NHS Health Check Programme

What’s the Rationale?
Where’s the Evidence?

Dr Matt Kearney
General Practitioner Runcorn
National Clinical Advisor PHE & NHSE
The NHS Health Check could prevent:

- over **4,000** cases of diabetes each year
- **1,600** heart attacks and strokes
- at least **650** premature deaths

And.... could detect at least **20,000** cases of diabetes and chronic kidney disease earlier

For those aged **40 - 74 years old** in England

Targeting the **top 7 causes of preventable mortality**: high BP, smoking, cholesterol, obesity, poor diet, physical inactivity and alcohol consumption.
What’s the rationale?
Rising tide of preventable morbidity and mortality
Fig 6. Number of avoidable deaths among under-75s in England (2010)\textsuperscript{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.
Fig 7: Causes of death for people aged under 75 in England

- Cancer: 40%
- Circulatory disease (including stroke): 22%
- Respiratory disease: 9%
- Liver disease: 5%
- Other: 24%

CVD
Fig 2: Under-75 circulatory disease mortality rate (2010 or nearest)
29,000 fewer deaths in England if same mortality as Switzerland
Figure 8 – Mortality rate from the big killers across deprivation quintile

Deaths per 100,000 population

- CVD
- Liver disease
- Respiratory disease
- Cancer

Legend:
- Quintile 5 (Least deprived)
- Quintile 4
- Quintile 3
- Quintile 2
- Quintile 1 (Most deprived)
What can the NHS do to reduce premature mortality?

• Population level interventions are important for prevention
• But the NHS has a pivotal role in prevention, earlier diagnosis, better management
• Most of this is done in primary care
What’s the rationale?
Tackling the top 7 causes of premature mortality
Risk assessment
- Age
- Gender
- Ethnicity
- Family history
- Smoking status
- Alcohol use
- Physical activity
- Body Mass Index (BMI)
- Cholesterol test
- BP Measure
- Diabetes filter
  - BMI
  - BP Measure
- Dementia awareness and signposting

Diagnosis
- Lifestyle interventions
  - Risk Assessment
  - High BP
- High risk of DM
- DM
- ? Diabetes
- ? Hypertension
- ? CKD

Risk Management
- smoking
- Alcohol
- physical activity
- Weight
- Impaired Glucose
- Consider statin
- Treat BP
- CKD Management

NHS HEALTH CHECK
- A pathway - not a standalone activity
- Multi-component intervention
- Good quality primary care a core component

NHS Health Check Pathway
Where’s the evidence?
Systematic Review

16 RCTs comparing health checks with no health checks

Conclusion:

‘General health checks did not reduce morbidity or mortality’
Limited applicability to the NHS Health Check:

- Six of the 16 trials started in the 1960s, all but one starting before 1992
- There was significant heterogeneity between different trials
- There was no specification of the contents of a ‘general health check’
- The response was a single brief intervention, which was unlikely on its own to have a significant effect on mortality
- The studies bear little relationship to the systematic risk assessment and management of NHS Health Check
Randomised Control Trial

Examined the effect that systematic screening for risk factors, followed by repeated lifestyle counselling, has on the ten-year risk of IHD development

Conclusion:

“No effect on ischaemic heart disease, stroke, or mortality at the population level after 10 years”
Inter99 Trial – BMJ 2014

Robust study but important caveats:
• Low uptake of assessment and advice
• Younger, healthier population
• Intervention not as comprehensive as NHS Health Check
• Individuals achieved meaningful change in risk factors but no population effect detected

Important challenges:
• How to deliver interventions that are effective
• How to achieve high enough intervention response rates
• Should the objective of such programmes be individual benefit or population benefit
• Should interventions be focused on the high risk
Case control study

Compared prevalence change over 3 years in 38 practices offering NHS Health Checks and 41 practices who did not.

Conclusion

“NHS Health Check no different from usual care at detecting new cases of vascular disease”
Limitations

- Not randomised and underpowered
- Low uptake of NHS Health Check

Important challenges

- Why does a systematic approach to case finding not detect more cases?
- Does the health check reach those with greatest risk and poorest access?
- Is the failure related to the quality of the health check provided?
  - Staff training and competencies
  - Appropriate investigation
  - Appropriate follow up
Where's the evidence?

NHS Health Check - Delivery mechanism for evidence based interventions

NHS HEALTH CHECK
• A pathway - not a standalone component intervention
• Good quality primary care at core

NHS Health Check Pathway

Risk assessment
- Age
- Gender
- Ethnicity
- Family history
- Smoking status
- Alcohol use
- Physical activity
- Body Mass Index (BMI)
- Cholesterol test
- BP Measure
- Diabetes filter
  • BMI
  • BP Measure
- Dementia awareness and signposting

If at risk
- HbA1c or Fasting Glucose

Risk assessment

Diagnosis
- High BP
- High CVD Risk
- ? Diabetes
- ? Hypertension
- ? CKD

Risk Management
- smoking
- Alcohol
- physical activity
- Weight
- Impaired Glucose
- Consider statin
- Treat BP
- CKD Management

Lifestyle interventions
- BP Measure
- Alcohol
- Weight

Register
- CKD
- Hypertension
- Diabetes
But where’s the added value – we do this anyway in primary care
Hypertension Treatment Cascade

% of England population

Hypertensive 30.00%
... and GP diagnosed... 25.00%
... and on BP medication... 20.00%
... and with controlled BP. 15.00%

0.00% 5.00% 10.00% 15.00% 20.00% 25.00% 30.00% 35.00%

Male

The rule of halves still applies
### Hypertension: QOF prevalence (all ages) 2012/13

<table>
<thead>
<tr>
<th>Area</th>
<th>Count (1000)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>7,660,010</td>
<td>13.7</td>
</tr>
<tr>
<td>Most deprived decile</td>
<td>-</td>
<td>13.7</td>
</tr>
<tr>
<td>NHS Birmingham Crosscity And Edgbaston CCG</td>
<td>94,730</td>
<td>12.9</td>
</tr>
<tr>
<td>NHS Birmingham South And East CCG</td>
<td>28,314</td>
<td>11.7</td>
</tr>
<tr>
<td>NHS Blackburn With Darwen And Whitehaven CCG</td>
<td>20,696</td>
<td>12.2</td>
</tr>
<tr>
<td>NHS Blackpool CCG</td>
<td>28,684</td>
<td>16.6</td>
</tr>
<tr>
<td>NHS Bradford City CCG</td>
<td>10,457</td>
<td>8.8</td>
</tr>
<tr>
<td>NHS Central Manchester CCG</td>
<td>19,020</td>
<td>8.8</td>
</tr>
<tr>
<td>NHS City And Hackney CCG</td>
<td>27,185</td>
<td>9.3</td>
</tr>
<tr>
<td>NHS Haringey CCG</td>
<td>30,759</td>
<td>10.6</td>
</tr>
<tr>
<td>NHS Heywood, Middleton And St.AGE CCG</td>
<td>30,594</td>
<td>13.8</td>
</tr>
<tr>
<td>NHS Hull CCG</td>
<td>40,119</td>
<td>13.8</td>
</tr>
<tr>
<td>NHS Islington CCG</td>
<td>29,982</td>
<td>9.2</td>
</tr>
<tr>
<td>NHS Knowsley CCG</td>
<td>23,648</td>
<td>14.7</td>
</tr>
<tr>
<td>NHS Liverpool CCG</td>
<td>66,803</td>
<td>13.5</td>
</tr>
<tr>
<td>NHS Newcastle West CCG</td>
<td>18,228</td>
<td>13.8</td>
</tr>
<tr>
<td>NHS Newham CCG</td>
<td>37,647</td>
<td>10.0</td>
</tr>
<tr>
<td>NHS North Manchester CCG</td>
<td>22,427</td>
<td>11.8</td>
</tr>
<tr>
<td>NHS Salford CCG</td>
<td>34,547</td>
<td>13.8</td>
</tr>
<tr>
<td>NHS Sandwell And West Birmingham CCG</td>
<td>75,440</td>
<td>14.0</td>
</tr>
<tr>
<td>NHS South Manchester CCG</td>
<td>19,247</td>
<td>11.5</td>
</tr>
<tr>
<td>NHS Tower Hamlets CCG</td>
<td>22,350</td>
<td>7.8</td>
</tr>
<tr>
<td>NHS Waltham Forest CCG</td>
<td>32,505</td>
<td>11.0</td>
</tr>
<tr>
<td>NHS Wolverhampton CCG</td>
<td>41,019</td>
<td>15.6</td>
</tr>
</tbody>
</table>

Source: QOF

Unwarranted variation
Unwarranted variation
Public Health England

CKD: QOF prevalence (18+)

<table>
<thead>
<tr>
<th>Area</th>
<th>Count</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>1,881,631</td>
<td>4.3</td>
</tr>
<tr>
<td>Most deprived decile</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NHS Birmingham Crosscity</td>
<td>23,582</td>
<td>4.2</td>
</tr>
<tr>
<td>NHS Birmingham South And...</td>
<td>7,632</td>
<td>4.2</td>
</tr>
<tr>
<td>NHS Blackburn With Darwen</td>
<td>4,662</td>
<td>3.7</td>
</tr>
<tr>
<td>NHS Blackpool CCG</td>
<td>11,860</td>
<td>8.5</td>
</tr>
<tr>
<td>NHS Bradford City CCG</td>
<td>2,241</td>
<td>2.7</td>
</tr>
<tr>
<td>NHS Central Manchester CCG</td>
<td>3,539</td>
<td>2.1</td>
</tr>
<tr>
<td>NHS City And Hackney CCG</td>
<td>4,078</td>
<td>1.8</td>
</tr>
<tr>
<td>NHS Haringey CCG</td>
<td>4,239</td>
<td>1.9</td>
</tr>
<tr>
<td>NHS Heywood, Middleton An...</td>
<td>7,473</td>
<td>4.4</td>
</tr>
<tr>
<td>NHS Hull CCG</td>
<td>9,684</td>
<td>4.3</td>
</tr>
<tr>
<td>NHS Islington CCG</td>
<td>3,366</td>
<td>4.3</td>
</tr>
<tr>
<td>NHS Knowsley CCG</td>
<td>5,532</td>
<td>1.8</td>
</tr>
<tr>
<td>NHS Liverpool CCG</td>
<td>19,357</td>
<td>4.9</td>
</tr>
<tr>
<td>NHS Newcastle West CCG</td>
<td>6,942</td>
<td>6.8</td>
</tr>
<tr>
<td>NHS Newham CCG</td>
<td>5,795</td>
<td>4.4</td>
</tr>
<tr>
<td>NHS North Manchester CCG</td>
<td>4,674</td>
<td>3.2</td>
</tr>
<tr>
<td>NHS Salford CCG</td>
<td>7,548</td>
<td>3.9</td>
</tr>
<tr>
<td>NHS Sandwell And West Bir.</td>
<td>18,159</td>
<td>4.4</td>
</tr>
<tr>
<td>NHS South Manchester CCG</td>
<td>3,827</td>
<td>2.9</td>
</tr>
<tr>
<td>NHS Tower Hamlets CCG</td>
<td>4,389</td>
<td>2.0</td>
</tr>
<tr>
<td>NHS Waltham Forest CCG</td>
<td>6,246</td>
<td>2.8</td>
</tr>
<tr>
<td>NHS Wolverhampton CCG</td>
<td>10,186</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Source: QOF

Unwarranted variation
## How good are we at opportunistic case finding?

<table>
<thead>
<tr>
<th>Condition</th>
<th>Undiagnosed Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>5 million</td>
</tr>
<tr>
<td>CKD</td>
<td>1.6 million</td>
</tr>
<tr>
<td>Diabetes</td>
<td>500,000</td>
</tr>
</tbody>
</table>
Hypertension detection and control in Canada

England 2011
Unaware of diagnosis: 40%
Treated and controlled: 37%
So what do we do?

• Rising tide of non communicable diseases and preventable mortality and morbidity

• We have excellent primary care but we need help - there are significant gaps in what we achieve

• An opportunistic approach and more of the same will not deliver better outcomes

• The status quo is not an evidence based option

• A systematic approach to case finding and delivery of evidence based interventions is a rational response
NHS Health Check is a rational approach  
But must evolve in response to the evidence

1. The NHS Health Check offers a systematic approach to case finding and delivery of evidence based interventions  
2. There is a wealth of evidence in relation to the interventions delivered by the NHS Health Check  
3. There is a dearth of evidence in relation to the NHS Health Check as a delivery method  
4. Lack of evidence of effectiveness should not be confused with evidence of lack of effectiveness  
5. The NHS Health Check is here – we need to maximise reach, quality and follow up  
6. We need to generate evidence and ensure the NHS Health Check evolves and is optimised in response to the evidence
“Midlife checks for the worried well leave no time to treat the sick, warn GPs”

GPs are distracted by rising workload and are aware there are gaps in the evidence…
- We are too busy and we’ve heard it doesn’t work!
We need to champion prevention and early diagnosis in CVD

Prevention is an essential not a luxury in the NHS

NHS Health Check is finding

- Undiagnosed and untreated people with high risk of CVD and diabetes
- Undiagnosed and untreated people with hypertension, diabetes and CKD

Early diagnosis and primary and secondary prevention of cardiovascular disease is core primary care business

Waiting till our patients get sick is not an evidence based option
Thank you
Matt.Kearney@nhs.net