

## INTRODUCTION

**Situation:** England faces an epidemic of largely preventable non-communicable diseases, such as heart disease and type 2 diabetes. Premature mortality in the UK is falling, but not as fast as in many other European countries. Around two-thirds of deaths among people under the age of 75 in England are estimated to be avoidable through public health interventions or early diagnosis and effective treatment (1). Most clinical guidelines apply to individuals presenting at high risk of developing cardiovascular disease (CVD) in the short term (typically 10-year risk).

**Objective:** Allow members of the public to calculate their heart age and better understand their risk of serious conditions.

**Mission:** Build an online tool that communicates CVD risk in an easy to understand way and supports users to reduce or manage risk factors, thereby decreasing their longer term/ lifetime risk of CVD.

- Who - people over 30
- What - communicate CVD risk as heart age and to drive users to know their blood pressure and cholesterol levels
- Where - NHS Choices and BHF websites, plus embedding within online news pages, with code hosted by NHS Choices
- When - launched 12 February 2015
- Why - to show people that by taking care of their blood pressure and cholesterol level at an earlier age, and continuously throughout their life, they can live longer and healthier lives

**Execution:** Public Health England, British Heart Foundation and Joint British Societies joined forces to develop a new public facing 'My Heart Age' digital tool (2), based on the JBS3 (Joint British Societies for the prevention of CVD) risk calculator (3). JBS3 is based on the QRISK® Lifetime system of scoring for risk of CVD(4). Focus was on maintaining correct clinical governance whilst improving user friendliness. Individuals were signposted to personalised behavioural and physiological advice and support, such as Couch to 5K and the NHS Health Check programme, to further engage the public in taking action to address these key risk factors.

[www.nhs.uk/myheartage](http://www.nhs.uk/myheartage)



## METHODS

**Analysis:** Users' demographic characteristics and risk factors evaluated after 5 months of online availability. Users' knowledge of their blood pressure and cholesterol also assessed, as well as information accessed following use of the 'My Heart Age' tool.

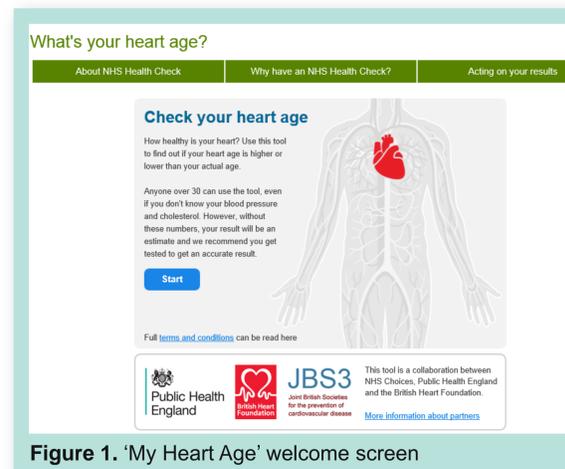


Figure 1. 'My Heart Age' welcome screen

## RESULTS

### How many people have used My Heart Age?

- after 5 months, over 1.4 million people had viewed the tool and more than 500,000 have calculated their heart age
- there were marked increases in viewings and people completing their heart age on days when there was national media coverage

### Who are the users of My Heart Age?

- nearly a third (31.9%) of users were below the age of 40
- two thirds of users (66%) were aged 40-75, the target age for the NHS Health Check programme
- more men than women completed the heart age assessment (Figure 2)

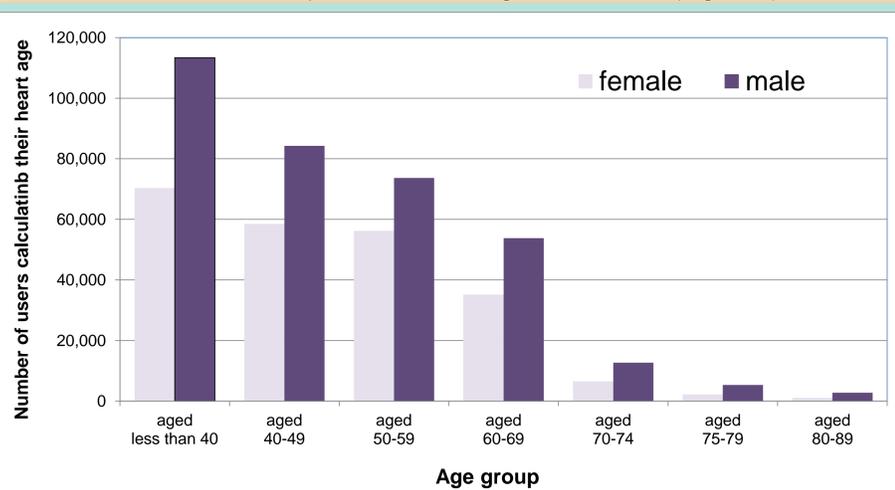


Figure 2. Users age and gender profile

### What CVD risks factors were reported by users?

- age/sex specific comparison with Health Survey England data showed that the distribution of risk factors (BMI, BP, cholesterol, disease) were similar to the England profile
- 35% of users had a heart age greater than their chronological age by at least 5 years (Figure 4)

### Did users access online resources?

- 2.8% of users completing their heart age (\*) followed the links on the results page to information and resources on how to reduce specific risk factors
- (\*) 2 months of data

### Do My Heart Age users 'know their numbers'?

Users were asked if they knew their cholesterol and blood pressure (BP) values. Where they answered no, national averages were applied in the calculation of their heart age and the user was informed that their risk estimate may not be accurate.

- nearly 4 in 5 users (79%) did not know their cholesterol numbers
- 1 in 2 (50%) did not know their blood pressure (BP) numbers (Figure 3)

Figure 3. Users knowledge gaps

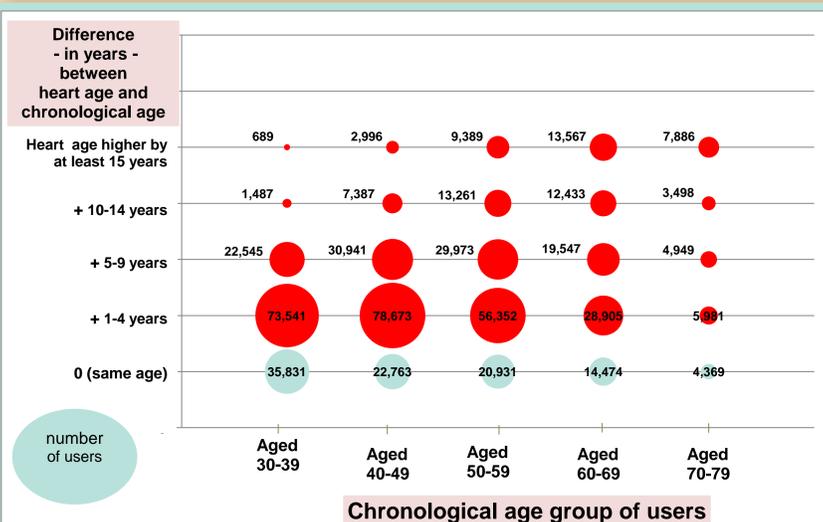
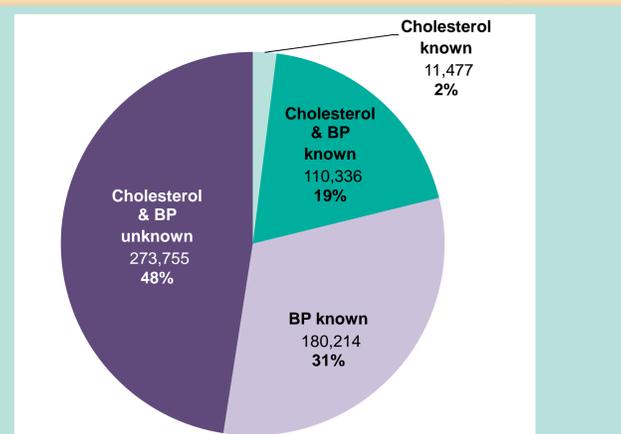


Figure 4. Comparison of users heart age against chronological age

## Conclusion

- 'My Heart Age' digital tool generated a high level of interest among the public
- Interest generated by this online risk tool shows appetite for self-assessment
- Many users did not know their numbers. NHS Health Check provides an opportunity to address this knowledge gap
- The proportion of men using 'My Heart Age' was high compared to the proportion of men using other online NHS Choices self-assessment tools
- Few users went on to access online information and resources shown on the results page. Innovative ways to encourage users to seek help in reducing their risk should be developed.

## NEXT STEPS

Online survey of users to find out:

- what prompted them to use the tool
- clinical CVD risk factor and behavioural awareness before and after using the tool
- whether the tool prompted them to obtain further information on CVD risks factors
- whether the tool raised their anxiety levels
- their level of awareness of the NHS Health Check programme

Results will inform development of second iteration of My Heart Age

Findings from this work will guide development of My Heart Age v2.0. In particular, design, accessibility and content will be improved to:

- better illustrate how changes to risks factors can help decrease the risk of CVD
- encourage users to continue their journey of managing or reducing their risk of CVD
- improve public understanding of personalised CVD risk

## ACKNOWLEDGEMENTS

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JBS3 assessment created by the Understanding Uncertainty Team at University of Cambridge, based on risk model derived from QRISK® Lifetime 2011 released by ClinRisk Ltd.

## REFERENCES

- "Living Well for Longer: A call to action to reduce avoidable premature mortality", Department of Health, 2013
- [www.nhs.uk/Conditions/nhs-health-check/Pages/check-your-heart-age-tool.aspx](http://www.nhs.uk/Conditions/nhs-health-check/Pages/check-your-heart-age-tool.aspx)
- [www.jbs3risk.com/pages/risk\\_calculator.htm](http://www.jbs3risk.com/pages/risk_calculator.htm)
- [www.qrisk.org/lifetime/](http://www.qrisk.org/lifetime/)