

HYPERTENSION: DIAGNOSIS, MANAGEMENT & PREVENTION IN UK HEALTH CARE

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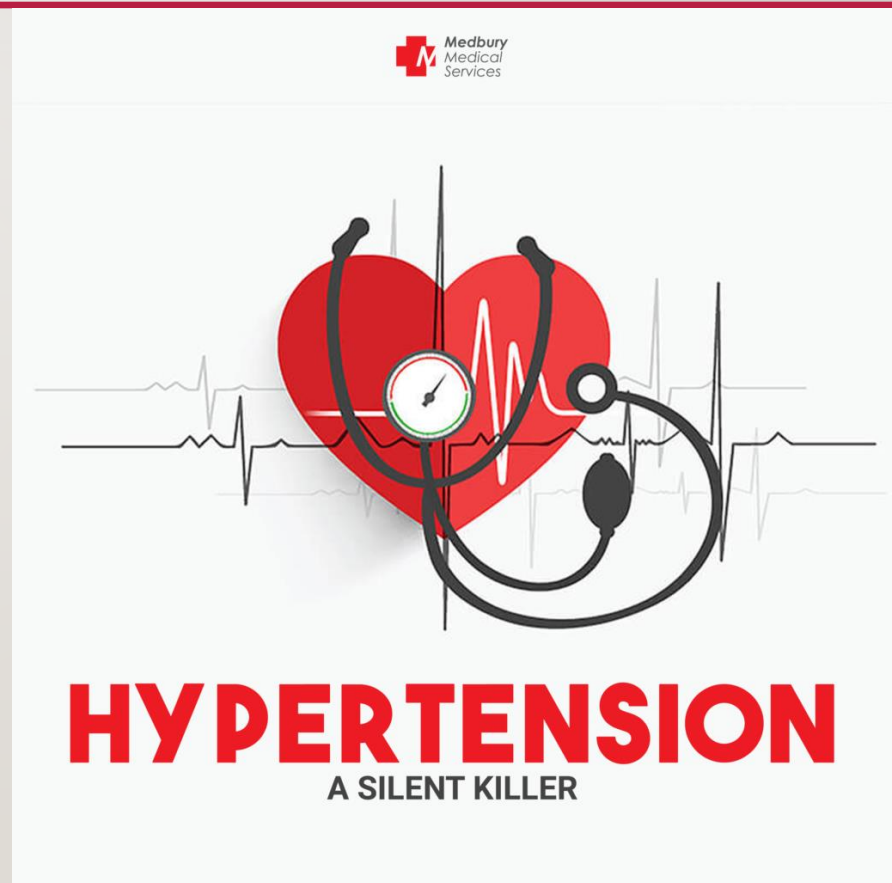
MODULE NAME : COMMUNITY CARE AND MANAGEMENT OF LONG TERM
CONDITIONS

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LEARNING OBJECTIVES / AIMS

- Define hypertension and understand its aetiology.
- Recognise prevalence and burden in the UK and globally.
- Understand diagnostic criteria and assessment per UK guidance.
- Describe evidence-based management: pharmacological and non-pharmacological.
- Appreciate associated comorbidities and complications.
- Apply prevention strategies and public health models.
- Understand frameworks for personalised care and self-management support.
- Reflect on skills, values, and behaviours required for person-centred care.

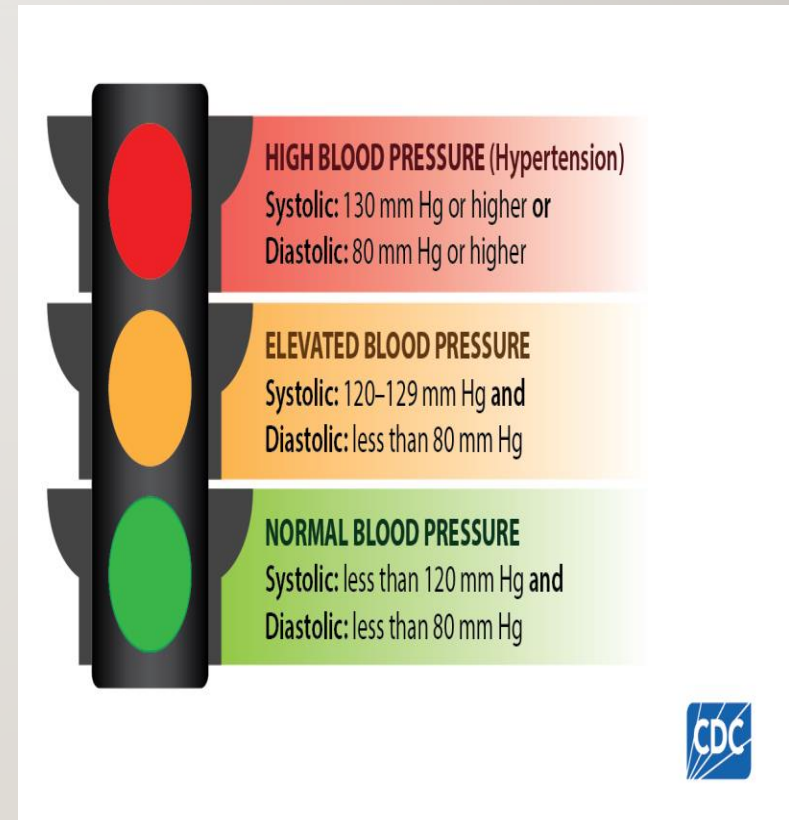


DEFINITION & AETIOLOGY OF HYPERTENSION

- **Hypertension:** persistently elevated arterial blood pressure (Zhou et al., 2021).
- Clinic BP $\geq 140/90$ mmHg, or ABPM/home BP $\geq 135/85$ mmHg (NICE, 2019).
- Severe hypertension: $\geq 180/120$ mmHg with organ damage — urgent assessment required (NICE, 2019).

Aetiology:

- Genetic predisposition: family history, genetic variants (Curran et al., 2025).
- Physiological: RAAS overactivity, sympathetic activation, endothelial dysfunction, arterial stiffness (Kostov, 2021).
- Environmental/behavioural: high sodium intake, low potassium, obesity, physical inactivity, alcohol, smoking, stress (Whelton et al., 2025).
- Ageing: increased arterial stiffness, cumulative vascular changes (NHS Digital, 2022).



GLOBAL AND UK PREVALENCE & BURDEN

Global Prevalence

- 2010: ~31% of adults aged ≥ 20 had hypertension (~1.39 billion) (Ramakrishnan et al., 2019).
- 1990–2019: global prevalence doubled (Ramakrishnan et al., 2019).

UK Prevalence

- ~30% of adults have hypertension (diagnosed or undiagnosed) (NHS Digital, 2022).
- Among adults aged 75+, prevalence exceeds two-thirds (NHS Digital, 2022).
- ~11% of adults have undiagnosed hypertension (NHS Digital, 2022).

Health & Economic Burden

- Major cause of cardiovascular morbidity: stroke, MI, heart failure, CKD (NICE, 2019).
- Healthcare costs in England: ~£2.1 billion in CV event–related costs (NICE, 2019).

DIAGNOSIS & INITIAL ASSESSMENT (UK GUIDANCE)

Measurement & Confirmation

- Clinic BP followed by ABPM or HBPM confirmation (NICE, 2019).
- ABPM/HBPM threshold: average $\geq 135/85$ mmHg (Tomitani et al., 2023).

Cardiovascular Risk Assessment & Organ Damage Screening

- Use QRISK calculator for 10-year CVD risk (Hippisley-Cox et al., 2007).
- Baseline investigations: renal function, urine albumin/creatinine ratio, lipids, glucose/HbA1c, ECG, fundoscopy (NICE, 2019).

MANAGEMENT: LIFESTYLE & NON-PHARMACOLOGICAL INTERVENTIONS

Lifestyle Measures

- Reduce salt intake, moderate alcohol, balanced diet, physical activity, weight management, smoking cessation (NICE, 2019).

Community & Self-Management Interventions

- Community-based programs reduce SBP by ~7 mmHg, DBP by ~2–3 mmHg (Azami-Aghdash et al., 2025).
- Person-centred quality improvement strategies improve BP control (Andersson et al., 2023).



PHARMACOLOGICAL MANAGEMENT (NICE NG136)

Treatment Initiation

- Stage 2 hypertension ($\geq 160/100$ mmHg) → drug therapy (NICE, 2019).
- Stage 1 with $\geq 10\%$ 10-year CVD risk → consider drugs after lifestyle changes (NICE, 2019).

Drug Choices

- ACE inhibitors or ARBs, calcium channel blockers, thiazide-like diuretics.
- Tailored by age, ethnicity, comorbidities (NICE, 2019).

Challenges

- Only 38% of treated patients achieve target BP (UK Biobank, 2021).
- Medication nonadherence: 27–40% globally (Tola Gameda et al., 2020).

COMORBIDITIES & COMPLICATIONS

Comorbidities

- CKD (hypertension both causes and worsens) (Herrington et al., 2025).
- CVD: CAD, stroke, heart failure (NICE, 2019).
- Others: metabolic syndrome, type 2 diabetes, obesity (Tapela et al., 2021).

Management Implications

- Comorbidities influence drug choice and BP targets (NICE, 2019).
- Early detection prevents end-organ damage (Ali et al., 2023).

PREVENTION & POPULATION HEALTH STRATEGIES

Primary Prevention

- Promote lifestyle modifications, early screening in high-risk groups (NICE, 2019).

Community/Population-level Interventions

- Community programs shown effective for BP reduction (Azami-Aghdash et al., 2025).
- Public policies: salt reduction, education campaigns (Klassen et al., 2021).

MODELS & FRAMEWORKS FOR CARE

Biopsychosocial Model

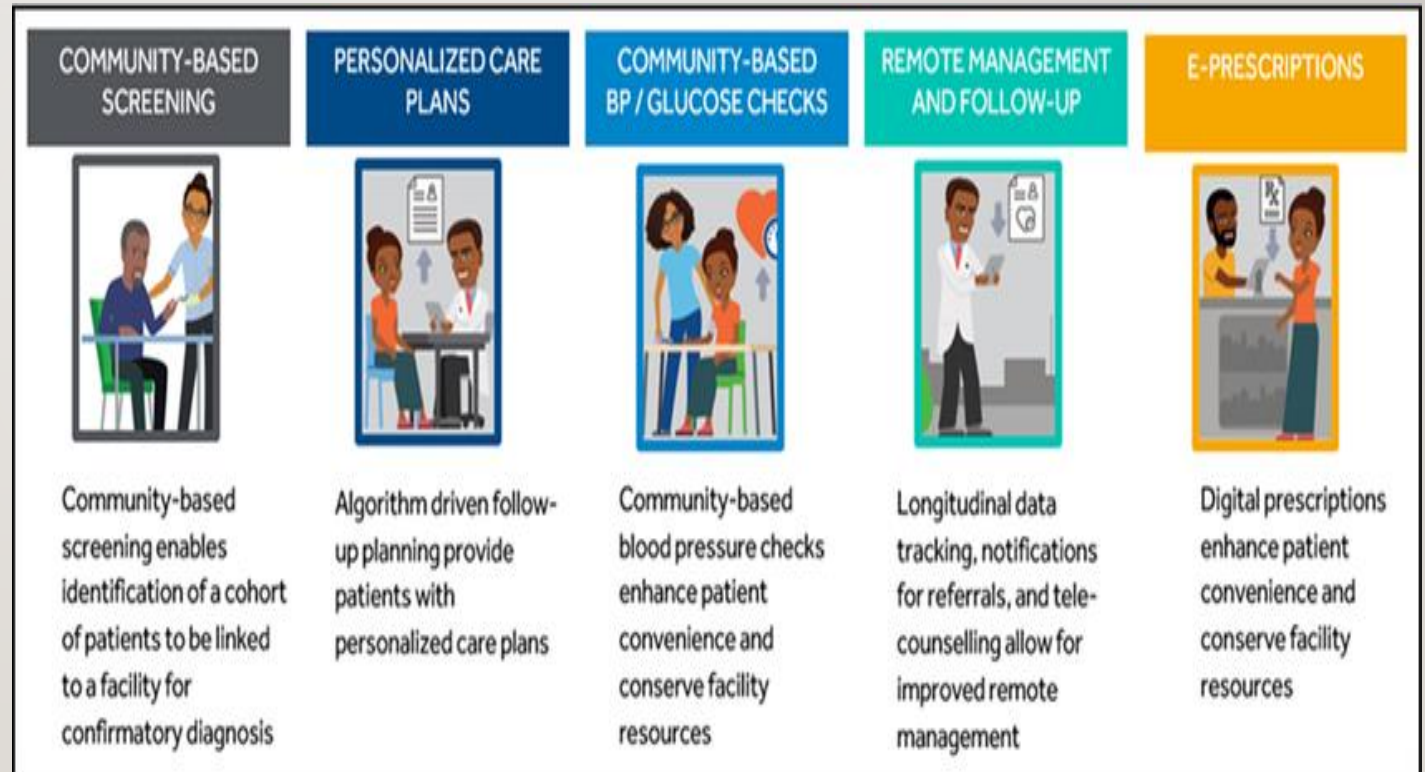
- Health influenced by biological, psychological, social factors (Engel, 1977).

Self-Management Support & Person-Centred Care

- Tailored patient education, shared decision-making, multidisciplinary teams improve BP outcomes (Manalili et al., 2022).

Chronic Care Model

- Promotes self-management, decision support, multidisciplinary collaboration (Wagner et al., 2001).



SIX COMPONENTS OF PERSONALISED CARE

1. **Shared decisions** – you and your clinician choose tests and treatments together.
2. **Personalised plan** – a simple written plan based on what matters to you.
3. **Real choice** – options about where, when and how you get your care.
4. **Social prescribing** – support from community services, not just medicines.
5. **Self-management support** – help, coaching and tools so you can manage day to day.
6. **Personal health budgets** – flexible funding to organise care in a way that works for your life.

SKILLS, VALUES & BEHAVIOURS REQUIRED

Skills

- Communication, motivational interviewing, cultural sensitivity, coordination across teams.

Values/Behaviours

- Empathy, respect for autonomy, support for self-management, commitment to prevention.
- Use of digital tools: home BP monitoring, telehealth (Nath et al., 2025).

RECOMMENDATIONS FOR UK PRACTICE

- Confirm diagnosis with ABPM/HBPM (Cepeda et al., 2023).
- Combine lifestyle interventions with pharmacotherapy.
- Use person-centred and biopsychosocial frameworks (Tu et al., 2021).
- Promote digital self-monitoring and telehealth.
- Prioritise primary prevention: salt reduction, healthy lifestyle campaigns.
- Use multidisciplinary approaches for complex patients.

CHALLENGES & CONSIDERATIONS

- Nonadherence undermines treatment (Khatib et al., 2022).
- Inequalities: age, ethnicity, socioeconomic status.
- Resource constraints for ABPM/HBPM, follow-up, community programs (Parati et al., 2021).
- Multimorbidity complicates management; lifestyle adherence challenging.

SUMMARY / KEY TAKEAWAYS

- Hypertension: common, preventable, serious burden globally & in the UK.
- Accurate diagnosis and risk assessment essential.
- Management: lifestyle + pharmacotherapy + self-management.
- Person-centred and community strategies improve outcomes.
- Prevention and holistic care remain key priorities.

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