

Module Code: LCHS7009

Module Title: Population Health and Digital Health
Promotion

Title: Home blood pressure control for adults (40–65) in deprived urban communities using a WhatsApp-based support programme
+ home BP monitoring + community pharmacy follow-up

Group Project Presentation

By

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Introduction: BP Community

Intervention name highlighted with problem, target group and model made explicit

Description

BP Community is a WhatsApp-supported home blood pressure control intervention for adults aged 40–65 in deprived urban communities (NICE, 2026; Katz et al., 2024). It combines WhatsApp prompts, home BP monitoring and community pharmacy follow-up rather than clinic-only care (Margolis et al., 2013; Gastens et al., 2025).

Criticality: why and how

Why is this important? Hypertension is common, often silent, and unequally distributed, so passive care misses avoidable risk (NHS England, 2026; BHF, 2025).
How is BP Community stronger? It joins access, measurement and review in one pathway rather than using a single reminder tool.

Application to BP Community

BP Community will be presented as a named, practical and scalable intervention.
This slide now answers the feedback about missing intervention name and weak opening framing.



Home BP monitoring as the clinical anchor

40–65

target age

3

core parts

Urban

context

Named

model

Problem you are addressing

Uncontrolled blood pressure in a high-risk, underserved group

Description

The problem is not only diagnosis. It is poor long-term BP control in people facing structural barriers to care (Chaturvedi et al., 2023; NHS England, 2026). In deprived urban settings, service fragmentation, stress and competing priorities make sustained self-management harder (BHF, 2025; Fu et al., 2022).

Criticality: why and how

Why is this serious? Because control fails when measurement, review and escalation are disconnected across services. How does it affect outcomes? Delayed control increases avoidable stroke and cardiovascular harm over time (NICE, 2026).

Application to BP Community

BP Community moves monitoring into the home, support into the phone and review into the pharmacy. This slide now gives deeper discussion rather than a brief statement only.



Deprived urban context shapes risk and access

Silent

condition

Delayed

control

Urban

barriers

Inequity

driver

Why is it a problem?

Public health priority, not a minor chronic disease issue

Description

NHS England includes hypertension in Core20PLUS5 because better control reduces avoidable cardiovascular harm and inequality (NHS England, 2026).
NICE guidance emphasises accurate measurement and active management because uncontrolled hypertension is strongly linked to stroke, MI and CKD (NICE, 2026).

Criticality: why and how

Why should this be treated as urgent? Because hypertension is easy to leave untreated until major complications appear (BHF, 2024).
How does inequity worsen it? The same clinical threshold creates worse outcomes in disadvantaged groups (BHF, 2025).

Application to BP Community

BP Community is justified as a prevention-focused public health response, not only a digital convenience project.
This addresses the feedback asking for deeper critical analysis on each slide.



Community access points matter

Priority

Core20PLUS5

Stroke

risk

CKD

risk

Equity

focus

Intervention model

What BP Community is and how it works

Description

BP Community has three linked components: WhatsApp support, home BP monitoring and community pharmacy follow-up (Katz et al., 2024; Margolis et al., 2013).

The digital element supports engagement, but clinical value comes from repeated readings and professional review (Yang et al., 2025; Cheema et al., 2014).

Criticality: why and how

Why not use a single app-only model? Because reminders alone do not reliably change beliefs, technique or medication optimisation (Favaretti et al., 2024).

How does the model gain strength? Messaging supports salience, HBPM creates data, and pharmacy translates data into action.

Application to BP Community

BP Community will give participants onboarding, message prompts, structured reading schedules and a clear escalation route through pharmacy.

This slide now makes the intervention much more explicit.



Remote support plus home monitoring

WhatsApp

engage

HBPM

measure

Pharmacy

review

3-in-1

design

Statistics slide

Dedicated quantitative justification, as requested in feedback

Description

Around 30% of adults in England have high blood pressure, and many are not effectively treated (NHS England Digital, 2026; BHF, 2025).
NHS England reports incidence is roughly double in the most deprived communities and stroke risk is nearly doubled in the most deprived areas (NHS England, 2026).

Criticality: why and how

Why is this slide necessary? Because the feedback explicitly identified missing statistics.
How do the figures help? They show BP Community targets both high burden and high inequality rather than a vague at-risk population.

Application to BP Community

Use these figures early in the oral presentation to anchor the rest of the justification.
This slide directly fixes the missing statistics issue.



30%
England adults

2x
incidence

~2x
stroke risk

40–65
strategic group

Comparison with other countries

International comparison to sharpen the argument

Description

Earlier cross-national work found England lagged behind the USA and Canada for hypertension awareness, treatment and control (Joffres et al., 2013). Recent US data still show a heavy mid-life burden, with 52.5% hypertension prevalence in adults aged 40–59 (Fryar et al., 2024).

Criticality: why and how

Why compare internationally? Because it shows hypertension control is improvable and shaped by service design, not fixed biology.
How does this help BP Community? It supports community-based innovation to improve control locally.

Application to BP Community

BP Community should be framed as a practical local response informed by broader international evidence.
This now addresses the comparison-with-other-countries instruction from the class slide.



Different systems, same need for practical control models

65%

England awareness*

81%

USA awareness*

83%

Canada awareness*

***2013**

BMJ Open

Consequences of not addressing the problem

Clinical, social and service harms

Description

Uncontrolled blood pressure drives stroke, MI, heart failure and kidney disease burden (NICE, 2026; BHF, 2024).

BHF also highlights that around half of heart attacks and strokes are associated with high BP (BHF, 2025).

Criticality: why and how

Why is inaction unacceptable? Because delayed control produces preventable emergency events, disability and premature mortality.

How does inequality magnify harm? Deprived communities carry heavier downstream cardiovascular burden.

Application to BP Community

BP Community is justified as an early-control model intended to reduce preventable harm before hospital-level complications develop.

This slide now links the intervention to consequences much more clearly.



Service pressure and community burden are linked

Stroke

preventable

MI

preventable

CKD

avoidable

NHS

pressure

Rationale for the chosen target group

Why adults aged 40–65 are the right focus

Description

Mid-life adults accumulate cardiovascular risk but still have large prevention potential, which makes this age group strategically valuable (Suvila et al., 2020). Ofcom data also suggest high digital familiarity, making WhatsApp-based support more realistic in this age band (Ofcom, 2024).

Criticality: why and how

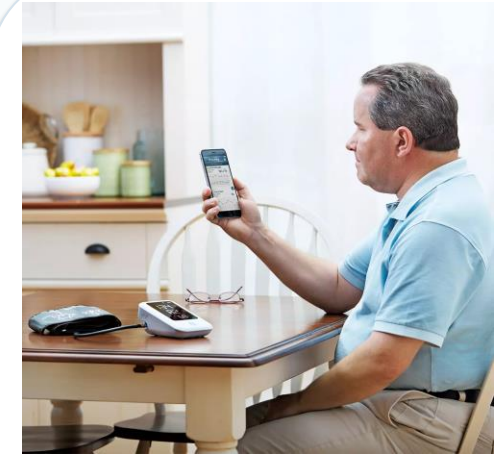
Why not target everyone? Because a sharper age focus improves fit, feasibility and clarity of evaluation.

How is this group different? Adults 40–65 often balance work and family demands, so flexible home monitoring may be more acceptable than repeated clinic attendance.

Application to BP Community

BP Community should be presented as convenient enough for busy mid-life adults, but serious enough to influence long-term risk.

This gives the target group a strong rationale rather than a simple label.



Mid-life adults are reachable through low-friction tools

Mid-life

high leverage

Flexible

home-based

Digital

familiarity

Focused

better fit

Why deprived urban communities?

The equity argument made explicit

Description

Deprivation affects hypertension through stress, environment, health behaviours and service accessibility, not only individual choice (Chaturvedi et al., 2023; Xu et al., 2021).
In England, premature cardiovascular burden is concentrated in poorer communities (BHF, 2025).

Criticality: why and how

Why is place central? Because the same intervention can widen inequality if it is designed for digitally confident, low-barrier users only (Richardson et al., 2022).
How should the intervention respond? It must use inclusive design, low-friction communication and nearby follow-up points.

Application to BP Community

BP Community applies this by using a familiar channel and community pharmacy rather than assuming regular GP attendance.
This directly answers the deprived-community rationale in the feedback.



Place matters for both risk and service access

Place

matters

Stress

driver

Access

barrier

Equity

logic

Other similar interventions

What comparable evidence already shows

Description

Digital hypertension interventions in disadvantaged populations show better BP reduction than standard care, especially when remote monitoring is included (Katz et al., 2024). Pharmacist-led and telemonitoring-supported models have also reduced BP in community or primary care settings (Cheema et al., 2014; Margolis et al., 2013).

Criticality: why and how

Why mention similar interventions? Because originality should come from design fit and synthesis, not pretending that no one has tried related models before. How does this strengthen the argument? It shows BP Community builds on proven elements rather than untested assumptions.

Application to BP Community

BP Community should be presented as an evidence-informed adaptation, not a copied programme. Its distinctive feature is the equity-focused combination of WhatsApp support, HBPM and pharmacy follow-up.



Multicomponent models already have an evidence base

Remote BP

supported

Pharmacy

evidence

Adapted

not copied

Practical

fit

Why digital support is justified

Evidence plus limitations, not blind enthusiasm

Description

Meta-analyses suggest digital interventions can improve BP control, medication adherence and self-management, especially when multicomponent (Katz et al., 2024; Boima et al., 2024). Telemedicine evidence also supports modest but meaningful BP improvement across trials (Yang et al., 2025).

Criticality: why and how

Why must this be interpreted critically? Because digital interventions are heterogeneous and not all work equally well across populations.
How should BP Community respond? By using digital support to extend human care, not replace it.

Application to BP Community

BP Community will use WhatsApp for prompts, education and check-ins, while clinical decisions still depend on readings and pharmacy review.
This is the “why, how, application” structure the feedback requested.



Digital support can extend care if designed well

Digital

useful

Human

review needed

Modest

but meaningful

Tailored

design matters

Why WhatsApp?

The channel choice must itself be justified

Description

WhatsApp is widely used in the UK, with 91% reach among online adult smartphone users in May 2024, which supports acceptability (Ofcom, 2024).
A familiar channel reduces app fatigue and removes the extra barrier of a bespoke platform.

Criticality: why and how

Why not build a custom app? Because technical sophistication does not guarantee better uptake in a deprived population.
How is this choice still critical? WhatsApp should only be used for appropriate, low-risk communication and must sit inside wider governance arrangements.

Application to BP Community

BP Community will use WhatsApp for reminders, educational prompts and check-ins, not as the primary clinical record.
This slide now highlights both practicality and governance awareness.



A familiar channel reduces friction

91%

WhatsApp reach

Low

set-up burden

High

familiarity

Guardrails

needed

Why WhatsApp alone is not enough

Critical appraisal of a single-channel intervention

Description

Simple reminder interventions can improve salience, but they do not automatically change beliefs, technique or medication management (Favaretti et al., 2024).
Stronger results are usually seen when messaging is combined with monitoring and professional follow-up (Katz et al., 2024; Yang et al., 2025).

Criticality: why and how

Why is this a critical distinction? Because feedback asked for analysis, not just praise of the chosen tool.
How does BP Community avoid this weakness? It places WhatsApp inside a broader intervention with HBPM and pharmacy review.

Application to BP Community

Present this slide as evidence that BP Community is intentionally multicomponent.
The application message is that technology supports care, but does not substitute for care.



The message channel is only one layer of the model

Useful
engagement

Weak
if isolated

Needs
HBPM + review

Critical
not naïve

Why home blood pressure monitoring?

Better data and stronger self-management

Description

NICE recommends repeated home readings over 4–7 days, excluding day one, because HBPM improves measurement quality (NICE, 2026).

HBPM can also improve therapeutic adherence, self-monitoring and patient involvement in care (Martins et al., 2025).

Criticality: why and how

Why is this essential? Because clinic-only readings can be distorted and too infrequent to guide behaviour change well.

How does BP Community use HBPM critically? It treats technique, schedule and review as part of the intervention, not as assumed patient competence.

Application to BP Community

BP Community will teach participants how and when to take readings and how to report them consistently.

This turns self-monitoring into a structured care process rather than an optional extra.



4–7
days

2x2
readings/day

Home
trend data

Teach
technique

Why community pharmacy follow-up?

Accessibility, medicines support and escalation

Description

Community pharmacy is accessible and well placed to reinforce medicines adherence, risk understanding and follow-up.

Meta-analyses show pharmacist interventions can reduce BP and improve control rates (Cheema et al., 2014; Gastens et al., 2025).

Criticality: why and how

Why does pharmacy matter here? Because a community-based point of review can be easier to access than repeated GP appointments in deprived urban areas.

How does this strengthen BP Community? It converts home readings into professional feedback and escalation rather than leaving patients unsupported.

Application to BP Community

BP Community will use pharmacy for onboarding, review of submitted readings, adherence conversations and referral when needed.

This now gives a much clearer application message.



Pharmacy is the practical action point

Access

near home

Meds

support

Review

readings

Escalate

when needed

Unique selling point and final justification

Why BP Community deserves adoption

Description

BP Community is not unique because it uses technology. It is unique because it combines familiar messaging, validated home monitoring and accessible pharmacy follow-up for a clearly defined underserved group.

This makes the intervention practical, scalable and better aligned to real barriers than advice-only care.

Criticality: why and how

Why is this persuasive? Because distinction-level justification requires synthesis of evidence, context and feasibility, not just a list of components.

How does the model advance practice? It adapts existing evidence into a targeted, equity-focused community design.

Application to BP Community

Conclude by stating that BP Community is a realistic hypertension control model for adults 40–65 in deprived urban communities.

This slide now gives a stronger final judgement before the reference list.



Equity-focused design is the unique feature

Equity

first

Scalable

delivery

Practical

fit

Named

BP Community

Reference list

Key guidance, policy and peer-reviewed sources used across the deck

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Application of the PRECEDE–PROCEED Planning Model

Target public health issue: Hypertension control among adults aged 40–65 in deprived urban communities

Intervention approach: WhatsApp-based support programme + home blood pressure (BP) monitoring + community pharmacy follow-up

Digital platforms increasingly used to support self-management and behaviour change in chronic disease care (Thai et al., 2023)

Evidence indicates mobile messaging interventions improve engagement and health monitoring in chronic conditions (Favaretti et al., 2024)

Planning and implementation structured using the PRECEDE–PROCEED health promotion planning model



Health Promotion Planning Models



Health promotion planning models provide systematic frameworks for designing, implementing and evaluating interventions



Support identification of behavioural, environmental and social determinants of health



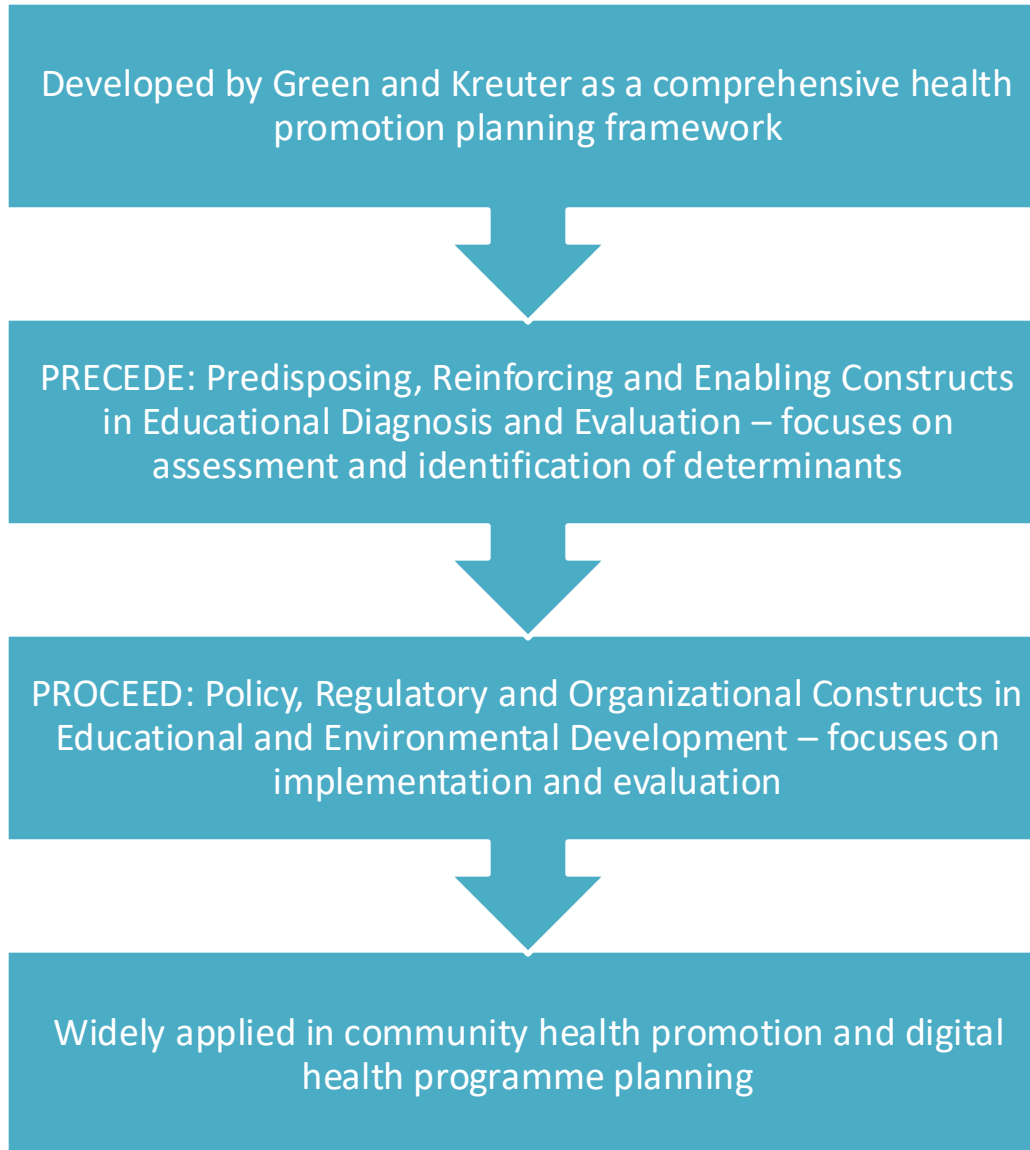
Facilitate development of evidence-based and context-specific health programmes



Enable structured planning of digital health interventions and community health initiatives (Thai et al., 2023)



Planning models strengthen programme effectiveness, evaluation capacity and sustainability



Overview of the PRECEDE– PROCEED Model

Suitability of the PRECEDE–PROCEED Model

Enables systematic analysis of social, behavioural and environmental determinants of hypertension

Supports development of community-based and digitally supported interventions

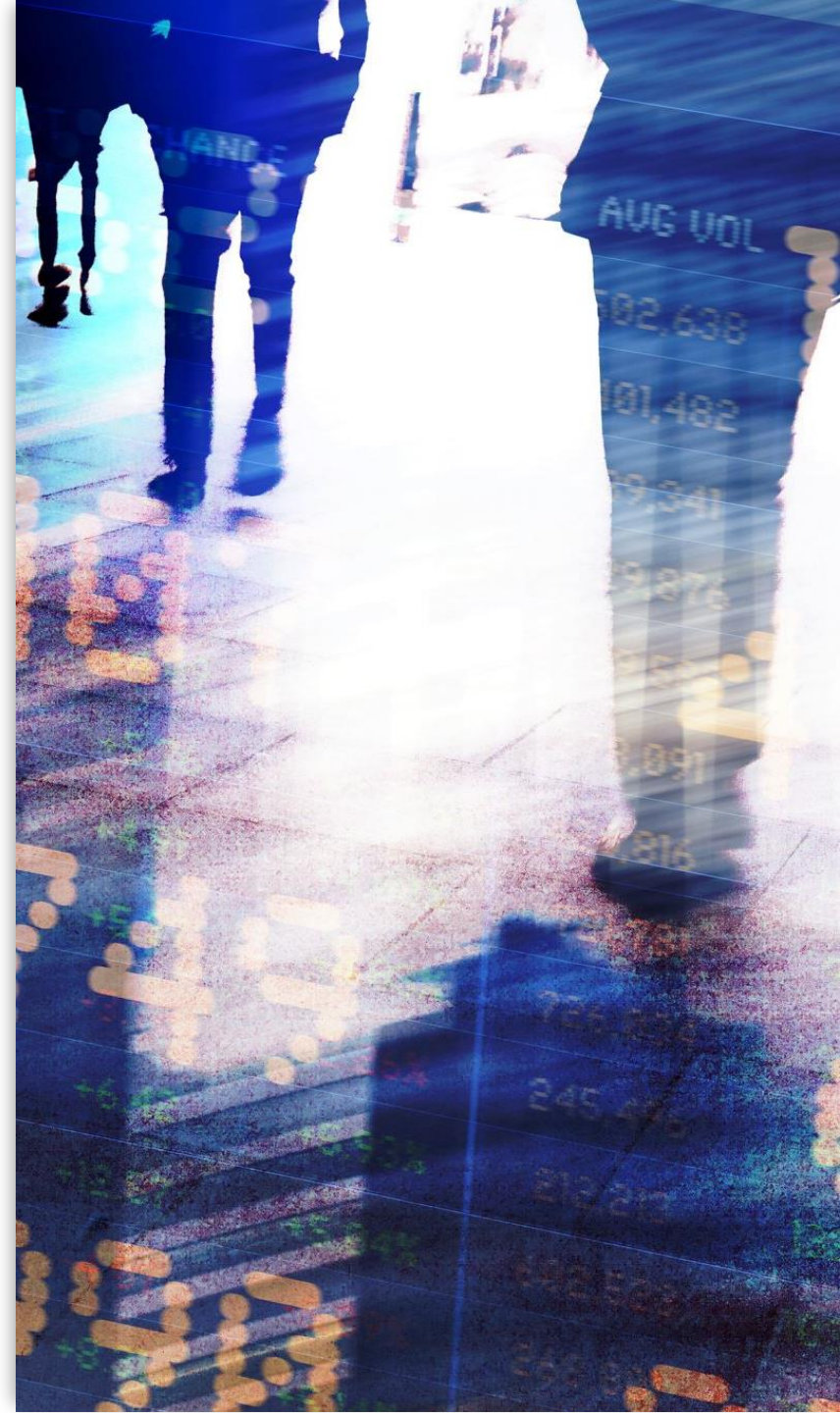
Facilitates integration of health education, digital communication and healthcare services

Digital messaging platforms such as WhatsApp improve patient engagement and follow-up attendance (Favaretti et al., 2024)

Mobile communication technologies effective for health promotion in low-resource settings (Maitra, 2021; Thai et al., 2023)

PRECEDE Phase: Social Assessment

- Hypertension represents a major global public health challenge
- Prevalence increasing significantly in low-income and urban populations
- Deprived urban communities experience health inequalities and reduced healthcare access
- Digital communication platforms improve access to health information and support (Maitra, 2021)
- Community-based digital programmes can address social barriers affecting disease management



PRECEDE Phase: Epidemiological and Behavioural Assessment

Behavioural determinants: low adherence to antihypertensive medication

Limited routine home blood pressure monitoring

Poor lifestyle behaviours including dietary risks and sedentary habits

Environmental determinants: limited access to regular clinical follow-up

Low health literacy in deprived communities; digital platforms support monitoring and engagement (Thai et al., 2023)

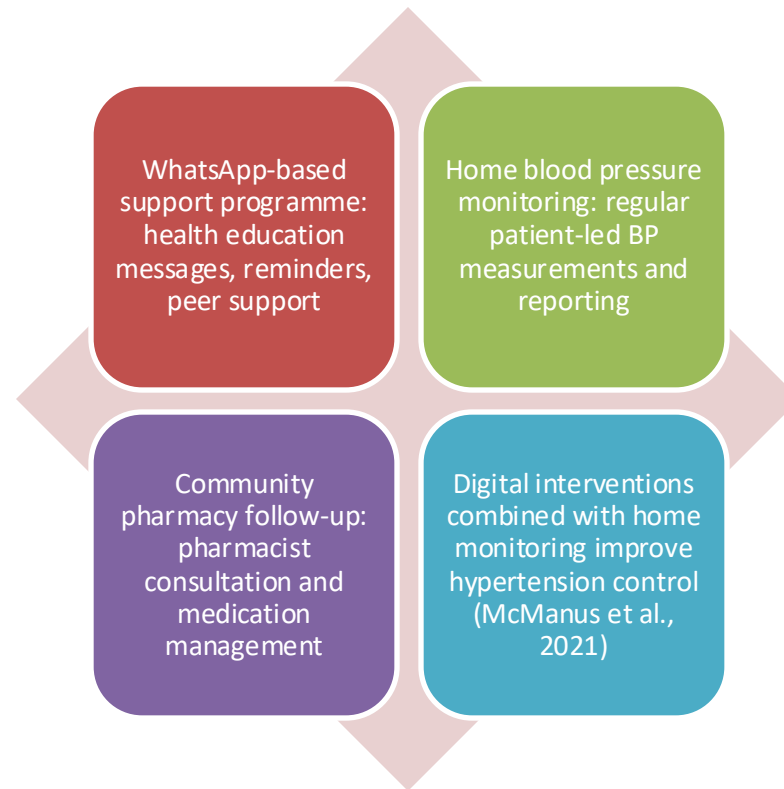


PRECEDE Phase: Educational and Ecological Assessment

- Predisposing factors: limited awareness regarding hypertension risks and self-management
- Enabling factors: availability of home blood pressure monitoring devices and smartphone access
- WhatsApp communication platforms support health messaging and engagement
- Reinforcing factors: pharmacist follow-up and peer interaction in WhatsApp support groups
- Digital messaging interventions support behaviour change and health communication (Gulati, 2025; Maitra, 2021)



PROCEED Phase: Intervention Implementation



Evaluation Strategy



Process evaluation: participation rates in WhatsApp groups and frequency of home BP monitoring



Engagement with educational messages



Impact evaluation: improved medication adherence and monitoring behaviour



Improved clinic follow-up attendance (Favaretti et al., 2024)



Outcome evaluation: improved BP control and reduced hypertension complications

Critical Evaluation of the PRECEDE–PROCEED Model



Strengths: structured and comprehensive planning framework



Integrates behavioural, social and environmental determinants



Suitable for community-based and digital health interventions



Limitations: complex planning process requiring extensive data



Resource-intensive and requires coordination among stakeholders



Conclusion: PRECEDE–PROCEED supports systematic planning of digital hypertension interventions

References

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Module Code:	LCHS7009
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Student Name:	TAHIA HAQUE

Barriers: section overview

What must be solved for BP Community to work in practice

Description

This section evaluates stakeholders, barriers, legal issues and ethical issues for BP Community rather than assuming the model will work automatically. The feedback required deeper discussion, criticality and application, so each slide now asks why the issue matters, how it affects outcomes, and what the intervention will do.

Criticality: why and how

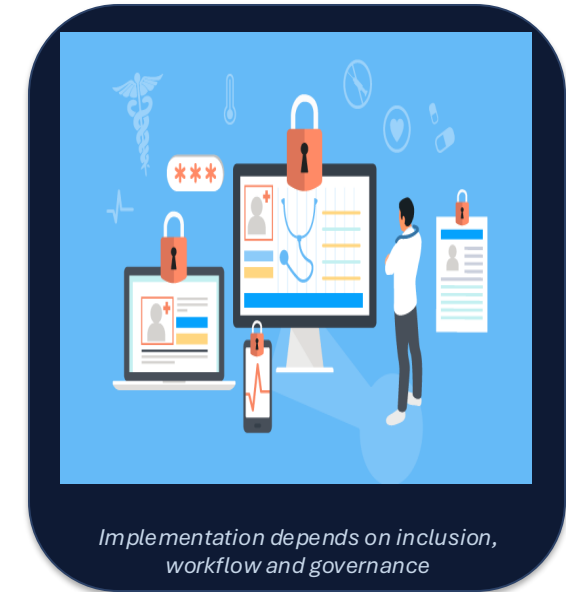
Why is this important? A good intervention can still fail if access, governance and workflow are poorly designed (Ramasawmy et al., 2022).

How does this improve the presentation? It moves the deck from description to implementation logic, which is essential for stronger postgraduate work.

Application to BP Community

BP Community will be discussed as a real service model with operational constraints, not as a theoretical idea only.

Use this slide to introduce the barrier analysis structure clearly.



Stakeholder

must align

Barriers

must be named

Ethics

must be applied

Law

must govern

Potential stakeholders and collaboration

Who must be involved and why

Description

Key stakeholders include patients, family or carers, pharmacists, pharmacy technicians, GPs, practice nurses, community organisations and information governance leads. Stakeholder collaboration matters because BP Community spans monitoring, messaging, medicines support and escalation.

Criticality: why and how

Why is collaboration essential? Because separation between measurement, review and prescribing is a major reason chronic care pathways underperform (Margolis et al., 2013). How should roles be organised? Clear handoffs and accountability are needed for review, documentation and escalation (NHS England, 2026).

Application to BP Community

BP Community should assign pharmacy to onboarding and review, primary care to medication changes, and community partners to inclusion support. This directly answers the instruction to identify potential stakeholders of the chosen intervention.



No single professional can deliver the whole pathway

Patient

self-monitor

Pharmacy

review

**Primary
care**

**Community
support**

Barrier 1: digital exclusion

Why a digital tool can widen inequality if used badly

Description

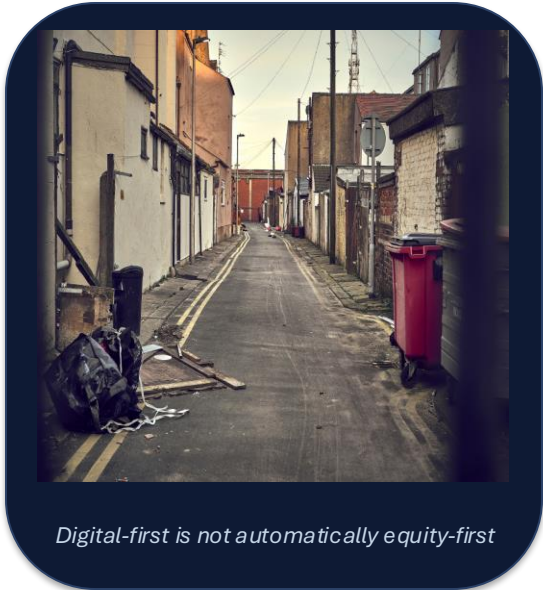
Some participants may lack devices, data, digital confidence, language support or trust in app-based communication (NHS England, 2023; Saeed and Masters, 2021). This matters especially in deprived communities because those with the worst outcomes may be least well served by digital-only pathways.

Criticality: why and how

Why is this a major barrier? Because digital health can widen inequalities when design assumes universal access and capability (Richardson et al., 2022). How can this undermine outcomes? Patients may disengage before the intervention reaches its clinical benefits.

Application to BP Community

BP Community will include non-digital fallback options, simple onboarding, translated material and pharmacy-based support. This shows how the intervention will respond practically rather than just identifying the problem.



Devices

not universal

Data

cost barrier

Skills

variable

Trust

fragile

Barrier 2: engagement and adherence fatigue

The challenge of managing an often silent condition

Description

Hypertension often has no symptoms, so repeated measurement and medication-taking may feel low priority to patients.

Work, family commitments, stress and reminder fatigue can reduce adherence over time (Favaretti et al., 2024; Yang et al., 2025).

Criticality: why and how

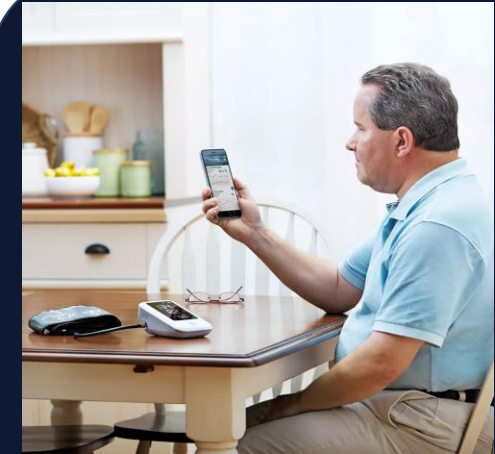
Why does this matter? Because engagement failure weakens every other component of the intervention.

How should this be understood critically? A message arriving on a phone is not the same as sustained behavioural change.

Application to BP Community

BP Community will use structured follow-up, pharmacy check-ins and simple behavioural prompts to maintain salience.

The application point is that human follow-up remains necessary even when digital prompts are used.



Convenience helps, but motivation still fades

Silent

condition

Low

salience

Fatigue

real barrier

Follow-up

still needed

Barrier 3: home BP technique and data quality

Poor readings can create poor decisions

Description

HBPM only improves care when technique, cuff fit, timing and reporting are correct (NICE, 2026). Inaccurate readings can distort escalation decisions and reduce clinician confidence in the pathway.

Criticality: why and how

Why is this barrier important? Because the intervention's credibility depends on the quality of the home data stream.

How can risk be reduced? Training, repetition, clear reading schedules and pharmacy review are needed (Martins et al., 2025).

Application to BP Community

BP Community will include technique demonstration, written instructions and early reading review. This is the practical response to the barrier of poor data quality.



Technique

must be taught

Cuff

fit matters

Timing

standardise

Review

check early

Barrier 4: workflow fragmentation

If services are disconnected, the pathway breaks

Description

A multicomponent model fails if pharmacy review, primary care action and digital communication are not connected.

Without a clear route for documentation and escalation, readings may be collected but not acted on (Ramasawmy et al., 2022).

Criticality: why and how

Why is this serious? Because fragmentation turns an intervention into uncoordinated activity rather than an integrated service.

How does it affect outcomes? Delay between abnormal reading, review and medication adjustment weakens control.

Application to BP Community

BP Community will require named responsibilities, escalation criteria and recording standards. This answers the feedback request to explain how the barrier will actually be managed.



Communication gaps weaken implementation

Record

clearly

Review

promptly

Escalate

safely

Own

roles

Barrier 5: pharmacy capacity and sustainability

Accessibility alone does not solve workforce pressure

Description

Community pharmacy is well placed for hypertension work, but workload, staffing and reimbursement constraints can limit repeated follow-up. This is an implementation risk, especially in deprived areas with stretched community services.

Criticality: why and how

Why must this be discussed? Because a credible intervention must account for delivery burden, not just clinical theory.

How can sustainability be protected? Streamlined workflows, defined review triggers and proportionate follow-up intensity are important (Gastens et al., 2025).

Application to BP Community

BP Community should use pharmacy time where it adds value most: onboarding, technique checking, flagged readings and adherence support. This keeps the model realistic and defensible in practice.



Community access is valuable but not cost-free

Time

finite

Staff

pressure

Funding

matters

Targeted

follow-up

Barrier 6: digital is not automatically superior

Critical analysis of contradictory evidence

Description

Chen et al. (2025) found no significant advantage of digital over non-digital case management in a nationwide pharmacist-led HBPM programme, despite overall improvement. This means digital tools should be judged by fit and implementation, not novelty alone.

Criticality: why and how

Why is this slide important? Because it shows contradictory evidence rather than one-direction advocacy.

How does that improve the intervention? It pushes BP Community to retain inclusive, flexible delivery options rather than over-committing to digital-only logic.

Application to BP Community

BP Community will treat WhatsApp as one route of support, with non-digital alternatives where needed.

This application directly responds to the risk of digital optimism bias.



Digital case management is not always better

Digital

not always better

Hybrid

often useful

Fit

beats novelty

Flex

needed

Solutions to overcome the barriers

Direct response to the barrier section instructions

Description

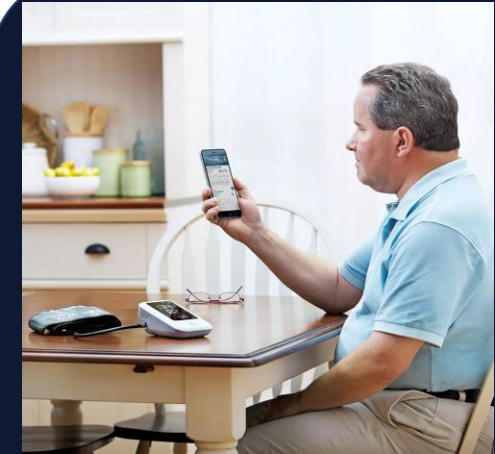
Solutions include pharmacy-led onboarding, plain-language materials, non-digital fallback options, clear technique teaching and protocol-based escalation. These measures respond directly to digital exclusion, engagement fatigue, poor technique and fragmentation.

Criticality: why and how

Why is this slide necessary? Because the feedback asked not only to identify barriers but to show how they will be solved.
How should solutions be judged? By feasibility, inclusiveness and fit with the chosen intervention.

Application to BP Community

BP Community will operationalise these solutions through enrolment scripts, review triggers, escalation rules and inclusive communication choices. This makes the intervention implementation-ready rather than purely conceptual.



Solutions must be operational, not generic

Onboard

clearly

Teach

technique

Fallback

non-digital

Escalate

with rules

Legal issues: consent, privacy and confidentiality

The legal foundation for using health data

Description

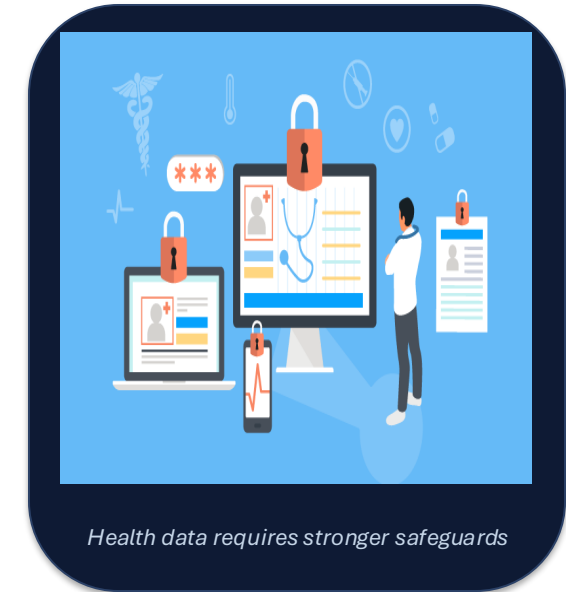
Health information is special category data under UK GDPR and requires both a lawful basis and a separate Article 9 condition for processing (ICO, 2024).
Consent, confidentiality, data minimisation and purpose limitation are therefore central, not optional.

Criticality: why and how

Why is this especially relevant to BP Community? Because the intervention handles readings, messaging and potentially sensitive engagement data.
How can legal failure happen? Through over-collection, poor governance, unclear purpose or casual sharing of patient information.

Application to BP Community

BP Community must specify what data are collected, why they are needed, who can access them and where the clinical record sits.
This directly answers the instruction to describe legal issues associated with delivery.



Lawful

basis

Article 9

condition

Minimise

data

Protect

confidentiality

WhatsApp governance and data security

Convenience must not replace information governance

Description

NHS guidance requires organisations to consider information governance whenever patient-related messages are sent or received through messaging tools (NHS England, 2026). Unauthorised WhatsApp use has already led to regulatory reprimand in UK healthcare settings (ICO, 2024c).

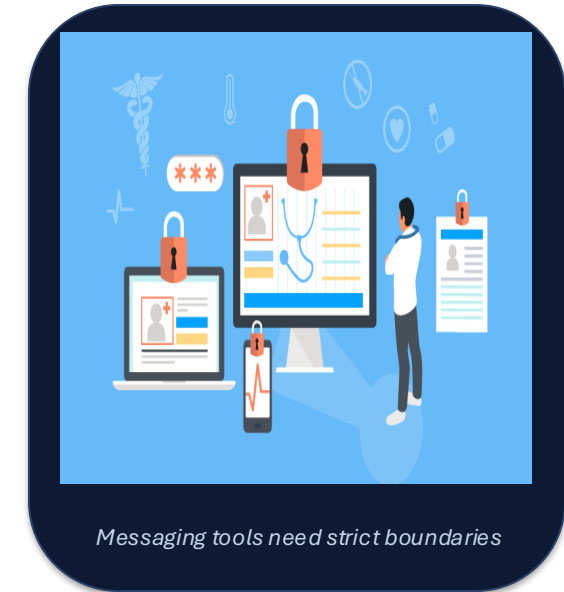
Criticality: why and how

Why is this a major risk? Because encryption alone does not solve recipient error, device loss, unclear record-keeping or informal practice.

How should this be managed? Through local approval, staff training, device security and keeping the formal clinical record elsewhere.

Application to BP Community

BP Community will use WhatsApp only for bounded communication such as reminders and prompts, not as the primary clinical record. This is the legal and practical safeguard that must be explicit in the presentation.



Approve

locally

Train

staff

Verify

recipients

Record

elsewhere

Ethical issues with digital technology

Consent, privacy, justice and non-maleficence applied to BP Community

Description

Key ethical issues include informed consent, privacy, data sharing, anonymisation, security and fair access to the intervention (Varkey, 2020; Finco et al., 2024). In digital health, justice matters because the same tool may help some users while excluding others (Yuguero, 2025).

Criticality: why and how

Why is ethical analysis needed if the intervention is legally compliant? Because legality alone does not guarantee fairness, trust or low harm. How do the four principles apply? Autonomy supports informed choice, beneficence seeks benefit, non-maleficence avoids harm, and justice addresses equity.

Application to BP Community

BP Community must offer meaningful opt-in, inclusive access routes, minimal necessary data collection and a safe path for escalation. This slide directly matches the ethical-and-legal issues feedback you received.



Consent

autonomy

Benefit

beneficence

Avoid harm

non-maleficence

Fairness

justice

How BP Community will address legal and ethical issues

Practical safeguards rather than abstract principles

Description

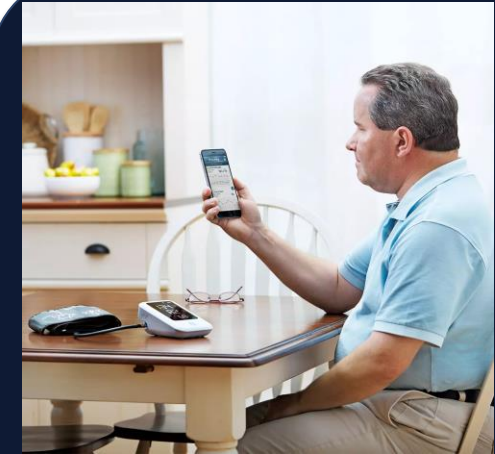
Practical safeguards include explicit information sheets, opt-in consent, minimal message content, clear access controls and separation between messaging and the formal clinical record. Non-digital routes should remain available so the intervention does not become exclusionary by design (NHS England, 2023).

Criticality: why and how

Why is this essential? Because ethical intent is not enough without operational safeguards. How will harm be reduced? Through defined governance, role clarity, escalation for red flags and avoidance of unnecessary sensitive detail in messages.

Application to BP Community

BP Community will keep WhatsApp to reminders and prompts, store clinical information in approved systems, and use pharmacy or primary care escalation for high-risk readings. This answers the instruction asking how legal and ethical issues will be addressed.



Safeguards must be designed into the pathway

Opt-in

clear

Minimise

messages

Record

clinically

Escalate

red flags

Implementation conclusion

BP Community is viable, but only with safeguards

Description

The main risks are exclusion, poor data quality, fragmentation and weak governance, not the intervention concept itself.
The model remains viable because these risks are manageable through careful design, collaboration and strong protocolisation.

Criticality: why and how

Why is the conclusion important? Because the feedback asked for deeper analysis, not only a barrier list.
How should the final judgement be framed? BP Community is defensible if inclusion, governance and follow-up are treated as core design features from the start.

Application to BP Community

End by stating that BP Community should proceed as a governed, inclusive, community-linked model rather than a digital-only experiment.
This gives the presentation a stronger critical and applied close.



*Good implementation is the difference
between theory and impact*

Viable

with safeguards

Inclusive

by design

Governed

by design

Applied

not abstract

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Benefits of the Digital Health Intervention

Benefits of the Proposed Digital Hypertension Intervention

The proposed intervention combines three key components:

- Digital support using WhatsApp to give reminders, education and engagement.
- Home blood pressure monitoring (HBPM) to facilitate the routine self-monitoring.
- Medication review and clinical follow-up of pharmacy.

This hybrid model aims to:

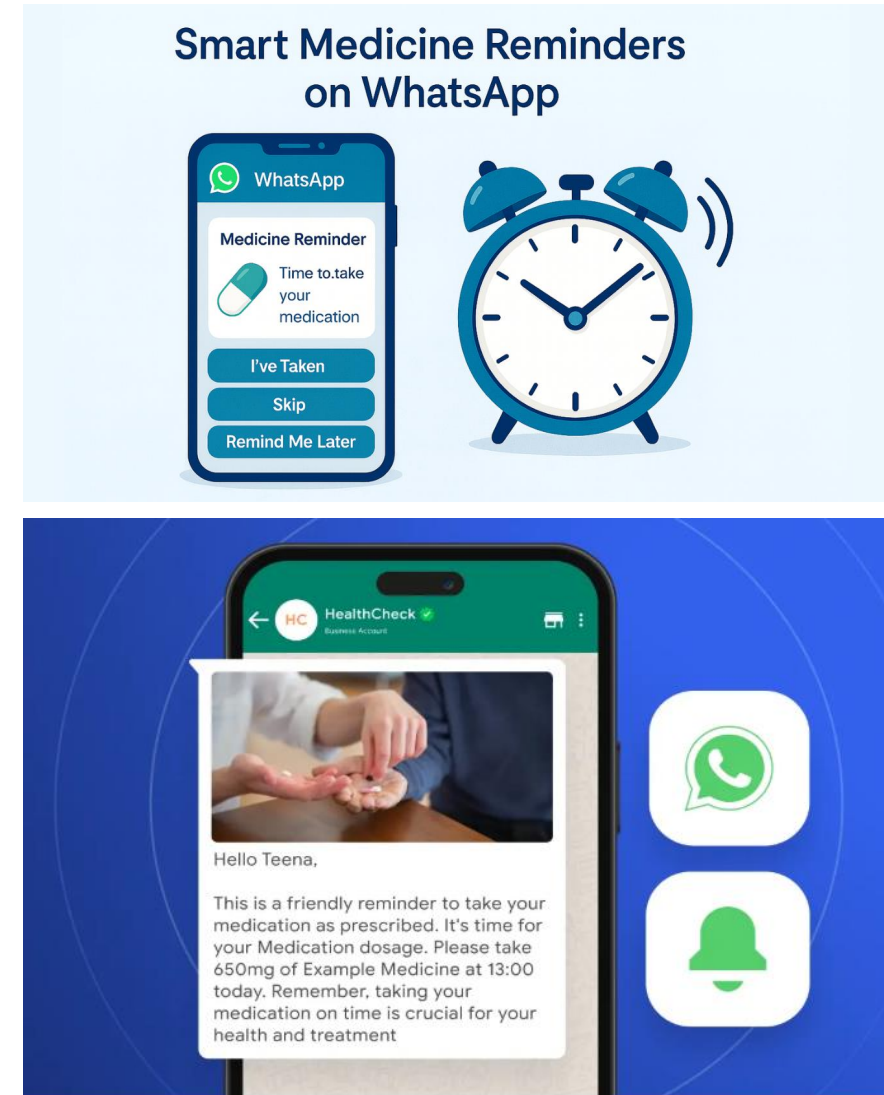
- Enhance blood pressure management among adults in 4065 deprived urban residents.
- Enhance patient involvement in self management of hypertension.
- Minimize cardiovascular health disparities by providing community care (Katz et al., 2024; Margolis et al., 2013).



Benefits for Adults in Deprived Urban Communities

The intervention can improve health outcomes for the target population through:

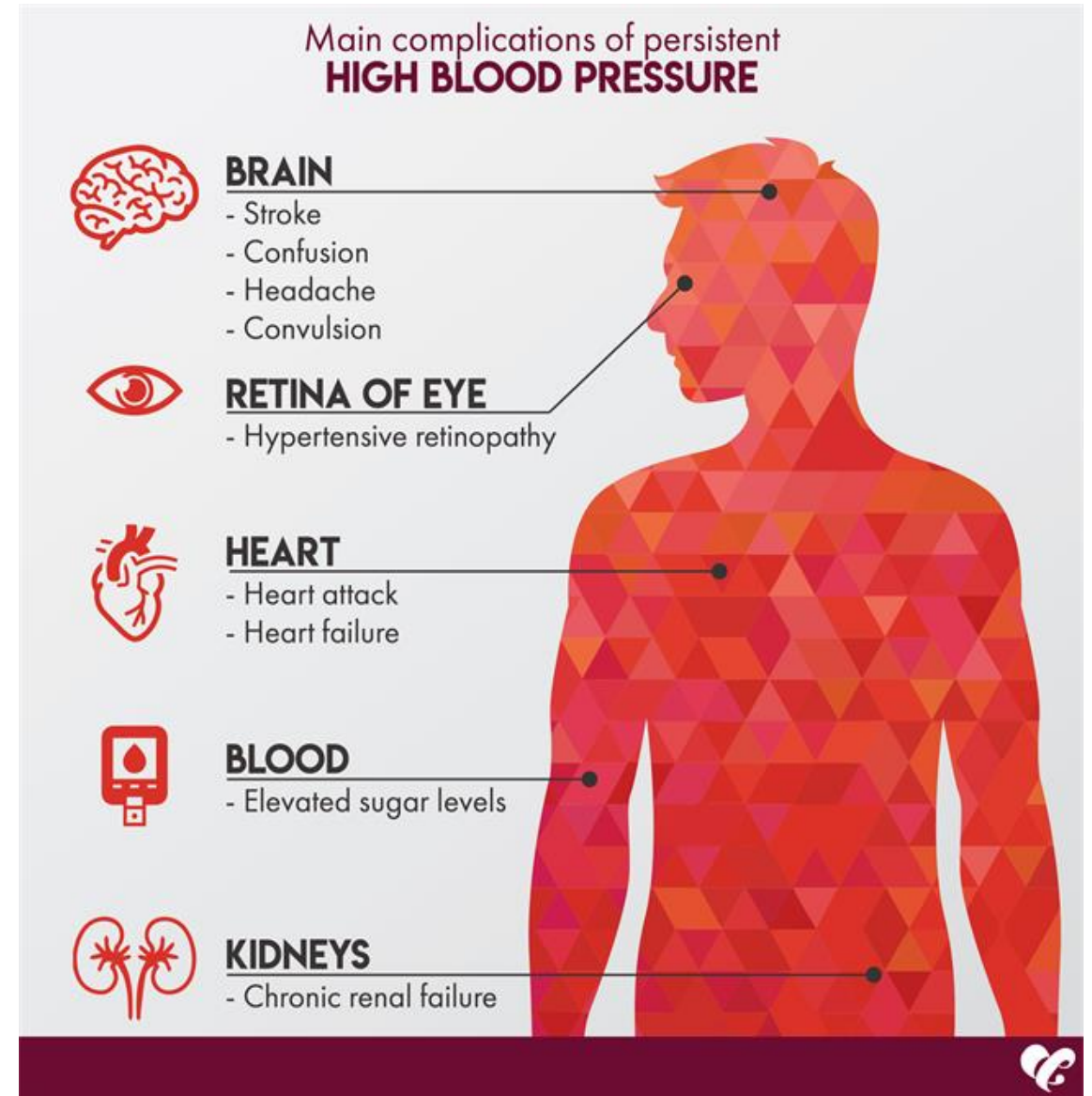
- Greater access to health assistance through popular means of digital communication.
- Increased patient involvement using frequent reminders and education.
- Self-monitored blood pressure at home empowerment.
- Less expensive barriers to healthcare access due to community pharmacy.
- Reduced readmission rates and increased hypertension knowledge.
- WhatsApp is just one of the examples of digital messaging platforms that have demonstrated the potential to enhance patient engagement and treatment adherence (Favaretti et al., 2024; Katz et al., 2024).



Expected Health Outcomes of the Intervention

Improved hypertension management may lead to:

- Improved blood pressure with frequent observation and follow-up.
- Less risk of cardiovascular disease, stroke and heart attack.
- More medication compliance and optimal treatment.
- Previously detected uncontrolled hypertension.
- Enhanced patient health literacy and self management.
- Properly managed hypertension is associated with a significant risk of significant cardiovascular complications being reduced (NICE, 2026; BHF, 2025).



Benefits for Healthcare Systems

The intervention may also support healthcare services by:

- Remote monitoring to decrease the load on the primary care clinics.
- Avoiding unnecessary hospitalization for hypertension complications.
- Enhancement of efficiency in chronic disease care.
- Empowering the community pharmacies in prevention.
- Underwriting the transition to community-based and digital healthcare.
- The cost of healthcare, as well as system efficiency, can be improved with the help of preventative management of hypertension (Cheema et al., 2014; NHS England, 2026).



Policy Implications

The intervention supports several public health policy priorities:

- In line with NHS digital health plans that encourage distance care.
- Endorses the Core20PLUS5 program that strives to alleviate health inequity.
- Promotes the adoption of digital technologies by primary care.
- Enhances community-based interventions in prevention of cardiovascular diseases.
- The digital health solutions are becoming more commonly viewed as a means to facilitate the delivery of healthcare in an equitable and accessible way (NHS England, 2023; Katz et al., 2024).



Implications for Education

Digital health promotion interventions can support education by:

- Enhancing patient health literacy on hypertension.
- Promoting self-care and awareness.
- Available digital health education.
- Improving the digital health competency of healthcare professionals.
- Promoting cardiovascular education in the community.
- Health education is also important in enhancing chronic disease management in the long run (Maitra, 2021; Gulati, 2025).



Implications for Research

The intervention highlights several areas for further research:

- Measuring the effectiveness of digital hypertension interventions in the long term.
- Learning digital inclusion and access in marginalized communities.
- Exploring methods of engaging the patient in chronic disease management.
- Evaluation of cost- efficiency of hybrid digital-community healthcare models.
- More scientific work is required to streamline digital health promotion strategies in various groups (Yang et al., 2025; Katz et al., 2024).



Conclusion

- High blood pressure is a prevailing health issue in the world.
- The disadvantaged populations are more at risk of cardiovascular and healthcare obstacles.
- Electronic health promotion intervention provides new avenues of enhancing the management of hypertension.
- Home monitoring and pharmacy follow-up with the support of WhatsApp can be a useful and scalable model.
- The uncontrolled hypertension will remain the cause of preventable cardiovascular disease and early death without efficient interventions.

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