Health, demographic change and wellbeing are key challenges for European research and innovation as they concern citizens and have enormous economic implications and innovation opportunities. However, in spite of the potential in the EU, and the successes so far reported, studies in health and well-being are often not coordinated or comprehensive enough to take advantage of the synergies between research findings or their potential capacity to feed into policy making. Recent political and economic developments within Europe and global pressures related to environmental and population trends magnify the relevance of health and well-being issues so that particular attention should be paid to:

- The financial crisis and its impact on socioeconomic dynamics, service delivery, and mental health challenges,
- The pressure that demographic changes such as an ageing population and young immigrant populations place on health systems and social safety nets,
- Climate change, environmental pressures and globally emerging pathogens,
- An out of control epidemic of obesity and associated diseases such as diabetes. This would involve engagement with research on food security and its role for health.

A vision for health and well-being research in Europe should encompass, and at least promote research and innovation, to make Europe the healthiest region to live in (or make Europeans the healthiest people in the world), meaning long and healthy life in a tobacco-free and unpolluted environment, with equitable access to prevention, treatment and care throughout the life cycle. Given the recent successes and the fact that the EU is already competitive in several health and well-being areas, a realistic target could be the EU becoming the world leader in terms of:

- Reversing obesity and diabetes epidemics,
- Alzheimer disease/Dementia prevention, treatment and care,
• New forms of health delivery and well-being in the community,
• Solutions for global health challenges,
• Universal access to prevention and care.

Emerging Challenges which might be disruptive to the H2020 research plan

Disruptions to the H2020 research plan on health and well-being are related to two long and short-term risks. Short-term risks are associated with the current (and possible future) economic crisis and its political consequences. In particular, the current economic crisis has challenged the capacity of several Member States to cover current health needs of their population. The crisis could cause a deterioration of services and equipment, as well a reduction in national health related research spending.

Long term risks are linked to demographic and environmental pressures, and related epidemiological shifts. Together with the short term risks, this may exacerbate the likelihood of an implosion of healthcare system, given that they are under financial pressure throughout Europe (due to ageing, increasing chronic diseases and the obesity epidemic).

As a result, the issues that H2020 would need to address are:

• Mental health needs, substance abuse rates, as well as sexually transmitted diseases, which need be better monitored,
• Obesity, with particular attention to increasing child obesity. This is linked to socio-economic conditions and the lack of access to green spaces and healthy food in schools,
• The currently exacerbating widening income inequality and the resulting epidemiological polarization. Such issue is likely to increase the concentration of communicable diseases (such as tuberculosis and HIV) and chronic diseases (such as diabetes, cancer and cardiovascular disease) in poorer or more marginalized groups as a result of behavioral change,
• The lack of effective policies and infrastructures for migrants, leading to marginalization and poor access to health and social services for some segments of our societies; this being dangerously related to higher risk of communicable diseases spread and violence.

In addition, there is a need for reckoning with the main disruptive trends that are likely to play a role in the medium and long term:

• A growing epidemic of obesity and associated diseases
• A major rise in Alzheimer disease and dementia,
• Continuing high rates of “old” (eg tuberculosis and sexually transmitted diseases) infectious diseases and the introduction of “new” emerging infections (eg SARS),
• Changes and challenges caused by climate change and subsequent natural disasters,
• Disruptions of the health care and pension systems as the ratio of the inactive population to the active population decreases
• Deterioration of public trust in science and public health interventions (e.g. leading to inadequate levels of vaccination coverage, which leads to epidemics)
• Game changing innovations in pharmaceuticals, vaccines and medical devices
• An ad-hoc approach that deals with single issues but fails to reckon with the bigger pictures and thus interdependency of several issues (lack of holistic approaches)
Adjustments needed to the priorities listed in H2020

The list of health related activities in H2020 is a good inventory of desirable activities but lacks a coherent vision and priorities, this bearing the risk that the ultimate impact of H2020 will be diluted or unfocussed.

In particular, it is unclear what problems the foreseen R&I investments may and will solve, as well as how they will contribute to the health and well-being of Europeans. In that respect specifying Europe’s strengths and challenges to build on, should go in pair with listing the top priorities for R&I funding.

In this respect the following are top priorities for basic as well as translational research:

- **Healthy ageing and wellbeing of the elderly**: an increase of approximately 25% in spending on health care as a share of GDP is expected, but this could be halved if healthy life expectancy (falling morbidity rates) evolves along age-specific life expectancy,
- **More emphasis on Alzheimer Disease, dementia and neurodegenerative disorders**: in view of the worrying trend in industry which seems to disengage from this extremely important area for Europe,
- **Multidisciplinary interventions to prevent obesity, cardiovascular diseases, diabetes and cancers**: such diseases are not only the result of genetic factors and influencing public behaviour could lead to good results in curbing them. As a result, multidisciplinary approaches could point at new directions of intervention,
- **Incentives to adopt innovations (new vaccines, medicines, health technologies, behavioral and marketing innovations) that promote good health**, sustain wellbeing and proactively mitigate risks of co-morbidity. An added value would also be the uptake of “reverse innovations” from global health research,
- **Methodologies for monitoring and responding to health management crises stemming from environmental, ecological and geopolitical changes**.

Issues missing in H2020

- H2020 must **explicitly specify in which areas it intends to continue investments** made under FP7, recognizing the fact that a number of technological innovation need a longer time frame before they can produce tangible benefits (e.g. it would be a major mistake, also given Europe’s leadership position, to stop supporting vaccine development such as for tuberculosis).

- A second major gap is **the absence of a global perspective**, as if Europe were isolated from the rest of the world. More than ever nowadays the health status of a population is determined to a large degree by external factors (climate, communicable diseases, allergies), an issue that Europe has to address to confirm itself a world leader in global health research. Though EFFLA strongly supports an expansion of the successful EDCTP program, it stresses the need to address other global health issues currently not covered by EDCTP.

- Finally, there seems to be **insufficient attention to innovation**, as compared to research and there is a lack of linking with the other grand challenges – many of which are relevant for health and vice versa, e.g. food, environment and climate change, which have an influence on health and well-being.
Practical policy recommendations:

- Develop upfront a coherent and ambitious long term vision, such as the one recommended in this Policy Brief,
- Extend the scope of research to: IT and health; global health; extreme events; public trust; bioethics.
- Issue joint calls among several grand challenge. Research on bioethics needs to become multidisciplinary in order to focus on resource allocation decisions, basic and translational research, use of human tissue, personal genetic, behavioral and socio-economic data in health research,
- Identify key areas for continuity from FP7 and integrate research on public trust vis-a-vis health authorities, science, preventive and medical interventions such as vaccines, and patient engagement in health governance (an essential component of a health and well-being agenda)
- Address crisis-related health issues such as: effective responses to extreme events, such as terrorist attacks, epidemics, heat and cold waves and floods.
- Make Global Health Research prominent: from diseases of poverty, to antimicrobial resistance, vaccine development, epidemic preparedness (issues not covered in EDCTP), migration, climate change.