SCIENCE BUSINESS

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Personalised healthcare technology could cut medical errors, expert survey finds

Eighty percent of respondents to a survey by Science|Business and Swedish medical university Karolinska Institutet believe personalised healthcare could cut medical errors – but financial, technical and regulatory problems are blocking the way

***"With the right investment and R&D, personalised healthcare has the potential to be the most significant development in medicine for years"* -** Carl Johan Sundberg, Associate Professor, Karolinska Institutet.

22nd April, 2010 - Karolinska Institutet in association with Science|Business, has published the findings of extensive survey[1] undertaken in the UK and elsewhere into how personalised healthcare[2] could change medicine in the coming years across Europe.

The results demonstrated that despite a consensus emerging from industry professionals that personalised healthcare would improve patient safety and save money in the longer term, short-term thinking regarding investment and regulation is holding back progress.

Key Findings

Benefits:

- 80% of respondents believe personalised healthcare will reduce medical errors (Figure: 3)
- 64% believe "improved patient outcomes" to be to a major benefit of personalised healthcare (Figure: 4)

[1] Science|Business and Sweden's Karolinska Institutet have conducted a survey of a wide range of stakeholders in personalised healthcare across four major EU-markets (Belgium, France, the Netherlands and the UK). The survey's results summarise the opinions of almost 600 academic researchers, healthcare professionals, patient-group representatives regulators and industry leaders. (Figures: 1,2) The study was organised by Danielle Lewensohn, a research assistant and consultant in atthe Unit for Bioentrepreneurship, Karolinska Institutet.

[2] For the purpose of the survey, we have chosen to use the following definition for personalised healthcare: "…the use of patient information to tailor treatment to individual groups. This can include using genetic data, diagnostic tests or patient databases for portions of the population. The aim is to maintain health, prevent disease or improve the outcome of medical therapies."

- 46% think total healthcare spending will be reduced by personalised healthcare approaches in the long-term (15 years), but 58% envisage a short-term rise over the next 5 years (Figures: 6,7)

Barriers to development:

- Over 60% agree that the absence of clear regulatory guidelines is causing a delay in the market authorisation of personalised healthcare products and services (Figure: 5)
- 45% identified "insufficient funding in R&D" and "misalignment between research policy and research conducted" as very significant barriers (Figure: 5)
- 80% of respondents believe European-wide cooperation will be necessary for the development and adoption of personalised healthcare (Figure: 9)

The findings showed that a majority of the participants state familiarity with personalised healthcare and believe it will contribute to major benefits such as "improved patient outcomes" and "avoidance of adverse effects". Moreover, a major section of stakeholders deemed that personalised healthcare will lower total healthcare spending in the long-term (15 years). At the same time, for the technology to be fully implemented and integrated across the healthcare value chain, stakeholders recognised both scientific and structural hurdles that needed to be overcome. In fact, without a "basic understanding of human biology and disease mechanisms" the majority of the stakeholders surveyed fail to see a smooth transformation from the traditional healthcare paradigm to personalised healthcare.

Additionally, the data revealed that structural improvements in terms of increased investment in R&D and improved flexibility in the regulatory framework are necessary. Overall, the stakeholders seem to agree on the major issues brought up in the survey and believe further EU cooperation will be necessary for the development and adoption of personalised healthcare to succeed.

Commented Carl Johan Sundberg, Associate Professor and Coordinator for Science & Society at Karolinska Institutet: "These findings show that personalised healthcare is at an inflection point that will have a profound impact on the effectiveness and cost of future treatments. Personalised healthcare addresses the challenges of the traditional "one-size-fits-all" model when it comes to diagnosis, treatment and rehabilitation of disease. By combining knowledge about genetics, blood and other biomarkers with lifestyle factors, and through the use of modern information technology, healthcare stakeholders are facing enormous opportunities. However, for personalised healthcare to be successfully developed and adopted, numerous scientific, economical and societal issues must be addressed."

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Editor's notes

Karolinska Institutet is one of the world´s leading medical universities. Its mission is to contribute to the improvement of human health through research and education. Karolinska Institutet accounts for over 40 per cent of the medical academic research conducted in Sweden and offers the country´s broadest range of education in medicine and health sciences. Since 1901 the Nobel Assembly at Karolinska Institutet selects the Nobel laureates in Physiology or Medicine.
For more information, see the universitys website: ki.se.

Science|Business is a London and Brussels-based innovation network focused on research and innovation. It publishes news, organizes events and research projects, and provides communications consulting for leading research universities, technology multinationals and government agencies. It was founded by former managing editors of the Wall Street Journal Europe and Nature magazine, with the aim to bridge the communications gap among public researchers, private investors and policy makers. It works with a network of 18 leading European universities.
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FIGURES

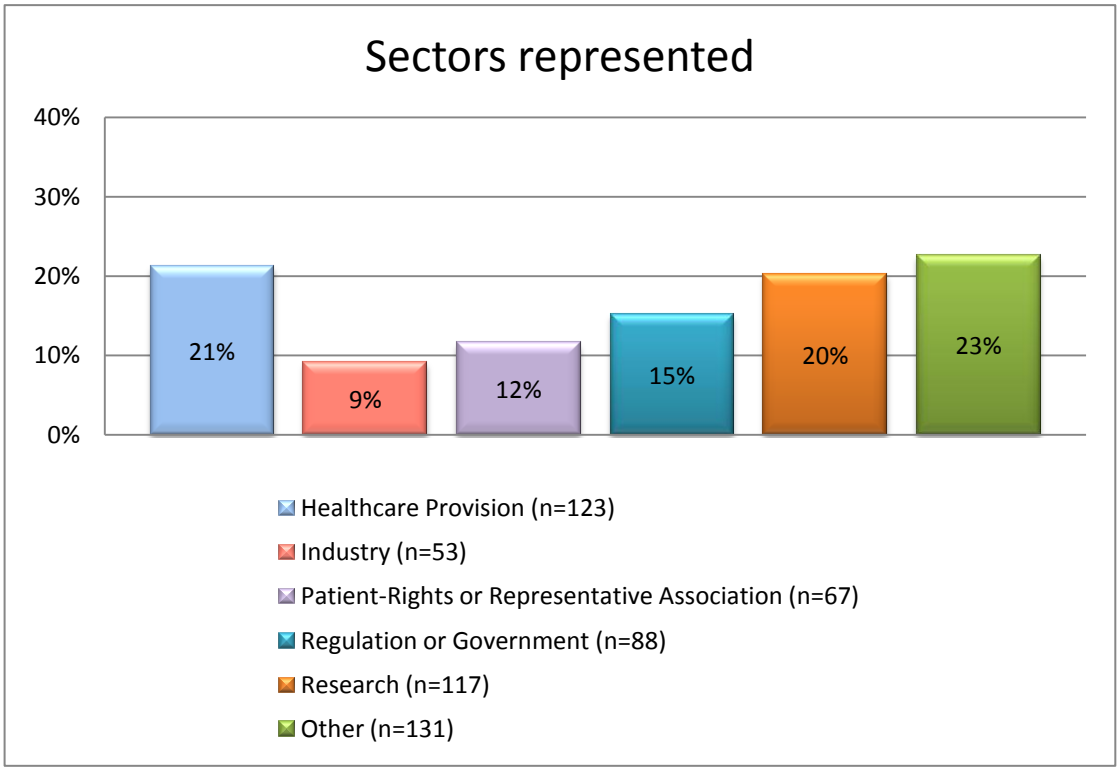

Figure 1. Response distribution to the following question: What is your main line of work?

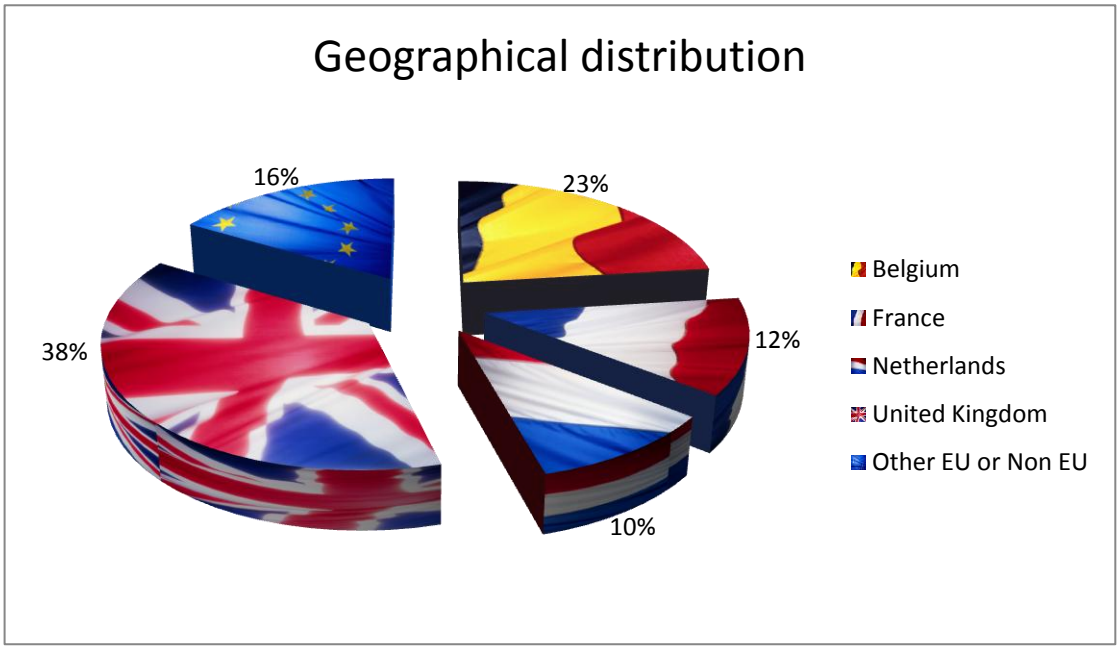

Figure 2. Response distribution to the following question: In which of the following EU member states is your primary line of work?

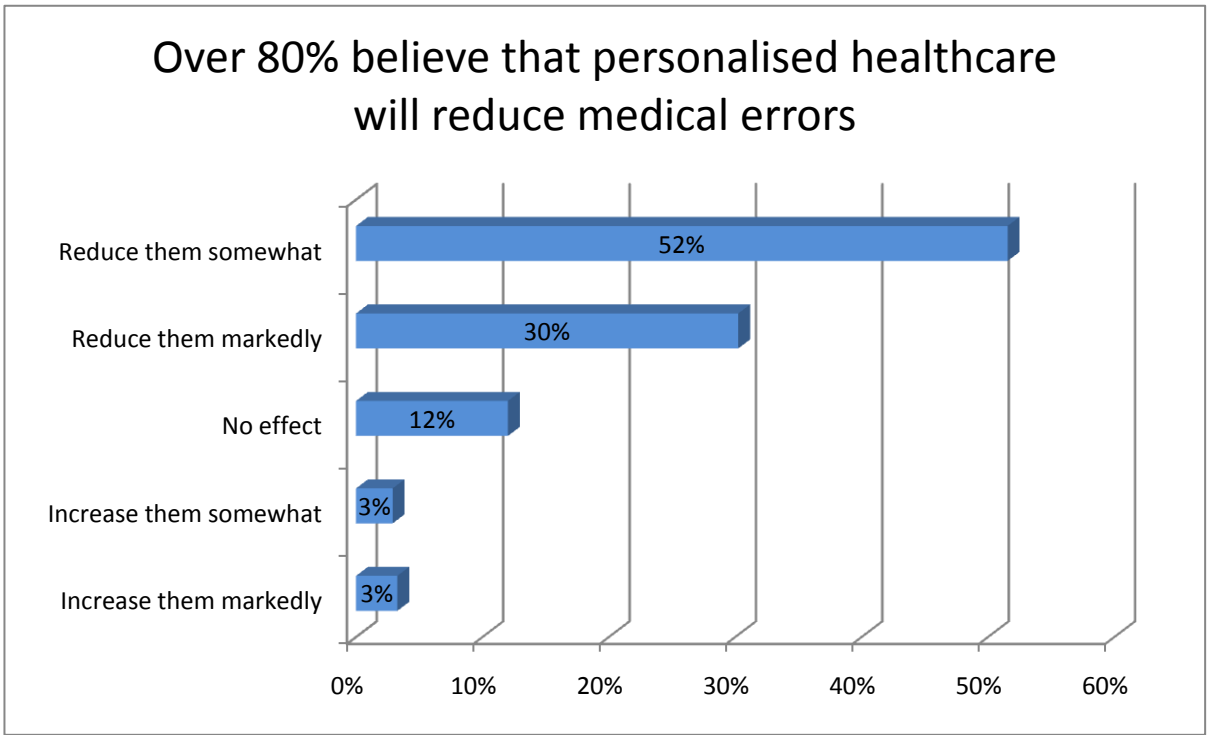

Figure 3. Response distribution to the following question: To what degree do you believe that personalised healthcare will reduce the likelihood of medical errors (including unnecessary treatments, surgery, psychological treatment)?

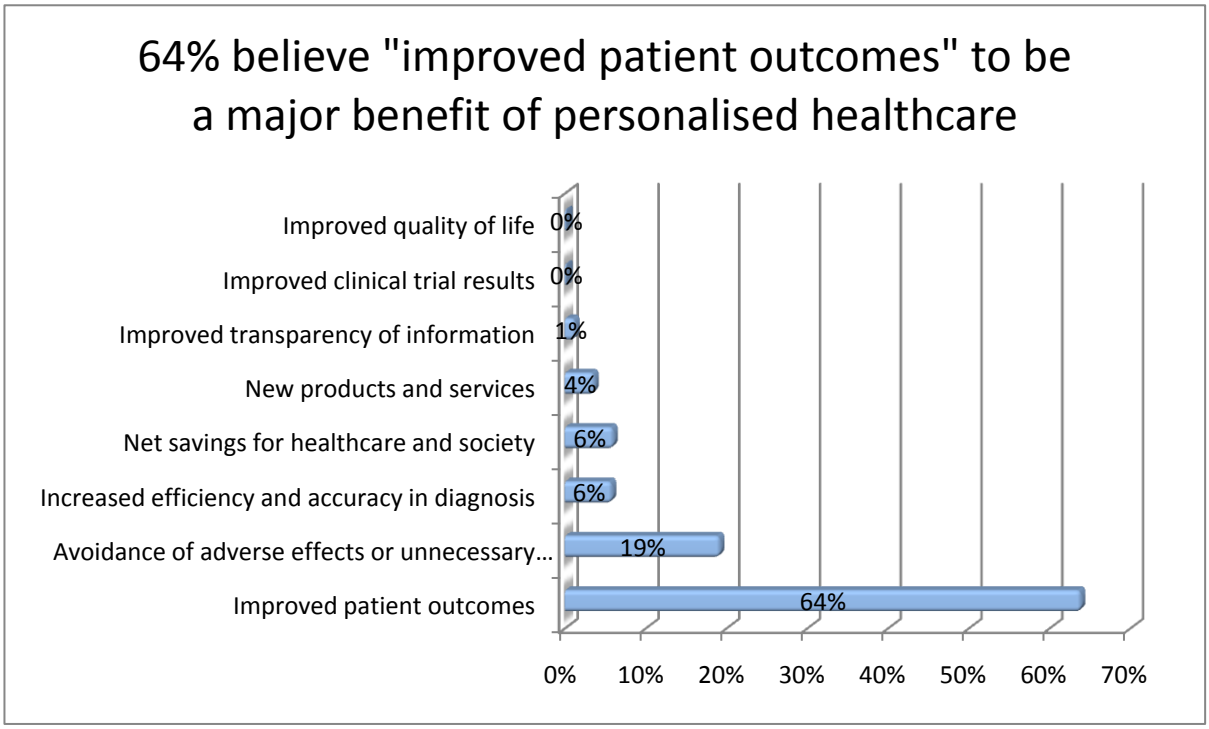

Figure 4. Response distribution to the following question: What do you consider to be the major benefits of personalised healthcare?

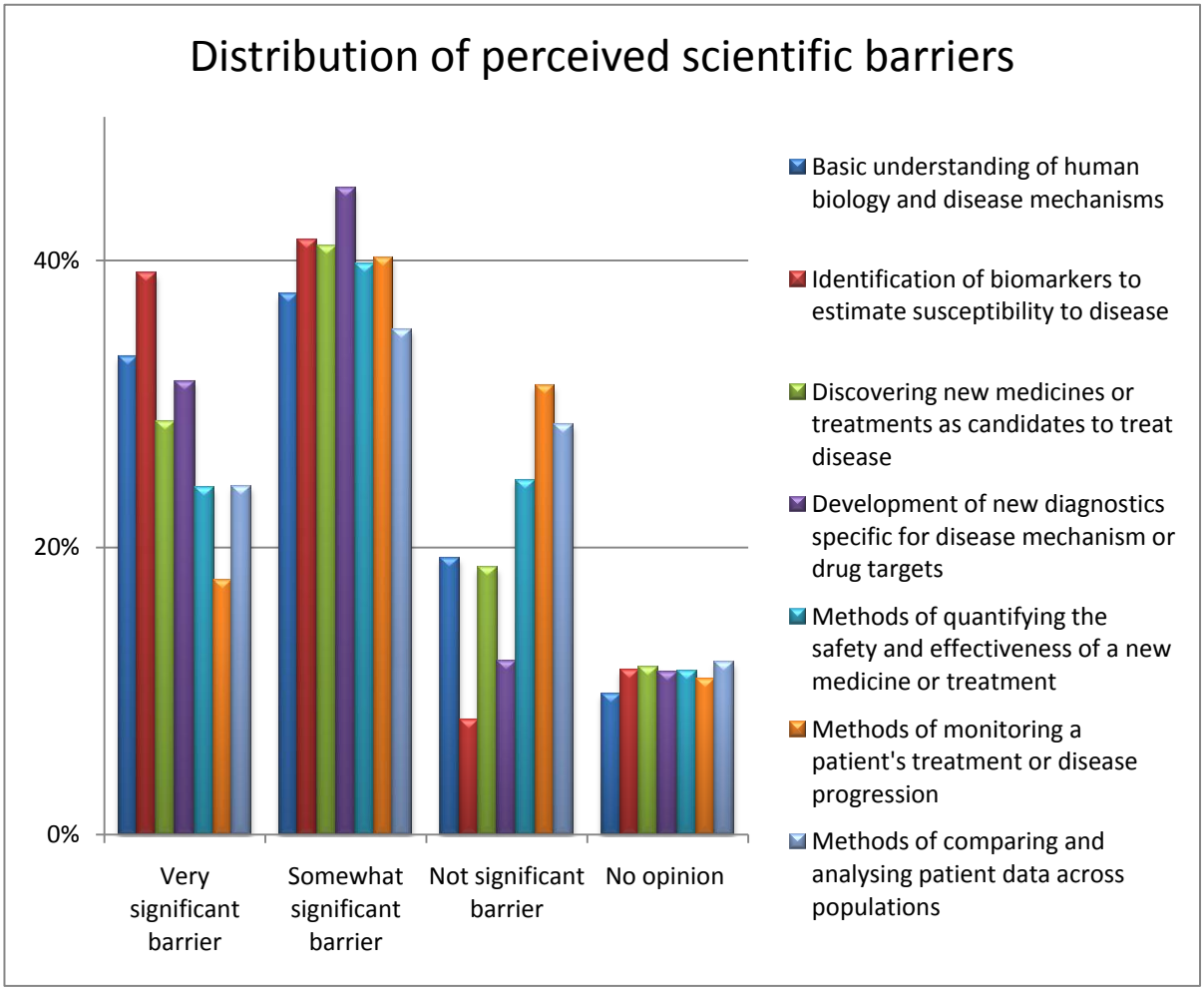

Figure 5. Response distribution to the following question: What are the most important scientific barriers still to be overcome in the development of personalised healthcare?

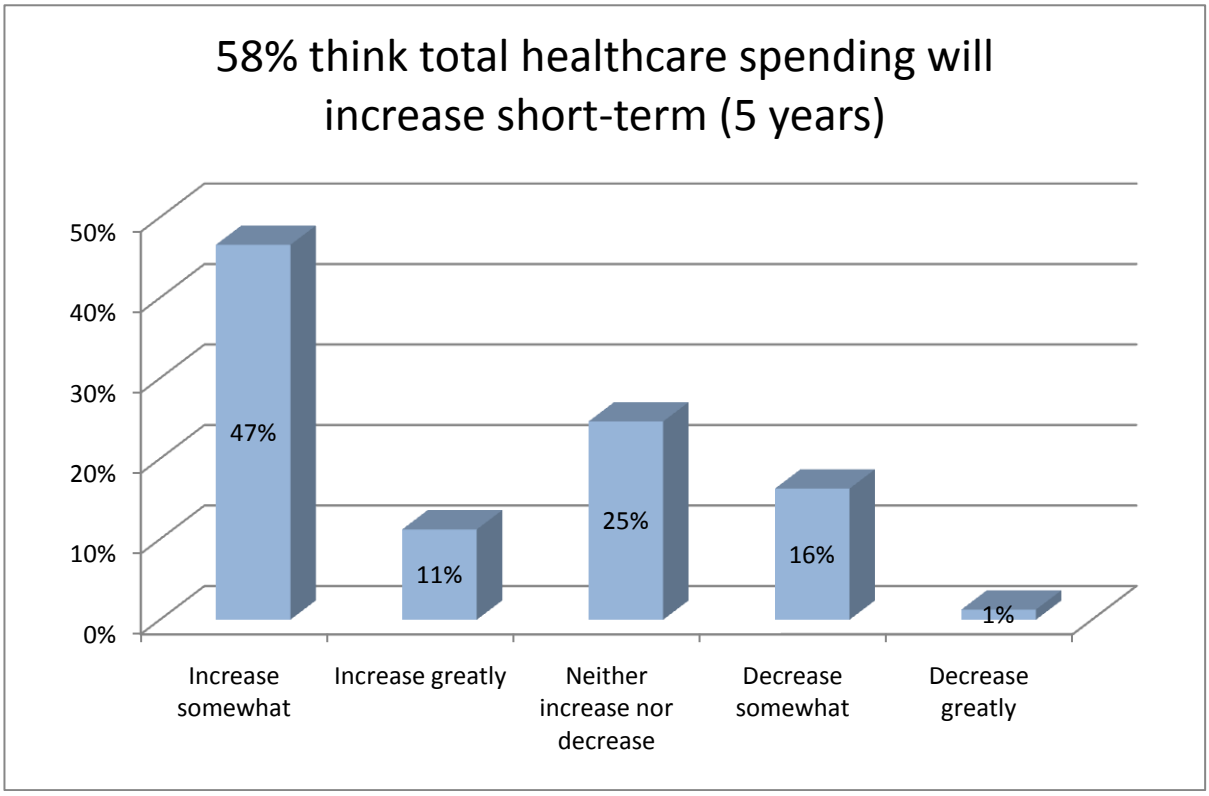

Figure 6. Response distribution to the following question: How do you think personalised healthcare will affect total healthcare spending short-term (5 years)?

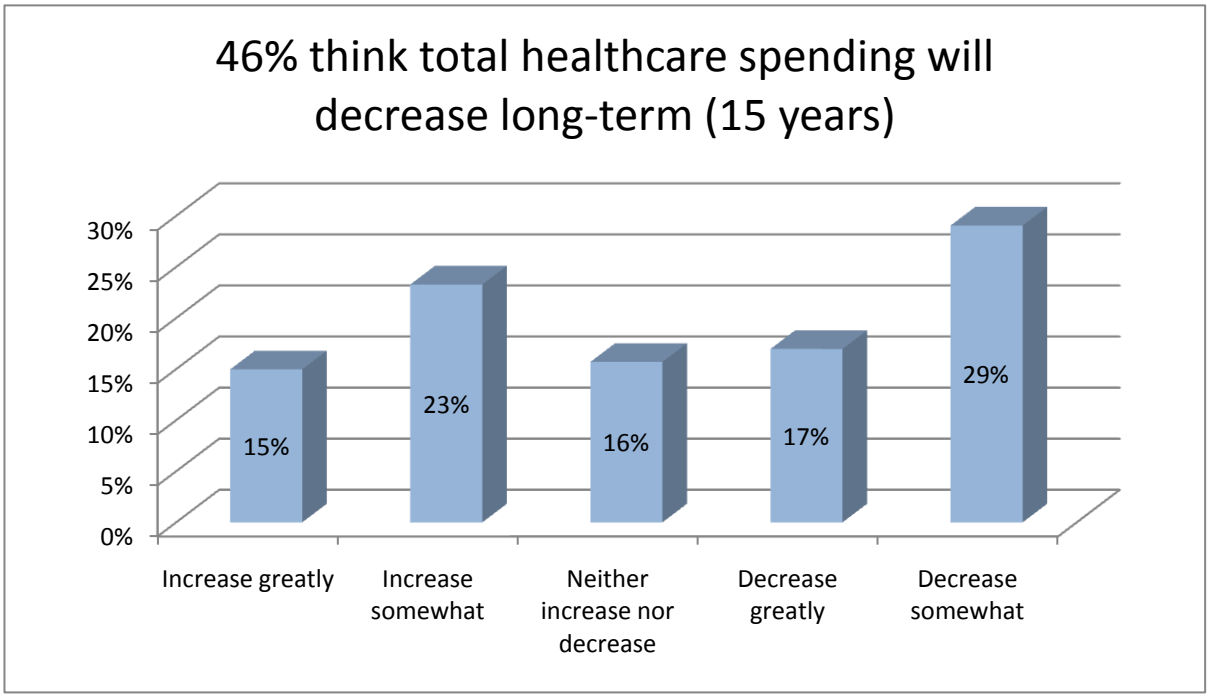

Figure 7. Response distribution to the following question: How do you think personalised healthcare will affect total healthcare spending long-term (15 years)?

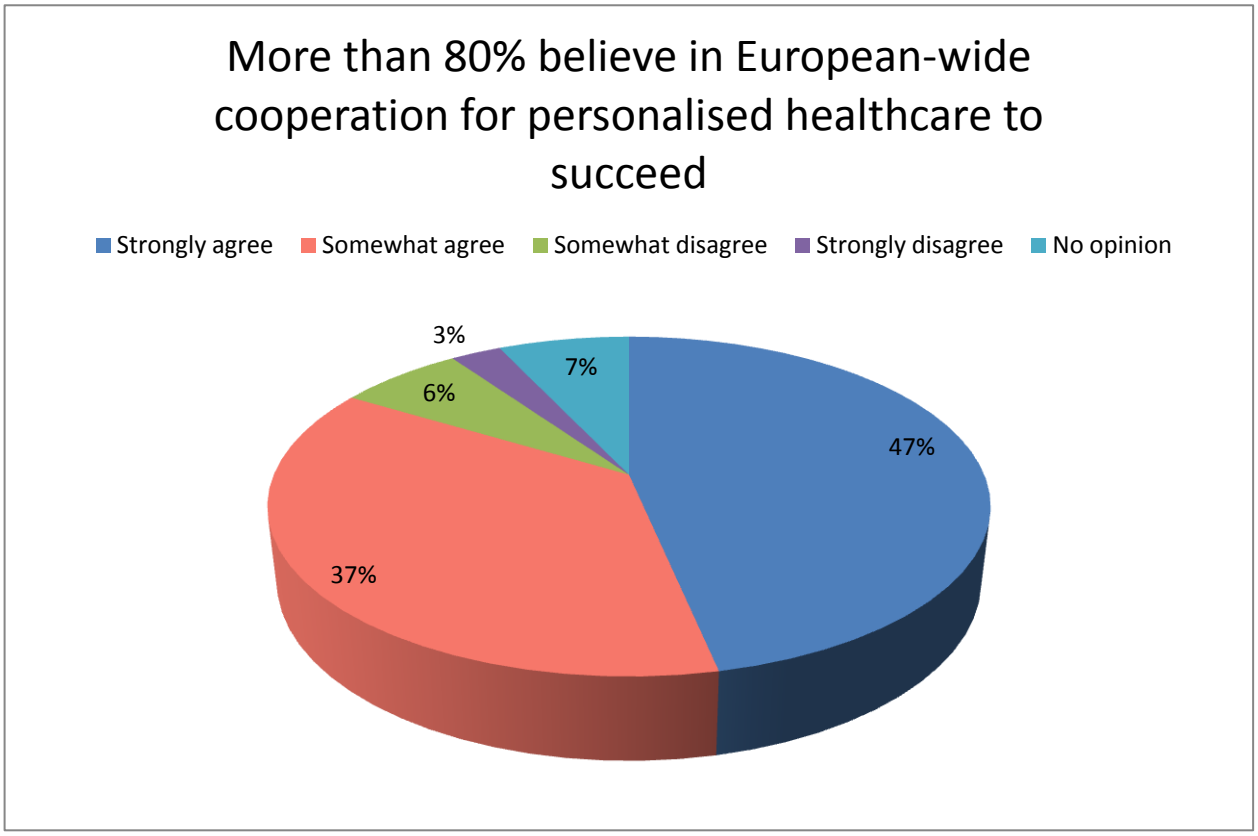

Figure 8. Response distribution to the following statement: "European-wide cooperation is needed to succeed in the development and adoption of personalised healthcare."