Getting serious about CVD prevention – what does this mean for primary care and who can help us deliver it?

Dr Matt Kearney
GP and National Clinical Director for Cardiovascular Disease Prevention
NHS England and Public Health England
Most premature deaths are avoidable

Fig 6. Number of avoidable deaths among under-75s in England (2010)⁸

- Not avoidable, 50,000
- Preventable only, 50,000
- Amenable only, 19,000
- Preventable & amenable, 34,000

Two thirds of premature deaths are avoidable through prevention or better treatment
Global Burden of Disease Study 2013
Leading causes of premature death and disability in England

- Dietary risks
- Tobacco smoke
- High body-mass index
- High systolic blood pressure
- Alcohol and drug use
- High fasting plasma glucose
- High total cholesterol
- Low glomerular filtration rate
- Low physical activity
- Occupational risks
- Air pollution
- Low bone mineral density
- Child and maternal malnutrition
- Sexual abuse and violence
- Other environmental risks
- Unsafe sex
- Unsafe water/ sanitation/ handwashing

Legend:
- HIV/AIDS and tuberculosis
- Diarrhea, lower respiratory & other common infectious diseases
- Neglected tropical diseases & malaria
- Maternal disorders
- Neonatal disorders
- Nutritional deficiencies
- Other communicable, maternal, neonatal, & nutritional diseases
- Neoplasms
- Cardiovascular diseases
- Chronic respiratory diseases
- Cirrhosis
- Digestive diseases
- Neurological disorders
- Mental & substance use disorders
- Diabetes, urogenital, blood, & endocrine diseases
- Musculoskeletal disorders
- Other non-communicable diseases
- Transport injuries
- Unintentional injuries
- Self-harm and interpersonal violence
- Forces of nature, war, & legal intervention

Percent of total disability-adjusted life-years (DALYs)
Cardiovascular Disease – a leading cause of preventable morbidity and mortality
CVD dramatic fall in mortality

Total CVD mortality declined by 68% between 1980 and 2013 in the UK

Ref: Bhatnagar et al, Heart Online, 2016
CVD – much less change in prevalence

Figure 5  Trends in the prevalence from cardiovascular diseases in men and women by age, from the General Lifestyle Survey, Great Britain 1988–2011.

Ref: Bhatnagar et al, Heart Online, 2016
CVD – dramatic rise in secondary prevention

From 1981 to 2014
7-fold increase in CVD prescriptions in England

Ref: British Heart Foundation, 2015
A population getting older …

Increase 2010-2022

Aged 65-74
21%

Aged > 85
44%
A population getting bigger

Overweight or obese

Adults 2/3

Aged 11-15 1/3

Aged 5-11 1/5

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The growing burden of CVD

Premature death rates from cardiovascular disease in the most deprived 10% of the population were almost twice as high as the least deprived 10% of the population in 2012-14.

Cardiovascular disease costs the NHS £6.8 billion a year.

7 million people in the UK affected by cardiovascular disease.

1 in 4 premature deaths caused by cardiovascular disease.

27% of all deaths caused by cardiovascular disease.
“The NHS needs a radical upgrade in prevention if it is to be sustainable”

5 year Forward View 2014
Population level measures have the greatest impact
But the NHS has a critical contribution to make

Prevention – what can the NHS do?
Getting serious about prevention
What can the NHS do?

1. Population level interventions
2. Support for individual behaviour change
3. Early diagnosis and optimal treatment of the high risk conditions
1. Population measures - what can the NHS do?
Population measures

National action

• Tobacco restrictions, obesity strategy, sugar tax, food reformulation and labelling

Local action

• Place based approach in STPs
• Partnership - Local Authority, NHS, business, schools, communities
• Planning, licensing, marketing, catering, active transport, healthy workplace, healthy schools
“Streets that promote social interaction & exercise are hard to drive, and easy to walk or bike”
“Chubby Mile”

Fast food mile: The school run that has 34 takeaways on one road

Chubby mile: West Green Road’s takeaways
St Ninians Primary School
The Daily Mile

“Fit to play, fit to learn”

Making physical activity routine for our children
Active travel in the workplace
Planning for an active workforce

Inside
What’s right for your organisation?
Ideas for promoting walking and cycling
Case studies
How other organisations have promoted active travel

Making physical activity easier for people at work
Cambridge partnership with food retailers – making healthy eating easier
STP responsibility to promote population health – Opportunity for primary care leadership

1. **Wider partnership** to keep our patients well

2. **Asking challenging questions** of local authority and other partners on behalf of our patient populations – “What are **you** doing to support healthier lifestyles for our patients?”

3. **Advocates** for a system-wide approach to health and wellbeing that complements our actions in the NHS

4. **Opportunity to provide system leadership and to champion a population health approach**
2. Support for individual behaviour change
Primary Prevention
Supporting individual behaviour change in primary care

• One million daily consultations across primary care - multiple opportunities to identify and advise on lifestyle risk factors.

• Offer brief interventions and signposting – eg smoking, diet, physical activity, weight management, alcohol

• But not always easy – many other priorities in complex consultations, and we often lack the time

• NHS Health Check Programme and Diabetes Prevention Programme have brought support for prevention in primary care with systematic approach to risk factor detection and management

• But with limited capacity, how can we increase primary prevention in primary care?
Getting creative about primary prevention

1. Social prescribing and wellbeing hubs linked to practices
2. Delivered by wider primary care/local authority workforce
3. Support practices in prevention and free up GP time
4. General practice as gateway to prevention resources in the community
Social prescribing:
Mobilising community assets for wellbeing

Halton Wellbeing Enterprises
Social prescribing:
Mobilising community assets for wellbeing

HealthWORKS Newcastle

Community Health Trainers

"The staff are very respectful to individual needs and make everyone feel special. They empowered me to make choices about my lifestyle and didn’t judge when things may go wrong" – a service user’s comment

"We are local people trained to support others making healthy lifestyle choices"
Social prescribing: Mobilising community assets for wellbeing

Wellbeing Salford
Getting creative about primary prevention

1. Social prescribing and wellbeing hubs linked to practices
2. Delivered by wider primary care/local authority workforce
3. Support practices in prevention and free up GP time
4. General practice as gateway to prevention resources in the community
5. New models of prevention - making the system work better for us and our patients
3. Secondary prevention in high risk conditions
High risk conditions for CVD

- Heart attack
- Stroke
- PVD
- CKD
- Dementia
- BP
- AF
- 'Pre-diabetes'
- Heart attack
- Stroke
- PVD
- CKD
- Dementia
- Diabetes
- Cholesterol
High risk conditions – the evidence of risk

- **High Blood Pressure**: Contributes to half of all strokes and heart attacks
- **Atrial Fibrillation**: 5-fold increase in stroke risk and more likely to kill & disable
- **High Cholesterol**: Progressive increase in risk of heart attacks and strokes
<table>
<thead>
<tr>
<th>Condition</th>
<th>Effect</th>
<th>Treatment Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Blood Pressure</td>
<td>Contributes to half of all strokes and heart attacks</td>
<td>Every 10mmHg BP reduction reduces risk of CV event by 20%</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
<td>5-fold increase in stroke risk and more likely to kill &amp; disable</td>
<td>Anticoagulation reduces strokes by 2/3 in high risk AF</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>Progressive increase in risk of heart attacks and strokes</td>
<td>Every 1 unit reduction lowers risk of CV event by 25% each year</td>
</tr>
</tbody>
</table>
What about over-diagnosis and over treatment?

- We can harm our patients by slavishly following guidelines
  - More treatment brings more risks especially for people with multimorbidity or frailty
  - To optimise care it is important to consider both risks and benefits, and to assess the treatment burden for the individual
  - Our aim should be to personalise care, balancing guidelines and best interests of the patient

- But there are also risks to the patient from under diagnosis and under treatment

- Our patients may harmed by not identifying risk and offering treatments that will prevent them having a heart attack or stroke

- Balancing the risks of over/under diagnosis and over/under treatment is one of our key roles and core challenges as GPs and nurses
### Secondary prevention high risk conditions
Achievement and opportunity for improvement in England

<table>
<thead>
<tr>
<th>Condition</th>
<th>Diagnosed</th>
<th>6 in 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Blood Pressure</td>
<td>Controlled to 140/90</td>
<td>6 in 10</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
<td>Known AF and on anticoagulant at time of stroke</td>
<td>1 in 3</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>10 year CVD risk above 20% and on statins</td>
<td>1 in 2</td>
</tr>
</tbody>
</table>
Potential for quality improvement

1. Improving secondary prevention in BP, AF and cholesterol would significantly improve outcomes
2. For example, NICE has modelled that if all appropriate patients with AF received anticoagulants, there would be **10,000 fewer strokes in England every year**
3. If we only improved treatment in half the eligible patients, that would still prevent 5,000 strokes per year – **that’s 25 strokes in every CCG**
• We are all overworked and have NO capacity
• Pulse and blood pressure checking and counselling about statins is important but is often trumped by other priorities
• Patients often bring multiple priorities of their own to consultations
• We are not going to get better at secondary prevention by working harder
• It will only come from doing things differently …. and by making the system work better for us and our patients
Variation shows potential for quality improvement: some practices & CCGs are somehow doing things differently

Eg: Percentage of people known to have AF prescribed anticoagulation before their stroke

Across England only about one third of people with known AF who then suffer a stroke have been anticoagulated – despite the dramatic impact of this treatment on outcomes.

But wide variation between CCGs – from 20% to over 70%
Doing things differently – detecting hypertension

New diagnoses
Optimising treatment
Released 15 hours/month clinician time
Doing things differently – managing hypertension

LIVING LONGER LIVES
CASE STUDY

Using practice based pharmacists to manage hypertension in Dudley

February 2016
Doing things differently – Telehealth

Using simple telehealth in primary care to reduce blood pressure: a service evaluation

Elizabeth Cottrell,1 Ruth Chambers,2 Phil O’Connell2

ABSTRACT

Objectives: This service evaluation examines how efficiently an innovative, simple and interactive blood pressure (BP) management intervention improves BP control in general practice.

Design: Prospective service evaluation.

Setting: Ten volunteer general practitioner (GP) practices in Stoke on Trent, UK.

Participants: Practice staff identified 124 intervention patients and invited them to participate based on two inclusion criteria: (1) patient has chronic kidney disease (CKD) stages 3 or 4 with BP persistently >130/85 mm Hg or (2) patient is >50 years old (without CKD stages 3–5) with BP persistently >140/90 mm Hg despite prescribed antihypertensive medication. Three selected hypertensive control patients per intervention patient underwent usual clinical care (n=364).

Interventions: Intervention patients used ‘Florence’, a simple, interactive mobile phone texting service with BP management intervention for 9 months, or for less time if their BP became controlled. Patients measured their BP, text their readings to Florence, received an immediate automatic response and had results reviewed by their GP practice nurse at least weekly.

Main outcome measures: Baseline data including recent BP readings and medications were collected; similar information was obtained for 6 months for both control and intervention patients. Average BP readings and medication usage were determined.

RESULTS: A service evaluation of the intervention outcomes.

ARTICLE SUMMARY

Article focus

- Hypertension carries significant risks but is commonly poorly managed and controlled.
- Telehealth technology appears to be a useful strategy for managing chronic conditions; however, equipment deployment is often complex and costly.
- Use of a simple, single and low-cost telehealth intervention was evaluated to establish if it can efficiently manage hypertension in a way that suits patients.

Key messages

- A simple, interactive telehealth intervention effective and acceptable way of quickly gaining control of blood pressure (BP) in hypertensive individuals—even among those who had been previously difficult to engage.
- Maximal BP reductions using this type of telehealth intervention appear to occur among hypertensive older adults without chronic kidney disease.
- There may be a place for wider utilisation of this technology to assist in the diagnosis of hypertension, monitoring hypertension and remote clinical management, and in those who find it difficult to attend their general practitioner surgery.
Doing things differently – improvement at scale

Bradford’s Healthy Hearts (BHH)
Improving detection and management of high risk conditions – by making the system work better

Redesign of general practice to improve care and outcomes AND reduce demand on GPs

1. New ways of doing things in the surgery
2. New models of care using community pharmacists
   - Hypertension diagnosis and management
   - Anticoagulant monitoring
   - Supporting adherence to statins and anticoagulants
3. New technology – AliveCor, WatchBP Home
4. Self monitoring and titration and telehealth solutions

NHS RightCare CVD Prevention Pathway – systematic support for CCGs to improve detection and management of high risk conditions
Cardiovascular Disease Prevention: Risk Detection and Management in Primary Care

Cross Cutting:
1. NHS Health Check - systematic detection of high BP, AF, NDH, T2DM, CKD, high cholesterol, CVD risk
2. System level action to support guideline implementation by clinicians
3. Support for patient activation, individual behaviour change and self management

The Interventions
- High BP detection and treatment
- AF detection & anticoagulation
- Detection, CVD risk assessment, treatment
- Type 2 Diabetes preventive intervention
- Diabetes detection and treatment
- CKD detection and management

The Opportunities
- 5 million undiagnosed, 40% poorly controlled
- 30% undiagnosed, over half untreated or poorly controlled
- 85% of FHT undiagnosed. Most people with high CVD risk don’t receive statins
- 5 million with NDH. Most do not receive intervention
- 940K undiagnosed. Many have poor BP & proteinuria control
- 1.2m undiagnosed. Many have poor BP & proteinuria control

The Evidence
- BP lowering prevents strokes and heart attacks
- Anticoagulation prevents 3/5 of strokes in AF
- Behaviour change and statins reduce lifetime risk of CVD
- Intensive behavioural change (eg NHS DPP) reduces T2DM risk 30-60%
- Control of BP, HbA1c and lipids improves CVD outcomes
- Control of BP, CVD risk and proteinuria improves outcomes

The Risk Condition
- Blood Pressure
- Atrial Fibrillation
- High CVD risk & Familial H/cholesterol
- Non Diabetic Hyperglycaemia ('pre-diabetes')
- Type 1 and 2 Diabetes
- Chronic Kidney Disease

Detection and 2°/3° Prevention

The Outcomes
- 50% of all strokes & heart attacks, plus CKD & dementia
- 5-fold increase in strokes, often of greater severity
- Marked increase in premature death and disability from CVD
- Marked increase in Type 2 DM and CVD at an earlier age
- Marked increase in heart attack, stroke, kidney, eye, nerve damage
- Increase in CVD, acute kidney injury & renal replacement
Summary:
More prevention to reduce demand and improve outcomes

- Recognise the existential threat that preventable illness poses to the NHS
- Acknowledge our lack of capacity to do more
- Seize the opportunity of the GPFV, new models of primary care and STPs to do things differently:
  1. System leadership in STPs for population health
  2. Partnership with local authorities and communities to expand social prescribing and wellbeing hubs for primary prevention
  3. Build new models of care that help us deliver quality improvement in detection and secondary prevention in the high risk conditions

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This needs primary care leadership for prevention

Rising to our prevention challenge

1. Challenge ourselves to lead the conversation about prevention in the NHS and make sure that the solutions reflect our real world in primary care, and that they are beneficial for our patients.

2. Challenge our partners in local authority and elsewhere to do more to help our patients stay healthy.

3. Challenge the wider primary care system to find more effective ways of identifying and treating patients with high risk conditions
   - To reduce heart attacks, strokes, premature death and disability amongst our patients
   - To reduce the burden on general practice

www.england.nhs.uk
Thank You
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