Maximising the benefits of the NHS Health Checks: a modelling study

NHS Health Check Conference
Manchester, 9 February 2017

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Work commissioned by Public Health England
Aims & scenarios

Scenarios:

• Increased attendance (everyone vs selective)

• Increased treatments

• Changing eligibility criteria (age, hypertension)
Methods

Population and Health Module
- Socio-demographic characteristics
- Cardiovascular risk factors

Disease Status

Death

Health Check Module
- Eligibility
- Attend a health check
- Treatment Uptake
- Effect of treatment
Strengths and limitations

**Strengths**
- Exploration of ‘what if’
- Realistic model for treatment
- Uses programme data

**Limitations**
- Cardiovascular disease focus
- Not considered costs
- Trends and future innovation
Current Programme

NHS Health Check
Helping you prevent diabetes, heart disease, kidney disease, stroke & dementia
### Results: Attendance & Treatment (current programme)

<table>
<thead>
<tr>
<th>Attendance (percentage of whole population)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible for Health Check (HC)</td>
<td>97%</td>
</tr>
<tr>
<td>Attend for one or more HC</td>
<td>77%</td>
</tr>
<tr>
<td>Average number of HC per person</td>
<td>1.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment (percentage of whole population)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible for HC and eligible for treatment</td>
<td>94%</td>
</tr>
<tr>
<td>Offered any treatment</td>
<td>24%</td>
</tr>
<tr>
<td>Statins</td>
<td>7%</td>
</tr>
<tr>
<td>Blood pressure medication</td>
<td>3%</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>1%</td>
</tr>
<tr>
<td>Weight management</td>
<td>16%</td>
</tr>
</tbody>
</table>

Results based on following a cohort from age 40-45 years to 100 years; HC = health check
Results: Health benefits (current programme)

<table>
<thead>
<tr>
<th>Health outcomes</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Increase in survival (per person)</td>
<td>3.2 days</td>
</tr>
<tr>
<td>Increase in survival in full health (per person)</td>
<td>5.2 days</td>
</tr>
<tr>
<td>Increase in survival in full health for most deprived fifth (per person)</td>
<td>7.5 days</td>
</tr>
<tr>
<td>Cases prevented (per 1,000,000)</td>
<td>2000</td>
</tr>
<tr>
<td>Premature deaths prevented (per 1,000,000)</td>
<td>370</td>
</tr>
</tbody>
</table>

Results based on following a cohort from age 40-45 years to 100 years; survival in full health is measured using quality adjusted life years (QALY) metric; cases prevented of ischaemic heart disease, stroke, dementia and lung cancer; premature deaths are deaths below the age of 80 years
Changing delivery or implementation

NHS Health Check
Helping you prevent
diabetes, heart disease, kidney disease, stroke & dementia
Results: Increasing attendance

Scenario Description

**Everyone:** coverage increases to 85%

**Non-attenders:** double likelihood of attendance

**High risk:** 20% increase in attendance if CVD (cardiovascular disease) risk>15% over ten years

**Most deprived:** 20% increase in attendance if in poorest quintile

*Cases prevented: ischaemic heart disease, stroke, dementia and lung cancer*
Results: Increasing treatment

- Increasing Attendance
  - Everyone: 140
  - Non-attenders: 440
  - High CVD Risk: 130
  - Most deprived: 60

- Increasing Treatment (2.5 fold)
  - Statins: 2330
  - Blood pressure medication: 240
  - Smoking cessation: 220
  - Weight management: 90
  - All treatments: 2860
Closing Thoughts: Maximising Benefits

• Consider local data

• Action the actionables

• Consider targeting

• Review weight management practice & ensure commission proven services
Acknowledgements

I would like to acknowledge my colleagues: Chris Jackson, Anna Goodman, James Woodcock, Nick Wareham, Claudia Langenberg, Simon Griffin, Arno Steinacher and colleagues at Public Health England.

The work has been commissioned by Public Health England.