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## Health organizations' adoption and use of mobile technology in France, the USA and UK

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### Abstract

This paper reports the findings from a survey of health organizations' adoption and use of mobile technology in France, the USA and UK. Findings reveal increasing use of computer and mobile applications across all types of health organizations and by all health professionals. Increased access to health data from 'anywhere' 'anytime' is the primary benefit in all countries, with cost reduction featuring as less important. Risks involve unauthorized use of patient data by commercial firms and the lack of trust in the effectiveness of mobile applications. Findings need to be evaluated in the context of each country's health system and digital health strategy for a more nuanced understanding of the benefits and risks from mobile technology. More comparative country studies are needed to inform policy-makers, health professionals and citizens about the benefits and risks from mobile technology to develop future regulatory and industry standards for digital health.

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### 1. Introduction

One of the biggest health care challenges in the coming years is how technology can be used to improve health service delivery. With steadily increasing average life expectancy across European countries expected to be over 80 by 2025 and 82.5 by 2050, (see Fig. 1.), new business models are required to meet the needs of future health systems. As shown by the upwards trend lines for each of the three years, countries with lower values will see the largest increases to average life expectancy. In the USA, life expectancy increased in 2012 to 78.8 years, which was

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a record high<sup>1</sup>. Faced with increased life expectancy in all countries, international governments face growing pressure from citizens who demand better access to health care at affordable prices. Digital technology is one solution promoted by health policy-makers and professionals, which will enable health organizations to integrate internal and external infrastructure and applications to share clinical and non-clinical patient data.

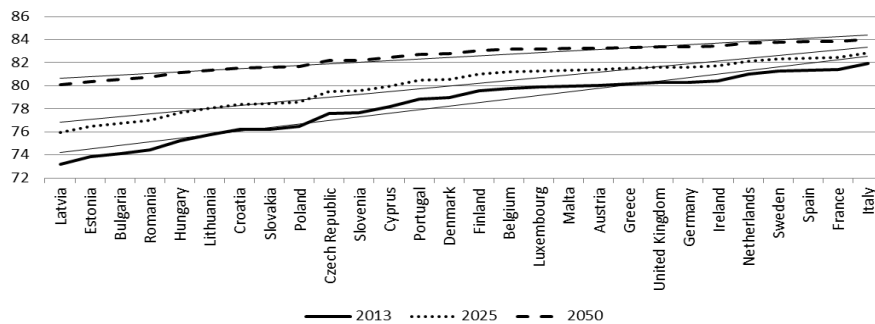


Fig. 1. Average life expectancy across EU-28 for 2013 and predicted ages in 2025 and 2050. Source - <http://www.geoba.se/index.php>

In this paper, we report the research findings from a comparative country study on health organizations' adoption and use of mobile technology. This study began with a general research question: *How do health organizations adopt mobile technology?* To answer this question, a questionnaire survey was sent to healthcare organizations in France, the US and UK. Comparative country analysis presents a challenge to researchers as geo-political, cultural and economic differences impact health organizations' adoption of HIT. Survey results from French, US and UK health organizations reveals interesting variation in health organizations' views and perceptions of mobile health. We organize our paper as follows. First, we provide a brief overview of the literature on mobile health. We compare literature from Europe and the US. Second, we discuss our methods. Next, we present a concise discussion of our key findings. Finally, we discuss our contribution to the academic literature and provide some recommendations to policy-makers and practitioners.

## 2. Mobile health in Europe and the US

The intersection of health policy and technology is relevant for all countries and continents. Policy-makers are concerned to tackle the digital divide, geographically, demographically and financially. In Europe, policy-makers push for health care integration through the digital single market<sup>2</sup>. In the USA, federal and local government agencies keen to promote digital healthcare are advised that \$300 billion savings are possible, with \$200 billion coming from savings in chronic disease management<sup>3</sup>. Geographically, countries vary enormously with imbalances in healthcare provision in urban and rural areas, and different levels of access to general and specialist health services. For example, hospital beds are decreasing across all of Europe, and this trend looks set to continue<sup>4</sup>. Demographically, ageing populations force policy-makers to rethink health service delivery models. Between 2011 and 2039, non-communicable diseases such as diabetes, heart disease, cancer and dementia will cost the global economy an estimated \$47tn in lost output<sup>5</sup>. Forecasts from Alzheimer's Disease International predict an increase of almost 100m dementia sufferers by 2050<sup>6</sup>. Financially, health systems are under immense pressure with rising costs and increasing consumer demand. So how can mobile health alleviate these problems?

MHealth is defined as "medical and public health practice supported by mobile devices such as mobile phones, patient monitoring devices, personal digital assistants (PDAs) and other devices"<sup>7</sup>. Worldwide mobile health revenue is expected to reach about \$23 billion across all stakeholders (mobile operators, device vendors, healthcare providers and content/application players) by 2017, with Europe valued at \$6.9bn. One estimate is that by 2018, there could be 1.7 bn mHealth users worldwide. As the increase in mobile phone subscriptions and mHealth applications continue, the adoption and use of mobile devices across a range of health services will continue in Europe and the USA.

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