The NHS RightCare CVD Prevention Pathway– making it work in the real world

Amy Bowen
Delivery Partner
North Central and East London

Cardiovascular Disease Prevention:
Risk Detection and Management in Primary Care

Public Health England

NHS RightCare

The Interventions	**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				
	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 un-diagnosed. 40% poorly controlled	30% undiagnosed. Over half untreated or poorly controlled	85% of FH undiagnosed. Most people at high CVD risk don't receive statins	5 million with NDH. Most do not receive intervention	940k undiagnosed. 40% do not receive all 8 care processes	1.2m undiagnosed. Many have poor BP & proteinuria control
The Evidence	BP lowering prevents strokes and heart attacks	Anticoagulation prevents 2/3 of strokes in AF	Behaviour change and statins reduce lifetime risk of CVD	Intensive behaviour 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 Hyperglycemia ('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

The Size of the Prize in Cardiovascular Disease (CVD) Prevention
North Central London

Public Health England | NHS England

1. The diagnosis and treatment gap, 2015/16

Hypertension	Estimated adult population with hypertension	302,200
	Estimated adult population with undiagnosed hypertension	134,600
	GP registered hypertensives not treated to 150/90 mmHg target	38,300
Atrial Fibrillation (AF)	GP registered population with Atrial Fibrillation (AF)	15,500
	Estimated GP registered population with undiagnosed AF	10,400
	GP registered high risk AF patients (CHA2DS2VASc >=2) not anticoagulated	3,600
CVD risk	Estimated adult population 30 to 85 years with 10 year CVD risk >20%	98,600
	Estimated percentage of people with CVD risk ≥20% treated with statins	49%

2. The burden: first ever CVD events, 2015/16

Coronary Heart Disease	2,150
Stroke	1,250
Heart Failure	900

3. The opportunity: potential events averted and savings over 3 years by optimising treatment in AF and hypertension, 2015/16

Optimal anti-hypertensive treatment of diagnosed hypertensives averts within 3 years:	230 heart attacks	Up to £1.80 million saved[2]
	340 strokes	Up to £4.60 million saved[1]
Optimally treating high risk AF patients averts within 3 years:	290 strokes	Up to £5.10 million saved[1]

ⓘ What the evidence tells us

- Reducing blood pressure in all adults with diagnosed and undiagnosed hypertension by 5 mmHg: **reduces risk of CVD events by 10%**
- Statin therapy to reduce cholesterol by 1 mmol in people with a 10 year risk of CVD risk greater than 10%: **reduces risk of CVD events by 20-24%**
- Anti-coagulation of high risk AF patients: **averts one stroke in every 25 treated**

⚠ CVD: high risk conditions

High risk conditions like high blood pressure, atrial fibrillation and high cholesterol are major causes of heart attack and stroke (CVD events). In the high risk conditions preventive treatment is very effective, but late diagnosis and under-treatment is common.

🔍 Improving outcomes in CVD: case study

In Bradford Districts Clinical Commissioning Group: Over 24 months, more than 21,000 people had an intervention in lipid management, anti-coagulation or antihypertensive treatment to improve their health. Resulting in 137 fewer heart attacks and 74 fewer strokes compared to baseline.

Footnotes:
[1] Royal College of Physicians (2016). Sentinel Stroke National Audit Programme. Cost and Cost-effectiveness analysis. Technical report
[2] Kerr, M (2012). Chronic Kidney disease in England: The human and financial cost
Potential events calculated with NNT (theNNT.com). For blood pressure, anti-hypertensive medicines for five years to prevent death, heart attacks, and strokes: 1 in 100 for heart attack, 1 in 67 for stroke. For AF, warfarin over 1.5 years : 1 in 25 for stroke. Numbers may be lower, as some patients may be on prior treatment.

References:
Hypertension and AF populations and treatment estimates: QOF 2015/16.
CVD high risk estimate numbers: http://www.bmj.com/content/344/bmj.e4181.
CVD high risk statin treatment: http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002169

The Size of the Prize in Cardiovascular Dise[ase...]
North East London

1. The diagnosis and treatment gap, 2015/16

Hypertension	Estimated adult population with hypertension	
	Estimated adult population with undiagnosed hypertension	
	GP registered hypertensives not treated to 150/90 mmHg target	
Atrial Fibrillation (AF)	GP registered population with Atrial Fibrillation (AF)	16,500
	Estimated GP registered population with undiagnosed AF	14,000
	GP registered high risk AF patients (CHA2DS2VASc >=2) not anticoagulated	3,200
CVD risk	Estimated adult population 30 to 85 years with 10 year CVD risk >20%	125,600
	Estimated percentage of people with CVD risk ≥20% treated with statins	49%

3. The opportunity: potential events averted and savings over 3 years by optimising treatment in AF and hypertension, 2015/16

Optimal anti-hypertensive treatment of diagnosed hypertensives averts within 3 years:	260 heart attacks	Up to £2.00 million saved[2]
	390 strokes	Up to £5.40 million saved[1]
Optimally treating high risk AF patients averts within 3 years:	260 strokes	Up to £4.60 million saved[1]

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Principles of value based optimal design

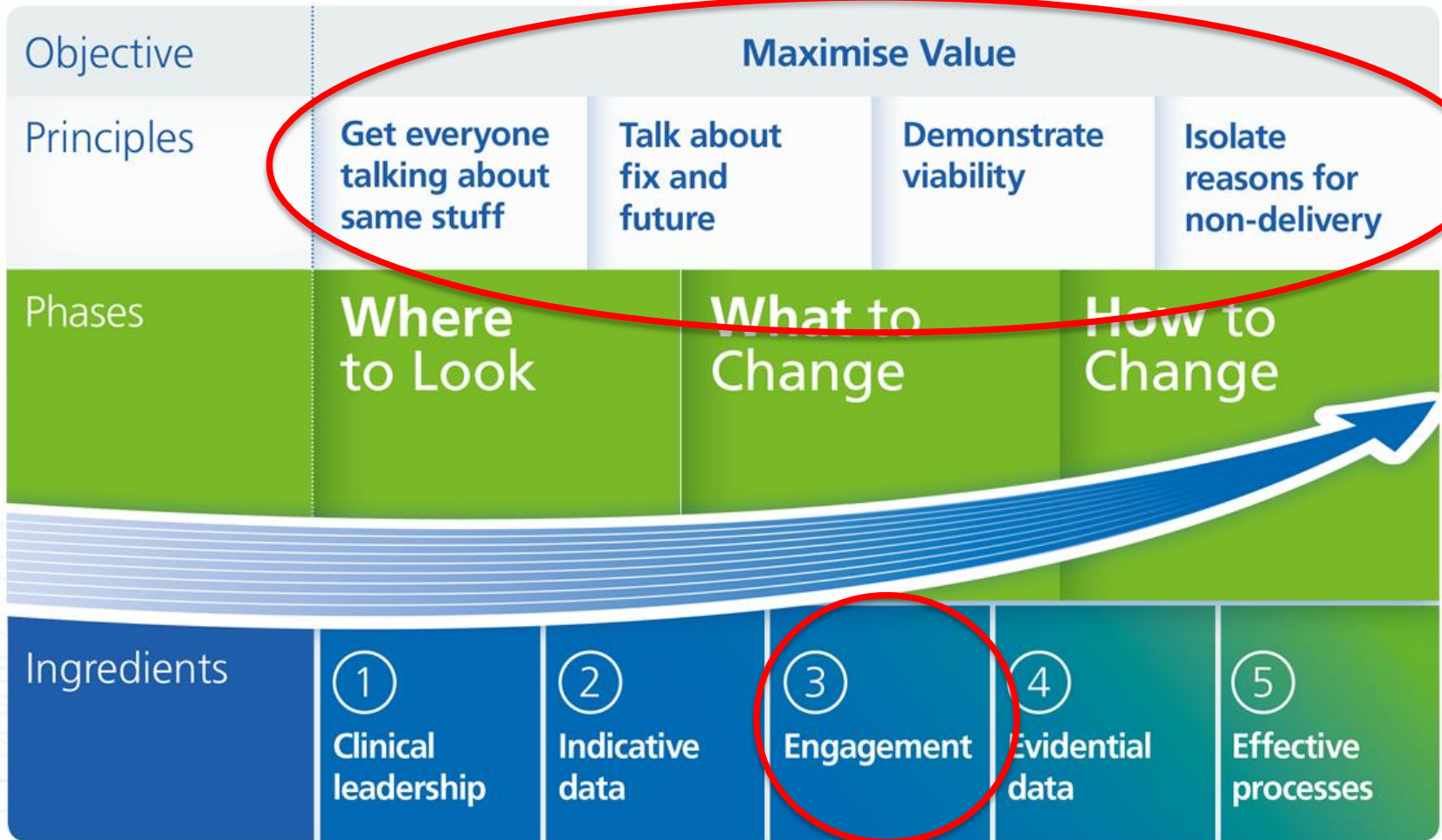|	
Population focus	Focus on people and the population not the organisations. Focus on those we don't know as well as those we do
System thinking	Shared, common aim Shared involvement in defining optimal and how best to use assets from across the system to achieve the aim

Value based	Think of value in two ways:
	1. Allocative/Technical/Personal
	   • Allocative – doing the right things
	   • Technical – doing them right
	   • Personal – no decision in the face of avoidable ignorance - works both ways!
	2. Overuse/underuse
	   • Overuse of lower value interventions
	   • Underuse of higher value interventions

Logic Models