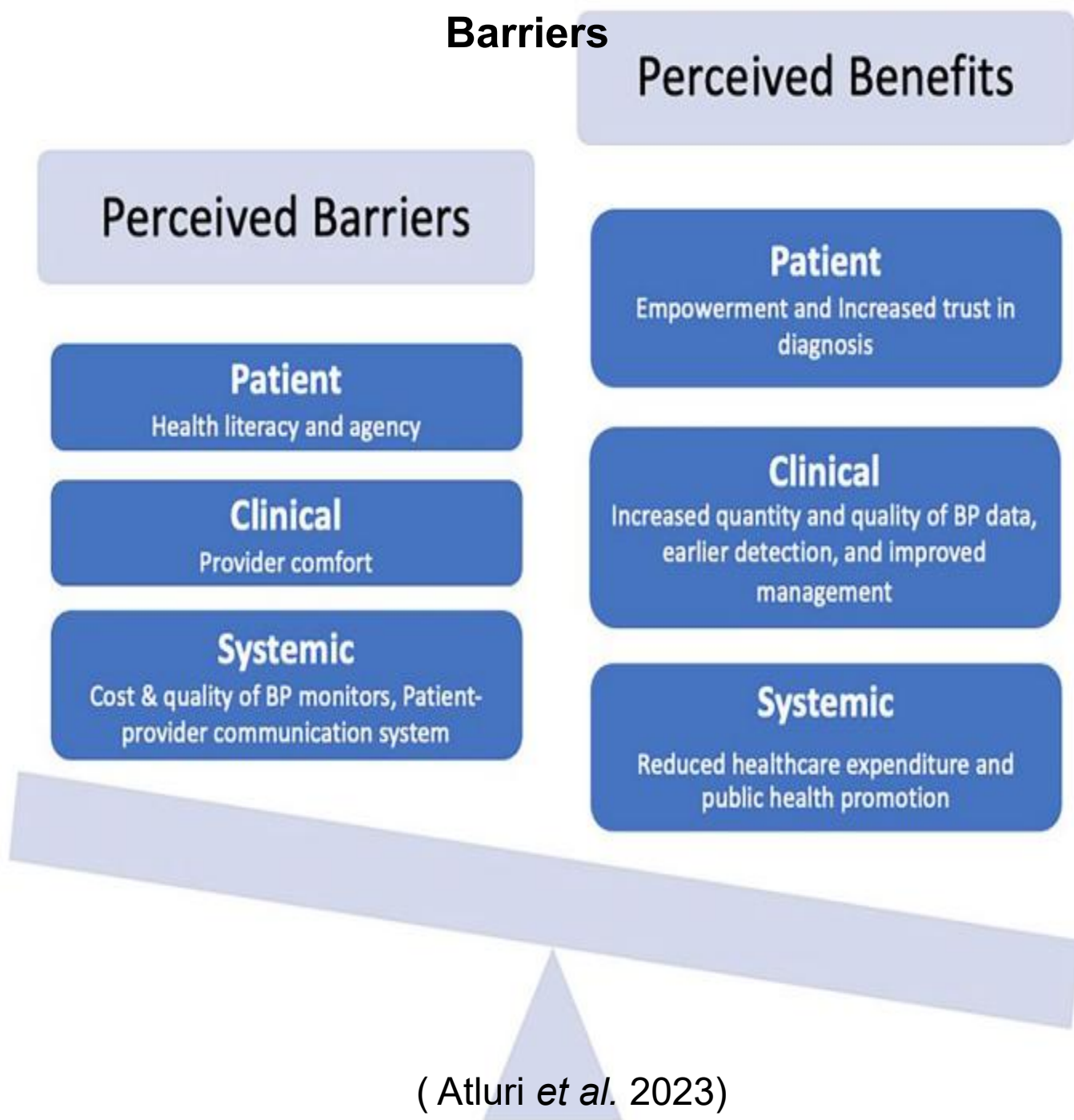
Disadvantages of HBPM

- Poor positioning of the cuff, motion during measurements or the lack of calibration of the device may cause inaccurate readings.
- Digital monitors are dependent on battery power, and performance can be compromised by low battery levels.
- Digital monitors are electronic devices, so erroneous detection can also cause unnecessary stress in people (Canali, Schiaffonati and Aliverti, 2022).

Solutions to Overcome

Some of the solutions involve giving clear user instructions and proper cuff placement training. Battery indicators and good customer support on the devices used can minimise the technical problems and enhance accuracy and user confidence.

Benefits of Home Blood Pressure Monitoring Outweigh the



Conclusion

HBPM as a digital health intervention has important consequences on the policy of public health, education and research. It encourages the application of existing technologies that reduce the pressure on healthcare systems and increase the fairness of care delivery. HBPM focuses on education needs in terms of training programs to form digital health literacy. Patients, caregivers and healthcare professionals must be able to use such tools effectively and with confidence. In the context of research, HBPM offers an opportunity to record real-time blood pressure trends and patient behaviour. It may support studies on the topic of chronic disease management, the adoption of digital health, and population-level interventions. Overall, HBPM demonstrates the potential of using digital solutions to support the operations of the public health system to enable early detection, self-care, and evidence-based changes in policy and practice.

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