



Dear Generation Scotland participant,

We are taking this opportunity to contact you all with another big thank you for your participation in Generation Scotland. It is 10 years since the first recruits answered our call to participate. We wanted to give you a snapshot of what we have learnt from the study so far. We are delighted with progress and excited about the future. We hope you will be too.

You may remember that you completed a detailed questionnaire about your medical history, attended a clinic for a detailed examination and donated samples of blood and urine for research. You also agreed to let us link all of this data to NHS routine medical records. That meant that we did not have to keep getting back to you for health updates, but it doesn't mean we have not been busy!

As promised, we have kept all of your information confidential and use it to learn as much as possible about important factors for the current and future health of individuals, families and the population as a whole. We held a scientific research conference on Friday 6th May, 2016 that highlighted some of the exciting research findings to date and looked to the future. You can read more about the meeting [here](#) and a full 10 year update on Generation Scotland [here](#).

When we started out on this project, smart phones had yet to come to the market and internet access and usage was patchy. All that has changed – dramatically so. We hope to use these new ways to communicate and make on-going active participation easier. Of course, this would be entirely voluntary, but watch out for follow-up letters and emails from Generation Scotland about new studies that you might want to help us with. As always, full information will be given on our website, www.generationscotland.org.

The graphics that follow will give you a reminder of what we set out to do and how we are progressing. Below are ten highlights.

1. You have helped show the enormous value of detailed medical, household and personal information for the ~24,000 participants in ~7,000 family groups. This is a key feature of Generation Scotland that few other studies in the world can match. It really helps us to understand why some illnesses cluster together and others don't. Importantly for treatment, it is telling us a lot about the different causes and types of apparently the 'same' disease, such as diabetes. In the future this might make it possible to tailor treatment on a more person-by-person basis. This is often referred to as 'stratified' or 'precision' medicine.
2. You have also shown how important it was that you agreed to share information not just about physical illnesses, but also about your personality, mood and thinking skills, and if and where you feel pain. Our research has shown just how important it is to take these factors into account across a wide spectrum of conditions.
3. Thanks to you, we can see much more clearly how this affects how you feel and cope with conditions such as diabetes, obesity, lung disease, joint disease or cancer.
4. Since 2007, we have received more than 240 formal requests from researchers interested in using the Generation Scotland resource. You have helped understand in more detail how lifestyle, diet and genes combine to affect individual risks of obesity, diabetes, heart disease, stroke, dementia and other conditions.

Scottish Family Health Study (SFHS)



~24,000



Blood, serum, DNA, urine, cryo-preserved blood, biochemical data



Intensive phenotype, clinical measures, mental health, cognition



Identify genetic variants, enhanced power for linkage & association studies, CNV inheritance testing

Since 2007, more than **240** collaboration proposals have been submitted

Research interests are diverse



Bone and joint disease



Diabetes



Cancer



Mental Health



Cardiovascular disease



Pain



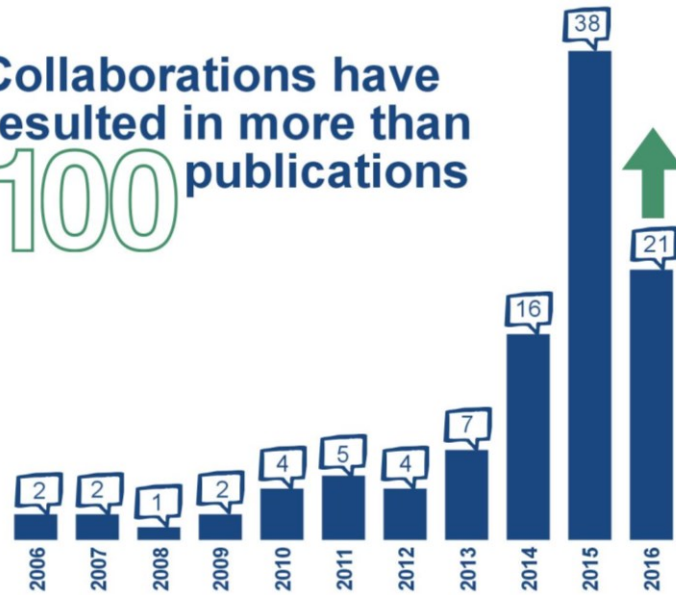
Cognition



Other

5. You have helped discover new genes that affect a) lung function and the risk of Chronic Obstructive Pulmonary Disease, b) kidney function and circulation, c) clinical depression or dementia, and d) how we develop and how we age. Researchers have published these findings in a variety of high-ranking academic journals, such as *Nature*, *Nature Genetics*, *Nature Neuroscience*, *Molecular Psychiatry*, *International Journal of Epidemiology*, *PLoS Medicine* and *PLoS Genetics*.

Collaborations have resulted in more than 100 publications



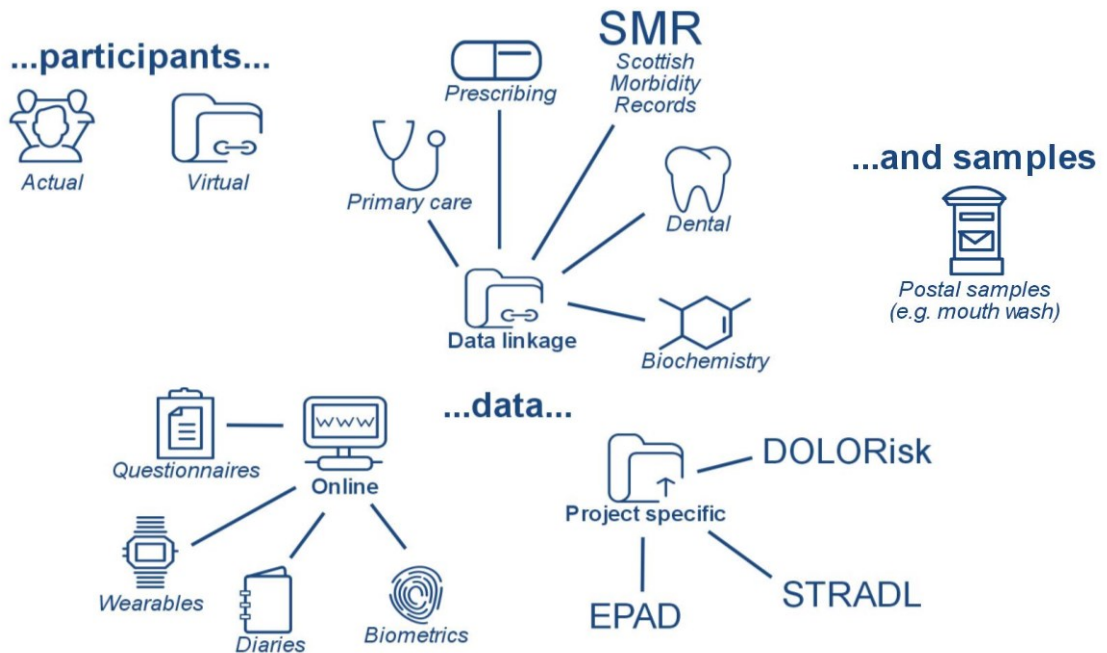
6. When the H1N1 flu outbreak occurred in 2009, you helped assess how many people in the adult Scottish population had been exposed – almost half!
7. You helped show just how closely related we Scots are to the peoples of continental Europe, but also the subtle differences and distinctive features that might help explain why some conditions, such as Multiple Sclerosis, are more common in Scotland than in England and Wales or the mainland of Europe.
8. Importantly, you have stimulated research across the Scottish University Medical Schools, enhancing our international reputation and sharing new knowledge with the world.
9. The Generation Scotland study data has been combined with those of 15 leading health studies internationally. By doing so, Generation Scotland is helping to answer questions that no single study is large enough to answer on its own. For a small nation, thanks to this very special study, we are more than making our mark!

Generation Scotland is part of various consortia



10. In the future, we would like to expand the Generation Scotland resource even further. As mentioned before, technological advances have made it easier to communicate with you and to collect more information from you if you wish to participate in future studies. The more information we can gather and the larger the cohort, the more powerful it becomes to ask and answer health related questions.

Future plans: to expand the resource by adding...



The Generation Scotland 10 Year Report gives a more detailed overview on what we have achieved over the past decade. You can download the report from our website [here](#).

With sincere thanks from the Generation Scotland team and to your continuing, greatly valued contribution.

Yours sincerely,

Professor David J. Porteous, University of Edinburgh
on behalf of the Generation Scotland team.

Website: <http://www.generationscotland.org/>

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