

# Health Assessments – Dr Do-A-Little or Dr Do-A-Lot?

Presented by:  
James Cripps  
Anne Hung  
Moderated by:  
Adrian Baskir

Bupa 



# Webinar presenters and moderator

**James Cripps**  
(Webinar presenter)



Fellow, Institute and Faculty of Actuaries

James Cripps is currently the Head of Pricing for Bupa in the UK, where he leads the pricing and underwriting for the Insurance and Clinics businesses. He has over 15 years of experience working for leading insurers in both Health Insurance and General Insurance markets.

**Anne Hung**  
(Webinar presenter)



Fellow, Institute and Faculty of Actuaries

Anne Hung is a qualified actuary with a solid foundation in healthcare, with 7 years of experience with insurers and intermediary. She is currently pricing actuary for Bupa UK Insurance, where she is holding responsibility for pricing SME PMI and B2B Dental. Formerly she worked as a Healthcare consultant and pricing actuarial analyst. She had an excellent exposure to products across other segment and business lines, such as Large Corporate PMI, Individual PMI, GIP and Group Life products.

**Adrian Baskir**  
(Webinar moderator)



Fellow, Institute and Faculty of Actuaries  
ViceChairman, IAA Health Section

London-based Adrian Baskir is vice chairman of the International Actuarial Association's Health Section with 25 years of experience in management and executive roles. Before moving to the U.K. in 2009, he served on various committees and as president (2005-2007) of the Actuarial Society of South Africa. He served on the Council of the Institute and Faculty of Actuaries (IFoA) from 2009 to 2013 and on IFoA's International Committee. He is currently chief actuary for Bupa in the U.K., where he manages a large team and is responsible for pricing and reserving.

# Agenda

1. NHS in UK
2. NHS vs Health Insurance vs Health Assessment
3. Study: Health Assessments – Dr Do-A-Little or Dr Do-A-Lot?
  - I. Claims behaviour for members with Health Assessment vs members without Health Assessment
  - II. Can the Health Assessment results help predict future claims?
  - III. Does health change between 1<sup>st</sup> and 2<sup>nd</sup> Health Assessment?
  - IV. Claims spend for members with health change between 1<sup>st</sup> and 2<sup>nd</sup> Health Assessment
4. Q and A

# 1. NHS in UK

- Launched in 1948
- Ideal: ***‘Good healthcare should be available to all, regardless of wealth.’***
- Free at point of service (other than prescriptions, optical, & dental services)
- Devolved responsibility in each of England, Scotland, Wales & Northern Ireland
- Employment: 1.5 million people (in Top 5 of world’s workforces)
- NHS in England employs 1.2 million people: 150k doctors; 41k GPs, 315k nurses, 19k ambulance staff, 111k hospital & community health service medical & dental staff
- NHS in Scotland, Wales and Northern Ireland employs 161k, 84k and 66k people respectively.
- Largest = NHS England: covers 1 million patients every 36 hours
- Covers everything, including NHS general practitioners (GPs) services, routine screenings, treatments for long-term conditions, transplants, emergency treatment and end-of-life care.

## 2. NHS vs Health Insurance vs Health Screening

	Primary Care	Diagnostics	Treatment	Other services
<b>NHS</b>	<ul style="list-style-type: none"> <li>NHS general practitioners (GPs) services</li> </ul>	<ul style="list-style-type: none"> <li>Consultations to diagnose condition</li> <li>Diagnostic tests (such as blood tests or X-rays) to help assess condition</li> <li>Diagnostic scans (such as MRI, CT and PET) to assess condition</li> </ul>	<ul style="list-style-type: none"> <li>Free hospital treatment for ordinarily UK resident</li> <li>Cancer treatment and drugs subject to NICE guidelines</li> <li>Subsidised prescription drugs</li> </ul>	<ul style="list-style-type: none"> <li>Urgent and emergency care (A&amp;E)</li> </ul>
<b>Health Insurance (Private medical insurance)</b>	<ul style="list-style-type: none"> <li>Mainly covers non-emergency secondary and tertiary care only</li> <li>Recently have started to include virtual GP</li> </ul>	<ul style="list-style-type: none"> <li>Consultations to diagnose condition</li> <li>Diagnostic tests (such as blood tests or X-rays) to help assess condition</li> <li>Diagnostic scans (such as MRI, CT and PET) to assess condition</li> </ul>	<ul style="list-style-type: none"> <li>Hospital treatment (out-patient or in hospital)</li> <li>Consultant fees (surgeons, anaesthetists or physicians)</li> <li>Out-patient therapies (such as physiotherapy)</li> <li>Post diagnosis out-patient consultations</li> <li>Tests and scans</li> <li>Cancer treatment and drugs for eligible treatment</li> <li>Excludes prescription drugs other than cancer-related</li> </ul>	<ul style="list-style-type: none"> <li>NHS cash benefit</li> <li>Treatment at home</li> <li>Home nursing</li> <li>Private ambulance</li> </ul>
<b>Health Screening (Health assessment)</b>	<ul style="list-style-type: none"> <li>Opportunity to talk through any questions or concerns on current health and potential health risks</li> <li>Not suitable for long-term chronic conditions or seeking a specialist medical opinion about an existing condition</li> </ul>	<ul style="list-style-type: none"> <li>Tests (such as blood tests, urine samples)</li> <li>Measurement (such as height, weight)</li> <li>Lifestyle questions (such as alcohol consumption, amount of exercise and smoking status)</li> </ul>	<ul style="list-style-type: none"> <li>Referral to private specialists</li> </ul>	<ul style="list-style-type: none"> <li>Personal health report and action plan to help minimise any health risk</li> </ul>

### 3. Study: Health Assessments – Dr Do-A-Little or Dr Do-A-Lot

I) Claims behaviour for members with HA vs members without HA

II) Can the HA Results Analyse Help Predict Future Claims?

III) Does Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA?

IV) Claims spend for members with Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA.

Appendix:  
Data Summary,  
Methodology &  
Limitations

# Key Premise / Hypothesis

Bupa's purpose is "Longer, Healthier, Happier Lives".

"We do this by providing a broad range of healthcare services, support and advice to people throughout their lives."

Amongst Bupa's services in the UK are Private Medical Insurance (PMI) and Health Assessments (HA) via Bupa Clinics. The HA is frequently included by companies as an employee benefit to their staff

We sought to understand the claiming behaviour of PMI customers using Bupa Health Assessments before and after. We also sought evidence that the HA was contributing to them leading healthier and eventually longer lives

Customers enrol for each proposition separately although there are many common customers. Separate databases are maintained and data protection ensures anonymity of each database. The study focused on Corporate customers who offered both Bupa PMI and Bupa HA as employee benefits. We are unable to identify customers where PMI and/or HA is offered through other providers.

The study linked anonymised PMI claims information pre and post HA to anonymised data gathered at the HA. PMI information was based on incurred claims ; HA data was via questionnaire and empirical medical measurement. A control group of PMI customers who did not have HA was used to inform conclusions albeit that some of these customers may have undergone HA via other providers.

# I) Claims behaviour for members with HA vs members without HA

I) Claims behaviour for members with HA vs members without HA

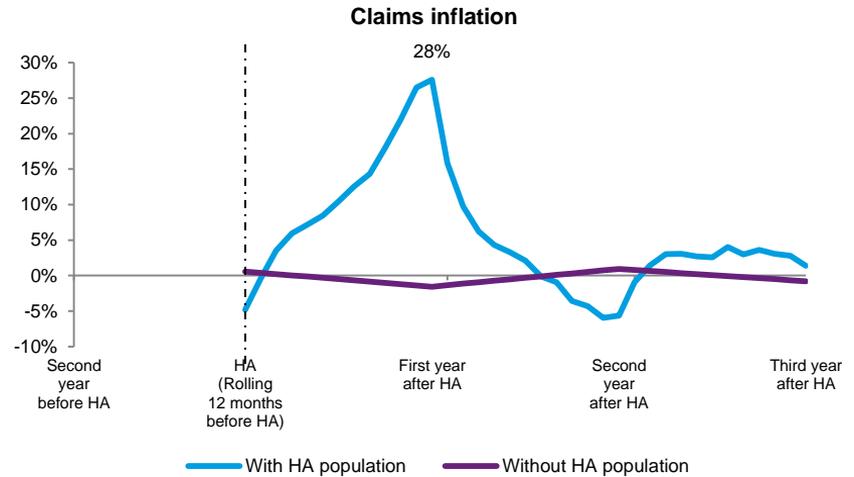
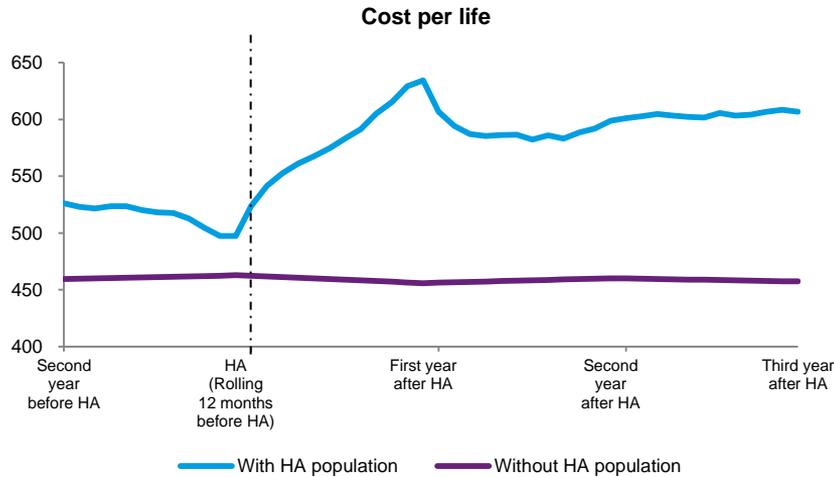
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# Claims for Members WITH HA vs Members WITHOUT HA

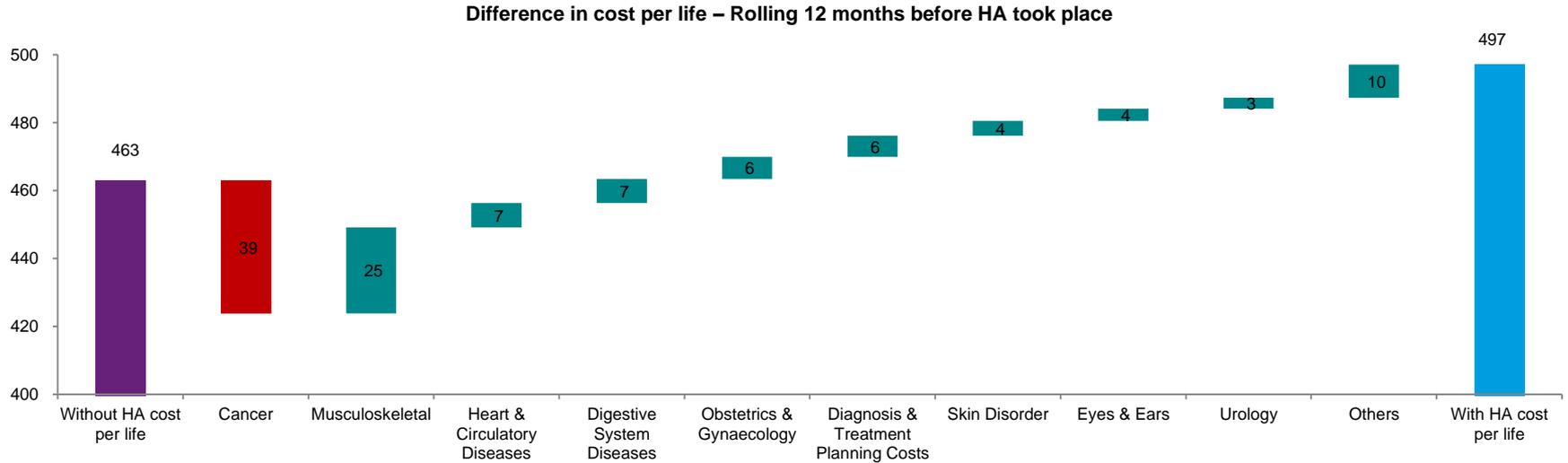


*The diagrams show the cost per life and claims inflation for the members who completed one or more health assessments (HA), using duration since the HA as x-axis.*

## Observations:

- 1) *The population with HA had a higher cost per life than the population without HA before the HA took place.*
- 2) *The cost per life increases in the 12 months following the HA (28% claims inflation).*
- 3) *Costs relatively stable thereafter albeit at a higher absolute.*

# Cost per Life : Population WITH HA vs Population WITHOUT HA (PRIOR TO the HA)



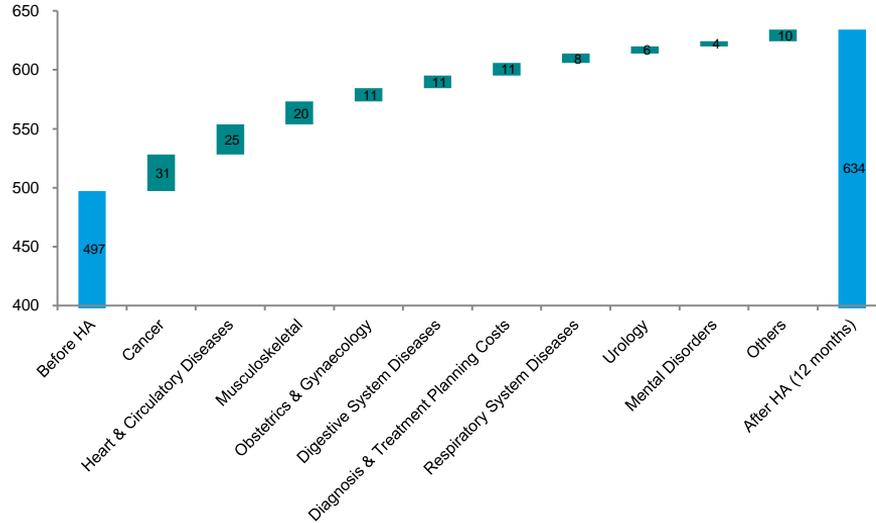
*The diagrams show differences in cost per life for the populations with and without HA before the HA took place.*

## Observations:

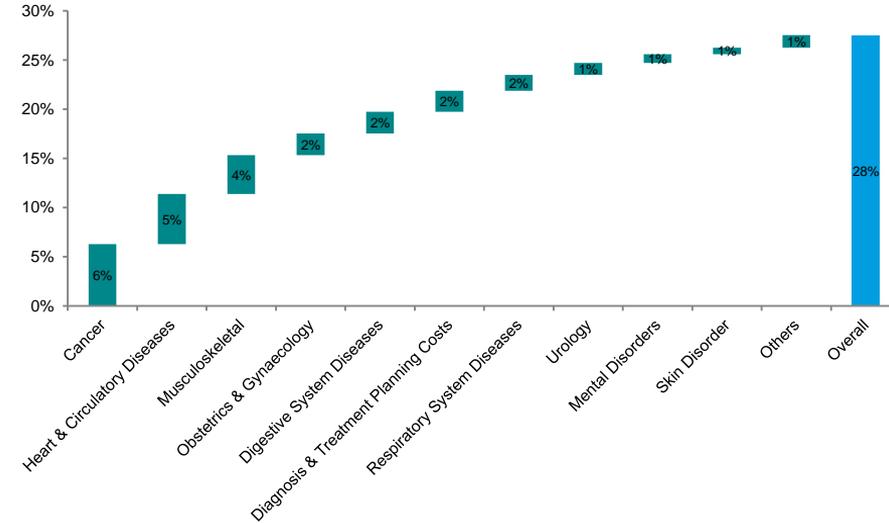
- 1) The cost per life for the population without HA is £34 (about 8%) lower than that for the HA population PRIOR to HA*
- 2) This suggests that people who subsequently took the HA were inherently in poorer health.*
- 3) The CANCER cost per life for population with HA is £39 lower than the cancer cost per life for population without HA. This suggests that people already with cancer conditions are less likely to undergo HA.*
- 4) The cost per life for ALL OTHER impairments (MSK, heart & circulatory disease, digestive system diseases, etc) are higher for the population with HA.*

# Drivers of the Increase in Cost per Life in 12 months POST the HA

Difference in cost per life - before and after HA



Waterfall of claims inflation (with HA population) by impairment



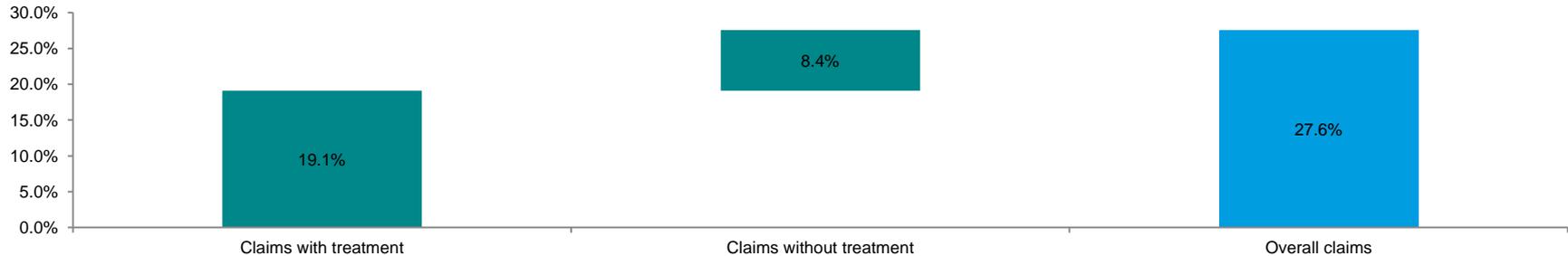
The diagrams show the differences in cost per life on a rolling 12 months basis before HA took place and rolling 12 months basis after the HA (for the population that underwent HA.)

## Observations:

- 1) The cost per life is £137 (28%) higher. This suggests that more claims are incurred following HA.
- 2) The biggest change is the cancer cost per life, it has increased by £31 following HA. There are also significant increase in the heart & circulatory diseases (£25 higher) and MSK (£20 higher).
- 3) These impairments combined drive over half (£76 of £137) of the increase.

# Does the HA Drive Treatment or Simply Further Diagnostics?

Claims inflation (with HA population) in 12 months following HA



**The claims inflation is 28% in the 12 months following HA of which 19% relates to actual treatment.**

## Methodology:

For each claims event, we have data on the procedures. We have classed the claims event into “claims with treatment” or “claims without treatment” depending on whether there were any treatment procedures within the claims event. A claim event with consultations and scans only is classified as “claims without treatment”.

The following procedures are classed as treatment procedures:

- 1) Accommodation
- 2) Consumables and prosthetics
- 3) Drugs
- 4) Non-surgical therapies
- 5) Pregnancy and delivery\*
- 6) Radiotherapy
- 7) Surgery

## Observations:

- 1) **Most of the claims inflation arises from “claims with treatment”. This suggests that the HA has identified a need for further medical intervention. Further data and investigation would be required to identify any downstream savings.**
- 2) **There is also an increase in “claims without treatment”. This suggests that further medical investigation was required following the HA. Future research could be done to establish whether any of this was duplication of HA investigations.**

\* Although theoretically pregnancy could be excluded from the analysis as an event independent of the HA, this was not done.

## 2. NHS vs Health Insurance vs Health Screening

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# Key Observations – CLAIMS BEHAVIOUR

The population with HA had a higher cost per life than the control group without HA even before the HA took place which suggests some anti-selection by the HA group.

The cost per life in terms of PMI claims increases immediately following the HA.

The observed claims inflation is 28% in the 12 months following HA.

The main driver of the post HA claims is “claims with treatment”. This suggests that the HA has identified medical treatment needs requiring early intervention, as there is evidence of treatment within 12 months after HA. Early treatment may be preventing more expensive later treatment or complications. Better health outcomes can be expected following intervention as shown later in the presentation.

Cancer, heart & circulatory diseases and Musculoskeletal (MSK) conditions comprise over half of the resultant additional claims spend..

Frequency and severity of subsequent diagnosis and treatment varies by impairment but frequency contributes most of the increase

## II) Can the HA Results Analyse Help Predict Future Claims?

I) Claims behaviour for members with HA vs members without HA

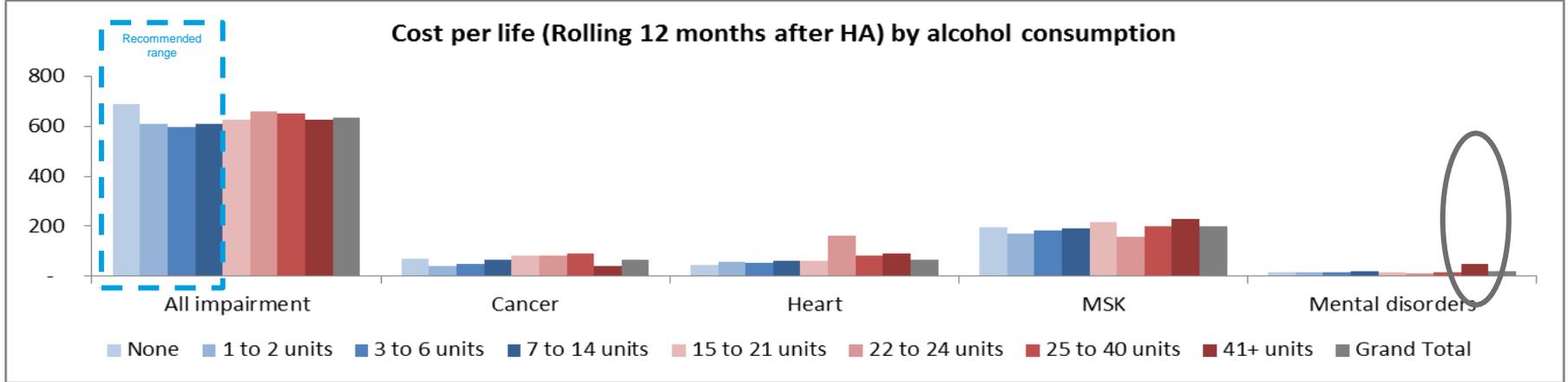
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# Alcohol Consumption Declared at HA vs Claims by Impairment POST HA



**The diagram shows the cost per life for various impairment by weekly declared alcohol consumption.**

There are nine options: 1) None 2) Less than 1 unit (not used due to insufficient data) 3) 1 to 2 units 4) 3 to 6 units 5) 7 to 14 units 6) 15 to 21 units 7) 22 to 24 units 8) 25 to 40 units 9) 41+ units.

This question is part of the health assessment questionnaire, answered by the member before their health assessment.

According to NHS, men and women are advised not to regularly drink more than 14 units a week. 14 units is equivalent to six pints of average strength beer or 10 small glasses of low strength wine.

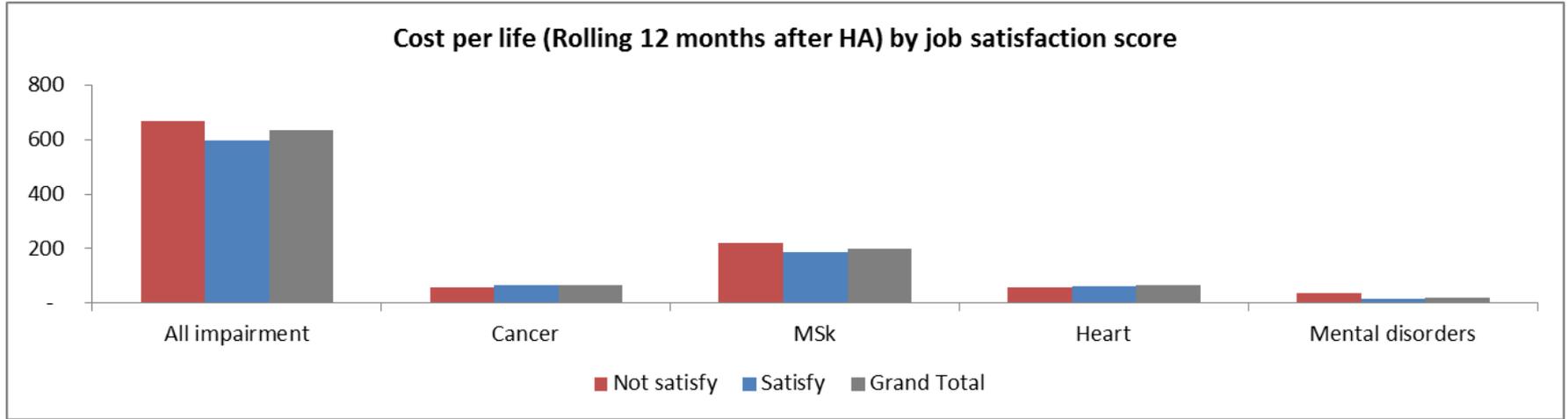
According to Institute of Alcohol Studies, the individual is a “hazardous drinker” if drinking 21 to 50 units a week for men and 14 to 35 units a week for women. The individual is a “harmful drinker” if drink more than 50 units a week for men and 35 units a week for woman.

**The members who claimed zero alcohol have the highest cost per life in aggregate, driven mainly by cancer claims.**

**The members who appeared to consume a lot have high cost per life in aggregate, but lowest cost per life related to MSK.**

**The mental disorder cost per life is much higher for the members who consume more than 41+ units a week.**

## Job Satisfaction Declared at HA vs Claims by Impairment POST HA



***The diagram shows the cost per life for various impairment by job satisfaction.***

There are two options: 1) Not satisfied 2) Satisfied

This question is part of the health assessment questionnaire, answered by the member before their health assessment

***The members who appeared to be not satisfied with their job have the highest cost per life in aggregate, for MSK and mental disorders.***

# Key Observations – HA RESULTS vs POST HA CLAIMS

HA Results are likely to be more predictive of claims than “normal” underwriting as data is either empirically measured or based on Questionnaire where there is no perceived financial incentive to mis-report information.

(Not shown in slides) BMI, High Cholesterol and Blood pressure are all predictive of future claims for Heart & Circulatory and BMI is also predictive of future MSK claims..

(Not shown in slides) Former smokers are higher claimers than Smokers or Non-smokers for most impairments; current smokers are not obviously incurring higher future claims for respiratory, heart or MSK conditions although higher for cancer

(Not shown in slides) Those who exercise most (4x /wk) are highest claimers in aggregate, especially for MSK; but moderate exercise means less claims in aggregate than non exercise; heart & circulatory claims appear independent of level of exercise

Surprisingly, non-drinkers claim the most followed by those drinking 22-24 units / wk; UK NHS guidance is a maximum of 14 units/wk which is lowest claiming; very heavy alcohol consumption is correlated with higher mental health claims

There is positive correlation between Job satisfaction and lower claims

### III) Does Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA?

I) Claims behaviour for members with HA vs members without HA

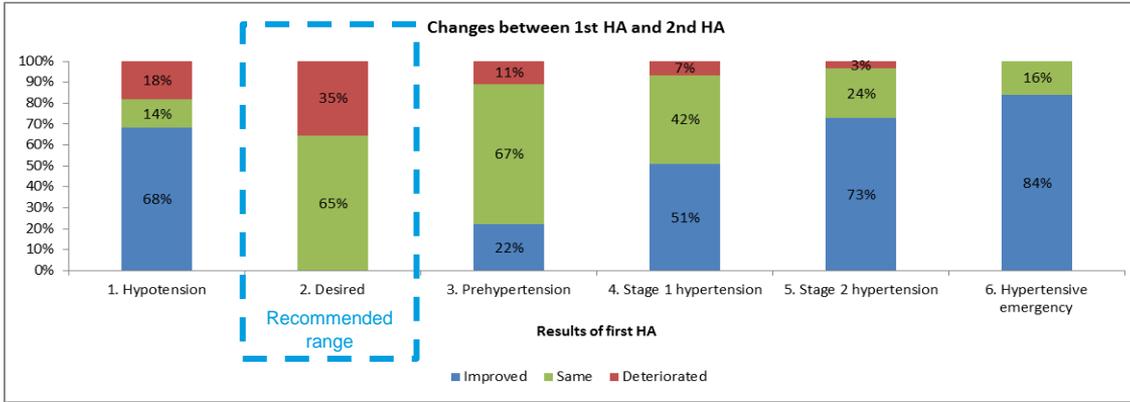
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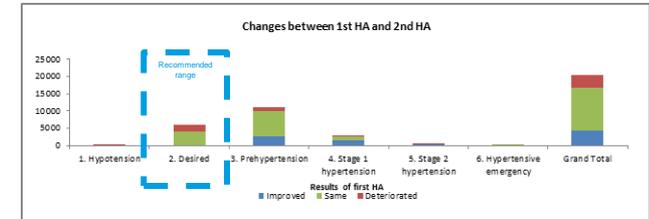
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# Comparing the First and Second HA results – Blood pressure (Systolic and Diastolic)



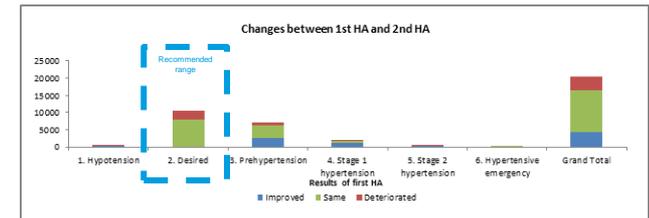
## Systolic:

The recommended range is "2. Desired".  
Of the members that were outside the recommended range, 29% have improved and 10% have deteriorated.

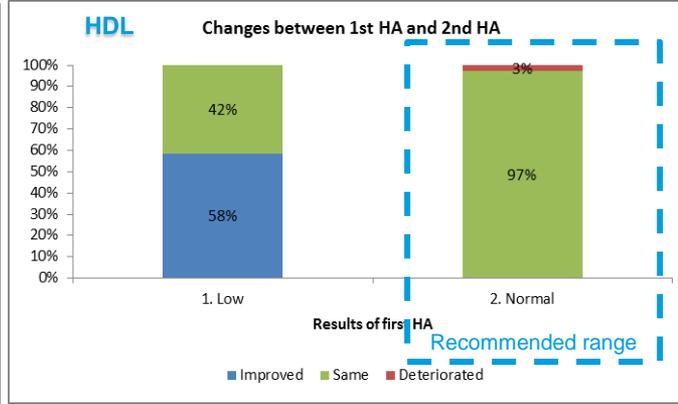
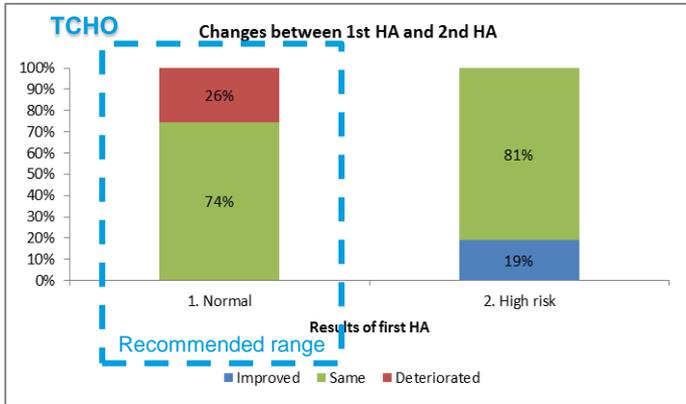


## Diastolic:

The recommended range is "2. Desired".  
Of the members that were outside the recommended range, 43% have improved and 11% have deteriorated.



# Comparing the First and Second HA results – Cholesterol (TCHO, HDL, TRI, LDL)

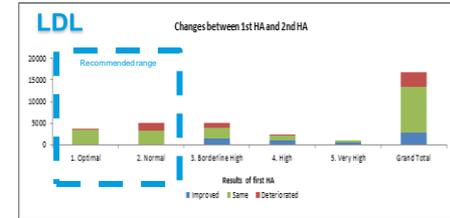
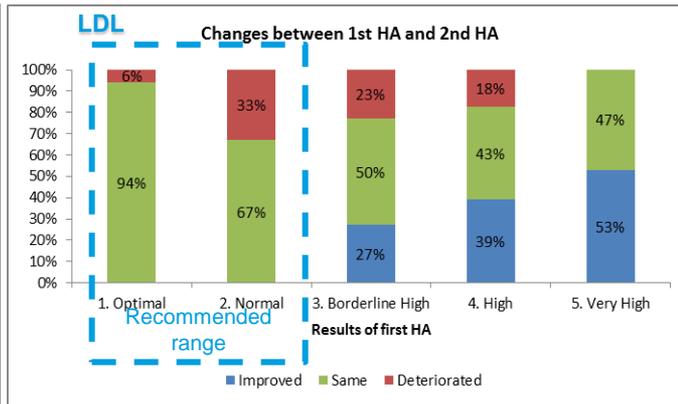
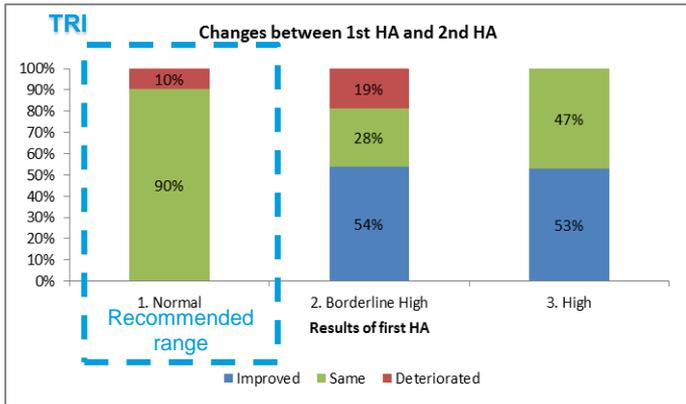


## Cholesterol

The recommended ranges for each type of cholesterol are as follow:

- Total cholesterol (TCHO) – “1. Normal”;
- High-density lipoprotein (HDL) – “2. Normal”;
- Triglyceride (TRI) – “1. Normal”;
- Low-density lipoprotein (LDL) – “1. Optimal” and “2. Normal”.

There is high volume of members under the recommended range for all types of cholesterol in their 1<sup>st</sup> HA, for instance LDL (see below).



# Key Observations – 1<sup>st</sup> vs 2<sup>nd</sup> HA CHANGES

Potentially different universe of customers who undergo 2<sup>nd</sup> HA so data is selective

Improvement in BMI and fat percentage amongst the customers that were outside the recommended range in their 1<sup>st</sup> HA, 14% improved in BMI and 21% improved in fat percentage and 5% have deteriorated in BMI.

About 21% of the all customers improvement in blood pressure readings

Amongst the customers that were outside the recommended LDL range in their 1<sup>st</sup> HA, 33% improved and 19% deteriorated in the 2<sup>nd</sup> HA.

About 36% of customers have given up smoking; 34% of customers who were drinking more than recommended units have reduced alcohol consumption.

Exercise levels have improved amongst members who exercise “less than once a week” significantly; 43% of customers not satisfied with their job at 1<sup>st</sup> HA now report satisfaction;

## IV) Claims spend for members with Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA.

I) Claims behaviour for members with HA vs members without HA

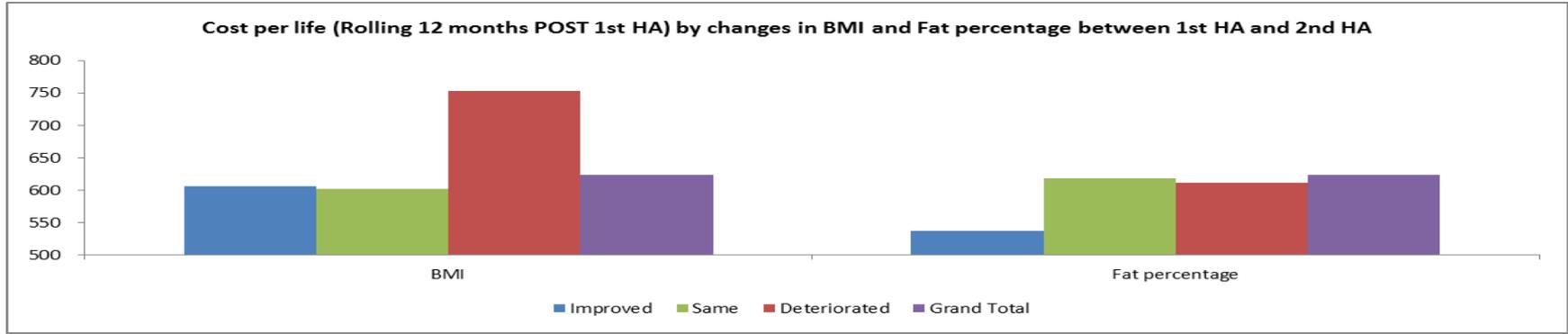
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## Changes in BMI and Fat percentage between 1<sup>st</sup> HA and 2<sup>nd</sup> HA vs Claims POST 1<sup>st</sup> HA



**The diagram shows the cost per life for claims for all impairment Post 1<sup>st</sup> HA by change in BMI and Fat percentage between 1<sup>st</sup> HA and 2<sup>nd</sup> HA.**

There are three options: Improved, Same and Deteriorated

- **Improved:**

If the results have changed from outside the recommended range (1<sup>st</sup> HA) to within the recommended range (2<sup>nd</sup> HA).

If the results have remained outside the recommended range but have improved, for example: changed from "Very obese" to "Obese".

- **Same:**

If the results have remained within the recommended range.

If the results have remained outside the recommended range and the results stay the same.

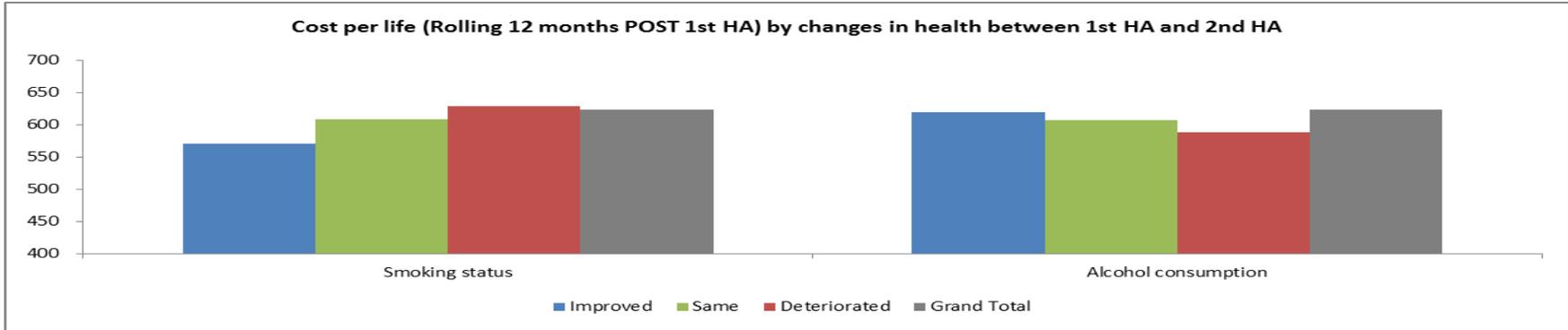
- **Deteriorated:**

If the results have changed from **within recommended range (1<sup>st</sup> HA)** to **outside recommended range (2<sup>nd</sup> HA)**.

If the results have remained outside the recommended range but have deteriorated, for example: change from "Obese" to "Very obese".

**The cost per life is lower for the members that have improved in BMI and Fat percentage.**

## Changes in Smoking status Declared and Alcohol consumption Declared between 1<sup>st</sup> HA and 2<sup>nd</sup> HA vs Claims POST 1<sup>st</sup> HA



*The diagram shows the cost per life for claims for all impairment Post 1<sup>st</sup> HA by change in Smoking status and Alcohol consumption between 1<sup>st</sup> HA and 2<sup>nd</sup> HA.*

There are three options: Improved, Same and Deteriorated

### Smoking status:

- **Improved:** If the member has declared “Smoking” in the 1<sup>st</sup> HA and has declared “Given up” in the 2<sup>nd</sup> HA.
- **Same:** If the member remained the smoking status.
- **Deteriorated:** If the member has declared “Given up” or “Non-smoker” in the 1<sup>st</sup> HA and has declared “Smoking” in the 2<sup>nd</sup> HA.

### Alcohol consumption:

- **Improved:** If the member was drinking more than NHS recommendation range in the 1<sup>st</sup> HA and has declared to reduce alcohol consumption in the 2<sup>nd</sup> HA.
- **Same:** If the member remained within the NHS recommendation range or remained the alcohol consumption.
- **Deteriorated:** If the member was drinking within the NHS recommendation range in the 1<sup>st</sup> HA and has declared to drink more than NHS recommended range.  
If the member was drinking more than NHS recommendation range in the 1<sup>st</sup> HA and has declared to increase alcohol consumption in the 2<sup>nd</sup> HA.

*The cost per life is lower for the members that have improved in Smoking status declared.*

*The cost per life is higher for the members that have improved in Alcohol consumption declared.*

# Key Observations – CLAIMS SPEND BETWEEN 1<sup>st</sup> vs 2<sup>nd</sup> HA CHANGES



The cost per life is lower for the members that have improved in BMI and Fat percentage.

The cost per life is lower for the members that have improved in Smoking status declared.  
The cost per life is higher for the members that have improved in Alcohol consumption declared.

The cost per life is lower for the members that have improved in the Amount of Exercise declared.  
The cost per life is significantly lower for the members that have improved in Job satisfaction declared.

Where members have improved their lifestyle between their 1<sup>st</sup> and 2<sup>nd</sup> HA, these appeared to be correlated to the cost per life.

# Key Premise / Hypothesis - CONCLUDING REMARKS

We sought to look for evidence that PMI customers using Bupa Health Assessments were, consequently leading healthier and eventually longer lives

It is clear that customers undergoing HA's are on average claiming more from PMI both before *and* after their HA, with a significant increase in post HA claiming behaviour

It is possible that customers substitute a specific GP consultation with a HA in order to avoid NHS waiting times or merely to address a plethora of health concerns via a single intervention

Nevertheless, most resultant claims include specific treatment for an impairment suggesting that the HA adds value to the customer in terms of addressing latent health conditions

The subsequent claims are predominantly correlated with conventional views of health risk indicators and HA results are either empirical or have less self-reporting bias making this more reliable than conventional insurance underwriting

There is demonstrable evidence of (some) improvement in most health indicators and behaviours between 1<sup>st</sup> and 2<sup>nd</sup> HA suggesting that the HA does have a positive influence on (some) customers who are leading healthier lives post their 1<sup>st</sup> HA

The study will need to be extended by gathering data over a longer duration to reach any conclusions around this ultimately results in longer lives

# Health Assessments – Dr Do-A-Little or Dr Do-A-Lot?

Presented by:  
James Cripps  
Anne Hung  
Moderated by:  
Adrian Baskir

Bupa 



# Appendix

# Contents

I) Claims behaviour for members with HA vs members without HA

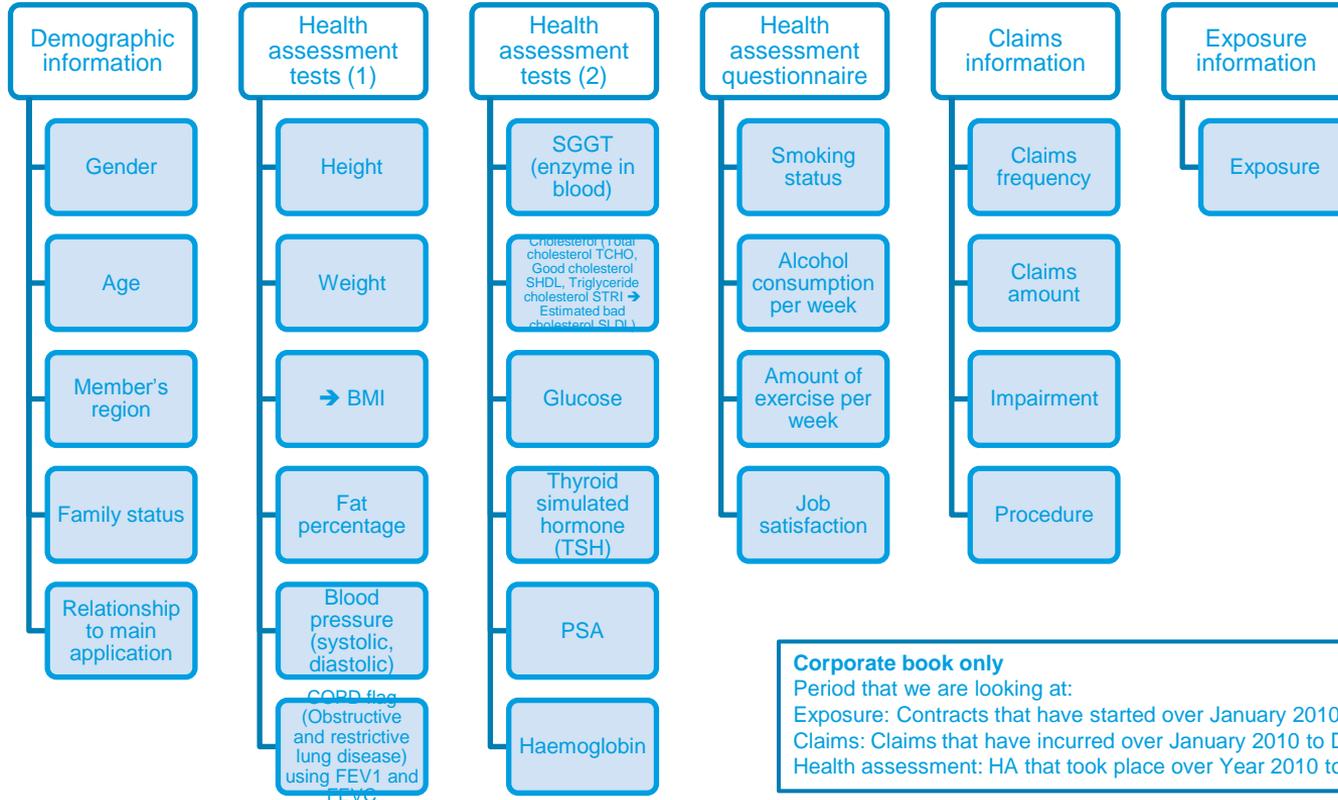
II) Can the HA Results Analyse Help Predict Future Claims?

III) Does Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA?

IV) Claims spend for members with Health Change between 1<sup>st</sup> and 2<sup>nd</sup> HA.

Appendix:  
Data Summary,  
Methodology &  
Limitations

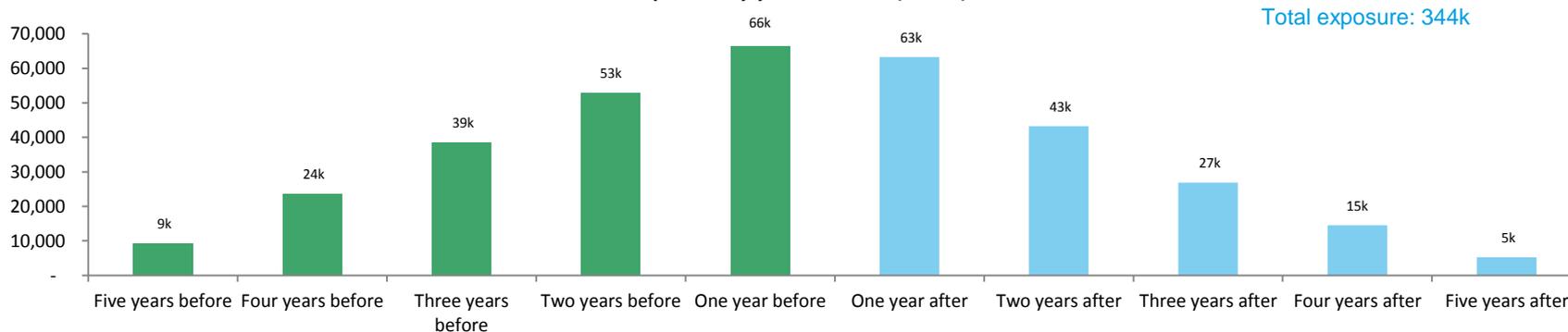
# Data



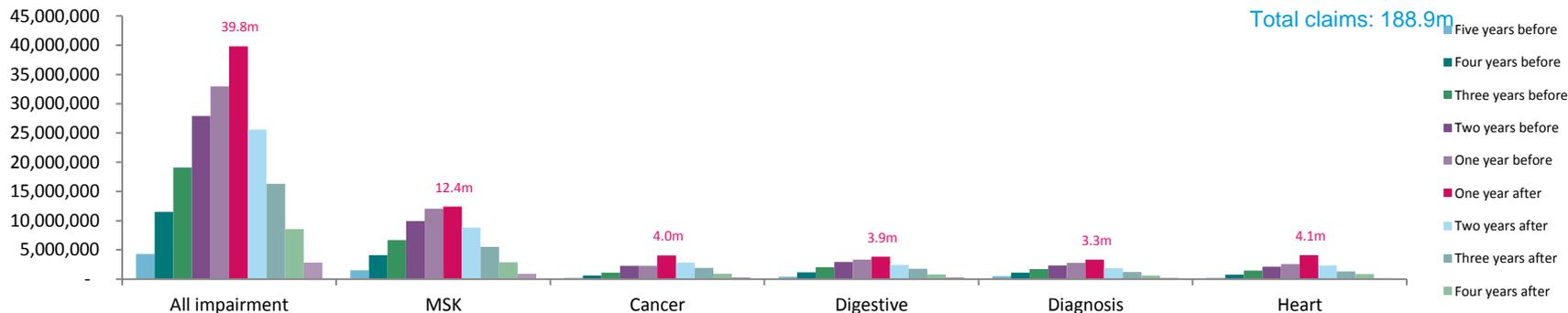
**Corporate book only**  
 Period that we are looking at:  
 Exposure: Contracts that have started over January 2010 to December 2014  
 Claims: Claims that have incurred over January 2010 to December 2014  
 Health assessment: HA that took place over Year 2010 to 2015

# Exposure and claims data for the population with HA

Exposure by year since HA (all HA)

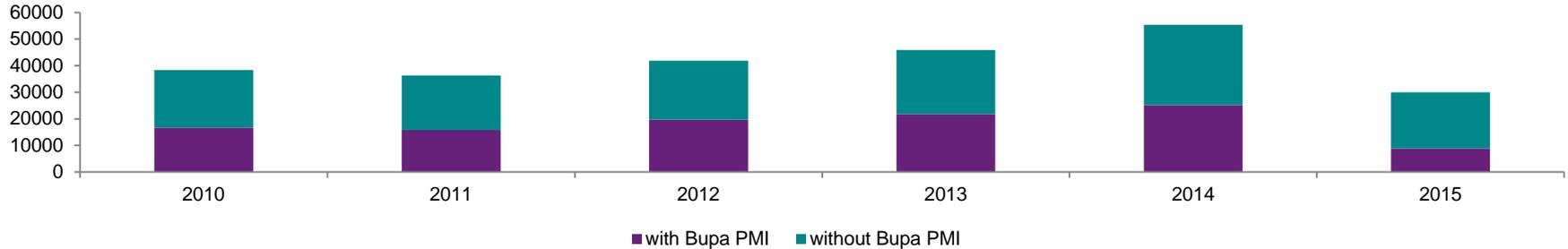


Claims by years since HA (all HA)



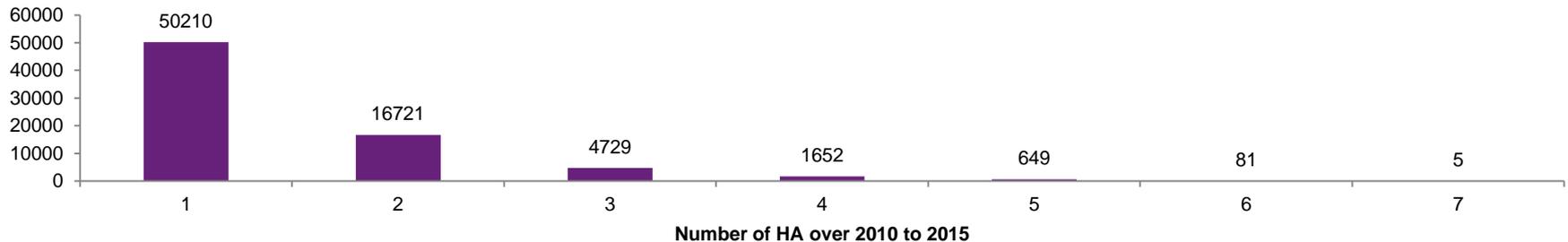
# Health assessment data

Number of health assessment by year



Out of 74k HA performed for members with PMI cover, 24k had multiple HA over 2010-2015.

Distribution of HA members with Bupa PMI cover by number of HA over 2010 to 2015



# Methodology

1. The cost per life is calculated by dividing the total cost of claims by exposure over the rolling 12 months period.
2. The claims inflation is determined by comparing the cost per life against the cost per life a year ago.
3. All health assessments' observations are used in Section 1 and 2. If a member had two HA, there will be two observations. First observation used the first HA date as month 0 and the second observation used the second HA date as month 0.
4. The results are compared against the control group, which are the risk adjusted members without HA. The control group have the same mix (demographic and exposures) as the population with HA.
5. Frequency is based on the number of claim events. Member can have multiple claim events. The increase in frequency is based on number of claim events that have incurred over rolling 12 months after HA versus number of claim events that have incurred over rolling 12 months before HA.
6. Severity is based on the average claims for each claim event. The increase in severity is based on average claims for claim events that have incurred over rolling 12 months after HA versus average claims for claim events that have incurred over rolling 12 months before HA.

# Methodology – Control group (risk adjusted population without HA)

The analysis is based on the members who completed one or more health assessments (HA), using duration since the health assessment as x-axis.

The results are compared against the control group, which are the risk adjusted members without HA (members that have not completed HA with BUPA).

The control group has the same mix of business:

- Same distribution of age bands

- Same distribution of gender

- Same distribution of members' region

- Same distribution of family status (Single, Couple, Family and Single parent family)

- Same distribution of relationship to main applicant (Main applicant, Partner and Children)

- Same distribution of period (therefore has the same underlying inflation).

## Methodology:

- 1) Determine the mix of business using the exposure data for the population with HA by the duration since HA.
- 2) Determine the mix of business using the exposure data for the population without HA (model points).
- 3) For each duration (rolling 12 months before HA, rolling 12 months after HA, etc.), rescale the model point for the population without HA such that the mix of business is identical to the population with HA.
- 4) For each duration, apply the scaling factor to the exposure data and claims data (both frequency and severity) for the population without HA.
- 5) As a result, the risk adjusted population without HA for rolling 12 months after HA will have the same mix of business as the population without HA for rolling 12 months after HA.

# Limitations

1. The analysis and methods for calculating potential financial impacts is based on Bupa's best estimate and interpretation of trends. The calculations made contain some simplifications. However, we believe that the methods used are reasonable and support the conclusions drawn.
2. Categorisations used reflect Bupa Health Funding's own categorisations and may not be consistent with other categorisations.
3. In carrying out our work, we have relied on data provided. We have not audited or verified this data or other information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.
4. While due care and diligence has been exercised in carrying out this work, no assessment was done to measure the level of compliance against Technical Actuarial Standards.
5. We have only looked at health assessments that were completed over 2010 and 2015. Health assessments that were completed before 2010 have not been taken into account.
6. The members that were used in the analysis do not necessarily have full two years exposure (one year before HA and one year after HA) due to the availability of data.
7. The exposure data used in the analysis is based on contracts that started over Year 2010 to Year 2014 and the claims data is based on claims event that occurred over Year 2010 to Year 2014.
8. Different types of health assessments carry different checks/test. For example, male or female checks that aimed at the early detection of gender-specific cancers are only available to enhanced assessments. We have not reviewed the impact of different types of health assessments.
9. By risk-adjusting the population without health assessment, the two populations would have the same demographic mix . However, the health assessment population is closed, static and decaying with lapses after health assessment took place, whilst the population without health assessment will be more dynamic, churning with lapse and new business..
10. The benefit cover (such as out-patient limit) for the control group may be different from the population with HA.
11. The analysis is carried on the Corporate book only. The impact of health assessment may differ on the SME book and Consumer book.
12. The analysis is based on members that have Corporate PMI with BUPA and health assessments with BUPA and the control group (population without health assessment) is based on BUPA Corporate PMI members without health assessment. However, the members may have completed health assessments with another provider.
13. The analysis in Section 2 (Review the impact of health assessment results) have not allowed for difference in mix of business.
14. The analysis in Section 2, 3 and 4 ignored the observations without HA results.