

EHTEL Members' Suggestions

to the

**Commission's consultation
on Priorities for Research and Innovation to be supported
by HORIZON2020-SC1-Health, Demographic Change and Wellbeing
in the "ICT for Ageing Well" Domain**

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**Prepared by the EHTEL Secretariat
based on a Quick Consultation with EHTEL Members**

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Content

0	Disclaimer.....	1
1	Introduction by the EHTEL Association	1
2	EHTEL Members' Suggestions to the Commission's consultation on Priorities for Research and Innovation to be Supported by HORIZON2020-SC1-Health, Demographic Change and Wellbeing in the "ICT for Ageing Well" Domain	2
2.1	What are the most urgent long to midterm ICT related research challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include collaborative research projects, but also Pre-Competitive Procurement of research.	2
2.2	What are the most urgent short term ICT related innovation challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include also innovation pilots, public procurement of innovation and inducement prizes in addition to pilot projects (this concerns support to activities close to the market, where solutions already exist, but where usage needs to be scaled up and where socio-economic evidence of impact needs to be provided)	4
2.3	Are there specific supporting measures needed to underpin the overall set of activities?	6
2.4	Are there areas of activities that would benefit from direct support to SMEs? This can include also use of SME instruments.	7

0 Disclaimer

As a result of EHTEL's understanding of the emphasis of this consultation of the European stakeholder community by the European Commission, we invited our members to undertake a quick "virtual brainstorming exercise" to respond to the four specific consultation questions. The responses vary in quantity, focus and level of concreteness. The input has been systematised so as to be structured along the lines of the questions. However, it has not been EHTEL's intention to communicate a consolidated, harmonised position.

1 Introduction by the EHTEL Association

EHTEL is a 60-member association that focuses on the importance of eHealth to its wide range of stakeholders. Around a quarter of EHTEL's members responded very rapidly over a short period to this consultation. Given that this response was during the summer period, this shows a keen degree of interest in the subject matter. While EHTEL has not sought to articulate a consensus among its members, at the start of each section (2.1-2.4) a short summary names main thrusts of the responses offered by the diverse range of EHTEL stakeholders.

After the recent, successful consultation regarding the European Commission's Green Paper on mobile Health, EHTEL members were invited to suggest research and innovation actions to be included within the "ICT for Ageing Well" focus of the H2020 funding domain "Societal Challenge 1 (Health, Demographic Change and Wellbeing)". Members were particularly invited to identify key gaps related to the scope of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) to be then included in the funding period 2016 - 2017.

As a background, EHTEL members were informed that, the challenges currently (2014-2015) supported in the focus of "ICT for Ageing Well" are:

- ⇒ Service robotics for independent living (R&D)
- ⇒ Independent living with cognitive impairments (Innovation)
- ⇒ Early risk detection (R&D)
- ⇒ Integrated Care (R&D)
- ⇒ In addition, support will be given to the AAL Joint Programme innovation projects (Future care in 2014).

Questions were forwarded in the original wording:

- ⇒ What are the most urgent long to midterm ICT related research challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include collaborative research projects, but also Pre-Competitive Procurement of research.
- ⇒ What are the most urgent short term ICT related innovation challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include also innovation pilots, public procurement of innovation and inducement prizes in addition to pilot projects. (This concerns support to activities close to the market, where solutions already exist, but where usage needs to be scaled up and where socio-economic evidence of impact needs to be provided.)

- ⇒ Are there specific supporting measures needed to underpin the overall set of activities?
- ⇒ Are there areas of activities that would benefit from direct support to SMEs? This can include also use of SME instruments.

Responses were collected per member and “lightly consolidated” – cf. disclaimer – given the wide variety and colourfulness of the individual suggestions.

2 EHTEL Members' Suggestions to the Commission's consultation on Priorities for Research and Innovation to be Supported by HORIZON2020-SC1-Health, Demographic Change and Wellbeing in the "ICT for Ageing Well" Domain

The responses which follow are reported systematically according to the European Commission's four questions on:

- the long- to mid-term research challenges
- the urgent short-term ICT innovation challenges
- specific supporting measures, and
- direct support to SMEs.

2.1 What are the most urgent long to midterm ICT related research challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include collaborative research projects, but also Pre-Competitive Procurement of research.

The whole area of the use of mHealth should be a strong focus, not only for empowering the elderly person himself but also for facilitating the creation of supportive communities for the elderly person. As indicated in [EHTEL's] contribution to the mHealth Green paper, the domain of mHealth is far from being mature and it is recommended that further research should be undertaken on issues such as transforming data from mobile and personal devices into relevant information to healthcare professionals and health policy makers. To this, one should include those terminal devices which are today considered by the Internet of Things eco-system and which could collect data relevant for care.

Various observations can be made with regard to approaches that need to be taken in the mid- and long-term.

- ⇒ **Post-2020:** In terms of this question, attention needs to be paid towards preparing the ground for the **post-2020 time-horizon**.
- ⇒ **New Member States:** Overall, despite their 10-year presence in the Union by 2014, very little involvement exists from the new Member States: activities such as peer visits, study tours, dedicated summer schools, and national ministry self- or peer-assessments would be advantageous not only in 2016-2017 but on an ongoing basis.
- ⇒ **Lower income/education life-expectancy:** Concrete attention should be paid to the challenges identified by research projects which have investigated the increase in life expectancy by two healthy life years, and the fact that the challenge is greatest in lower-

income and lower-education socio-economic groups (by 2017, the Union will have only three years remaining to ensure generic improvement on this score). Various support actions could be developed to undertake healthy life expectancy-related studies, particularly involving the population at large.

- ⇒ **100 year olds+ health:** Attention could begin to be paid to the life expectancy/life quality of the 100 year olds+ generation and what (if any) role technology would play in their lives.
- ⇒ **Gender:** Gender-related approaches could be investigated, in terms of the imbalance in well-being/life expectancy between men and women.
- ⇒ **Dedicated studies:** In summary, in addition to all the widely-known instruments, the European Commission should continue to support dedicated studies to areas of social-economic-environmental significance.

Other observations:

- ⇒ Step back. Find the answers and deliver on what is an age-friendly living environment. Drive the ICT research towards this goal.
- ⇒ The transition periods from independent to semi-dependent living and how to prolong the independence of the individuals is a necessary research topic. In order to develop policies and assistance programs, the transition periods have to be identified early on in order to be able to monitor the development. This includes societal, economic but also individual aspects and therefore the focus is in certain areas which may be challenging. Collaborative research is mandatory in order to achieve meaningful results.
- ⇒ The healthcare industry historically has generated large amounts of data, driven by record keeping, compliance and regulatory requirements, and patient care. While most data is stored in hard copy form, the current trend is toward rapid digitisation of these large amounts of data. Driven by mandatory requirements and the potential to improve the quality of healthcare delivery meanwhile reducing the costs, these massive quantities of data (known as 'big data') hold the promise of supporting a wide range of medical and healthcare functions, including among others clinical decision support, disease surveillance, and population health management.
- ⇒ Early assessment and early detection in community clinical practice of age-related frailty.
- ⇒ Hand held mobile devices, with intelligent applications, using algorithms and sensing capabilities to perform solid clinical risk assessment, ie moving from large expensive hospital-based systems to smaller, portable, computing devices for community practitioners.
- ⇒ Impact – identify and intervene earlier to slow down admission to long-term care and improve opportunities for selfcare / supported community based care.
- ⇒ Generate valid data sets to develop accurate clinical algorithms. Support clinical trial validation. Currently access to appropriate data is both expensive and hard to manage.

- ⇒ Research on ICT needs of informal caregivers.
- ⇒ Research on effectiveness of ICT-related technologies in improving independence, participation and functioning among cognitively impaired elderly (with or without informal caregiver support).
- ⇒ Development of eHealth tools to support GPs in integrating the devices and apps used by citizens.
- ⇒ Support a specific dissemination to create a GPs 2.0 ready to interface with Patients 2.0
- ⇒ Generate evidence more rapidly on the effect of public health interventions and new care processes using data collected at the points of care.
- ⇒ Assess usability issues for physically and mentally impaired individuals to provide simpler interfaces and more intuitive support systems in the home.
- ⇒ Call for projects of integration of hospitals and territory health care using eHealth and mHealth for continuity of care. Aim to reduce the hospitalisations for chronic conditions.
- ⇒ Most if not all of the ICT related research challenges are just that – ICT related. The urgent need is to transform these challenges to be patient or citizen-related using the generic and new ICT enablers. To achieve this, another challenge faces the European Commission – current projects are far too formal, bureaucratic, large, multi-partnered so that in most cases (but not all) the results are out-of-date and impractical in terms of the patient or citizen. We need to find formats, both financial and structural which enable support for a whole new class of research aimed at delivering practical ICT enabled benefits for ageing (and particularly for those living with chronic diseases) on the ground.

2.2 What are the most urgent short term ICT related innovation challenges and the expected opportunities in this domain (from a societal, individual, ICT, financial, organisational point of view)? This can include also innovation pilots, public procurement of innovation and inducement prizes in addition to pilot projects (this concerns support to activities close to the market, where solutions already exist, but where usage needs to be scaled up and where socio-economic evidence of impact needs to be provided)

Most urgent short term ICT related innovation challenges are the transformation of existing health care and social care systems into an integrated care system; this includes upscaling of pilot services, organisational change management and service re-design. Furthermore the transition of health care systems from focusing on emergency and short term care to long-term care with a view on communities and patients' homes. This needs to be supported by a change in culture towards a co-production of care approach, including the use of Personal Health Records and mobile terminals as connecting devices.

Short term challenges are of legislative nature. The close monitoring of the data protection and information regulation on an EU level are tied to the development technology assisted living and ICT related innovations will proceed. Technology drives the societal development as

well as it impacts the development of every individual. Organizations and funding are dependent on legislation therefore law and policy makers have to focus on the future in order to make room for the innovations and technology to drive and to assist generations in the future and more importantly long-term. It is a giant leap for policy maker but technology is already ahead, the possibilities are available and the individual is seeking these types of opportunities and services.

Various observations can be made with regard to approaches that need to be taken in the short-term.

- ⇒ **Fit with the existing policy-related documents:** Overall, the topics to be chosen - whatever their level from individual through to societal - should fit appropriately with such documents as the 2012 eHealth action plan (i.e., preparing steps for the 2018–2020 achievements); the recent EIP on AHA "staging" report; and wider public health challenges at a global level identified by the World Health Organization and international organisations such as the International Diabetes Federation.
- ⇒ **System life-cycle:** If the focus is to be on technological research/innovation, then attempts should be made to select domains that touch all areas of the system lifecycle.
- ⇒ **Re-invigorate funding in the ICT field:** Since there are some indications that Europe generally is emerging from the 2007-2008 socio-economic crisis, attention will need to be made to increasing funding in the (e)health field.
- ⇒ **Balance between research and innovation:** Consideration could be given to balancing the funding contribution more equally between research and innovation. 5
- ⇒ **AAL:** Especially with regard to shorter-term measures, greater clarity needs to be achieved in terms of the AAL programme (less complexity in terms of the text of calls; more support via national entities to outlining the grant support process); organisational support e.g., information days; networking; .
- ⇒ **Bridge between existing large-scale pilots and the CEF:** The feed-through between currently existing large-scale pilots and how they will transfer smoothly into the CEF initiative is vital to plan for an investigate.
- ⇒ **Dedicated studies:** In summary, in addition to all the widely-known instruments, the EC should continue to support dedicated studies to areas of social-economic-environmental significance.

Include also innovation pilots, public procurement of innovation and inducement prizes in addition to pilot projects. (This concerns support to activities close to the market, where solutions already exist, but where usage needs to be scaled up and where socio-economic evidence of impact needs to be provided.)

New community care service delivery models. Everyone wants integrated care everywhere. However in order to achieve this from an ICT perspective, the care delivery models require quite a bit of change management to allow ICT to be effective. Integrated care has much to

allow the care workers and the patients. Change management to produce innovative service models is needed soonest.

- ⇒ The whole area of the use of mHealth should be a strong focus, not only for empowering the elderly person himself – but also for facilitating the creation of supportive communities for the elderly person.
- ⇒ Crossing the chasm between research – innovation – market.
- ⇒ Implementation & incentive models to support efficient, timely response to changes in (individual) service needs – monitoring, resource allocation, collaboration and information sharing
- ⇒ Development of accessible & usable technologies to support collaboration & communication between frail elderly people, informal caregivers and professional caregivers
- ⇒ Standard definition for interoperability between ehealth systems and devices (wearable or not) and apps used by citizen.
- ⇒ Semantic framework for wellness and fitness data exchange
- ⇒ Continued work on identifying good practice in the adoption of ICT for integrated care, and building a stronger reference base of cost effectiveness, improved outcomes and enhanced safety
- ⇒ Studies are needed for the validation of mHealth for the clinical scenario: comparing mHealth to technologies for monitoring that are already included in international guidelines for the management of chronic conditions. To foster a next generation of health care providers, pilot studies should be envisaged to promote the mhealth within the educational programs of medical and nurse students (Masters, PhD programs, etc)
- ⇒ Following the objective of the Digital Agenda for providing access of patients to their health records within the coming years, there's a lot of prospectives about further opening up health data. What's would be interesting is how this data can be utilised by citizens , via applications –sollutions provided by researchers and SMEs to enable them to make more informed choices and demand improved services in sectors such as health. The regulatory framework and the legal aspects and ethical considerations should be dealt as well.

Alternative suggestion: Scrap the project basis for such research. Commission a quick report from a small number of people to advise how to put in place such practical initiatives. Build a small group to act as interpreters of practical results – no suppliers, no bureaucrats, no health ministries but people who deal with Ageing well on a day to day basis.

2.3 Are there specific supporting measures needed to underpin the overall set of activities?

Points were made about the need to fit with the intended short-,mid- and long-term challenges and with regard to specific generations of users. The respondents' responses with regard

to supporting measures cover primarily change management, but also – organisationally – understanding incentives. Messages were sent with regard to requests to be made of technology companies in terms of their need to understand clinical/medical and organisational issues such as workflows and pathways. Specific suggestions were made with regard to actions to be taken in rest of the EIP on AHA and large-scale consortia. Last but not least, a suggestion was made to support “success-stories” workshops.

Supporting measures needed to underpin the overall set of activities should be the exact identification of the generation and focus group which will actually benefit from the programs after implementation. The status of acceptance, the availability of technology at the specific point in the future, as well as the economic and financial aspects need to be taken into consideration. The level of technology affinity of the benefitting generations, their special focus, needs and desires have to be identified in order the develop meaningful programs and services.

As elements mentioned under Q1 and Q2 are related to change management, we propose to prioritise capacity-building measures, such as the development of good practice guidelines towards change management in health care.

Fit with proposed content: Supporting measures are always needed for any RTD or innovation activities; the key is to creating an appropriate fit between what is chosen in terms of content and what is needed as accompanying initiatives. (See several of the ideas identified in response to Q1 and Q2.).

- ⇒ Incentives that reward clinical outcomes, not just clinical activity: Now the doctor gets paid for activity – pay for results/outcomes is essentially a pay for performance. This model changes behaviour and increases the interest of the clinician to collaborate with ICT practitioners so that they can do their jobs better, more efficiently and effectively.
- ⇒ Require more ICT companies to design solutions with a solid understanding of the clinical care pathways.
- ⇒ Too many tech companies are ‘pushing tech’. They need to better understand the clinical needs, workflows, design with the clinician in-mind to make his/her job easier to do.
- ⇒ Organisation of "success-stories" exchange meetings/workshops.
- ⇒ Expanding the membership of EIP AHA to include new regions and more industry partners, including new entrants into the health and care domain.
- ⇒ Funding of pilots of consortia, be they health authorities-providers, patients and professional associations, SMEs, research institution, international stakeholders – organisations, health insurance agency – payers.

2.4 Are there areas of activities that would benefit from direct support to SMEs? This can include also use of SME instruments.

This set of responses, on one hand, describes the benefits provided by SMEs and their particular problems. On the other, it describes a number of useful approaches to supporting

SMEs. The solutions range from high-level policy approaches to more specific methods that are either directed specifically at SMEs or tackle university-based approaches that might also influence work with SMEs. To summarise: at a high level, for example - working with the Japanese, focusing on the structural and regional funds; at a more practical level, solutions focused around percentages of funding, competitions, courses, programs, training, and facilitating opportunities for work with clinicians, clinical data sets and patient cohorts; promotion of PhD programs around mHealth, eHealth, big data and open data.

SMEs allow more flexibility and agile process and product innovations. Fail early, fail often. Furthermore SMEs can focus on developing solutions on a small scale which can be applied to a large-scale market by keeping a European dimension in mind. In order to support SMEs, project consultation should be provided especially to guarantee all the necessary aspects are taken into consideration during the development phase (market potential, etc.). Providing expert knowledge in regard to policies could be very beneficial to a team of the SMEs. Cooperation and co-existence is the key.

SMEs will follow the practical initiatives, and in many cases will take the lead. Their problem is bureaucracy, they disconnect with ageing people, and the day-to-day problems on the ground. Make it quick-and-dirty, plan to fail with some and succeed with more. This is not a black and white scenario. This runs contra to the RTD ethos but, as it is not delivering: Ageing well is increasingly driven by demography, by inequality as well as by politics. What can be done for instance to work with the Japanese who have far more serious issues here and will have to make progress? This is not easy but could be made into a win/win exercise.

The current broad understanding is that large corporations have benefitted substantially from growing involvement in European Commission co-financed initiatives over recent periods, but that the percentages of small-and medium-sized enterprises less so. Therefore:

- ⇒ **Instruments:** Specific SME-directed instruments might be useful.
- ⇒ **Funding percentages:** Similarly, particular percentages of funding might be allotted to SMEs within the larger initiatives.
- ⇒ **Start-ups and micro-enterprises:** In terms of RTD-related activities, attention might be paid specifically to start-ups and micro-enterprises (e.g., allotments of percentages of the total budget).
- ⇒ **Competitions:** Small-scale funding might be allotted to i.e., competitions (including e.g., successful contributors to databases of case-studies - cf. <http://www.responsible-industry.eu> or winning successful CEOs or CIOs of small corporations).
- ⇒ **Cf. Regional and structural funds:** Since SMEs are often better known at a local level, the regionally-related European Commission initiatives might be encouraged to allot an element of their funding to smaller companies.

Other observations and suggestions:

- ⇒ Opportunities to collaborate directly with clinicians – to get insights into their work flow and identify potential innovation opportunities for the SMEs.

- ⇒ Opportunities to have access to clinical data sets to develop new apps, and validate them.
- ⇒ Opportunities to have access to patient cohorts with full ethical cover.
- ⇒ SME staff trainings/courses.
- ⇒ Product innovations are most likely to come from SMEs, but they need more effective exposure to market needs for service innovation, so that their products can be better integrated into services.
- ⇒ Promotion of PhD programs on mHealth and eHealth technologies (new sensors, new app, new protocols) in collaboration with SMEs (masters in co-tutorial between universities, hospitals and SMEs).
- ⇒ Exploitation of big data.
- ⇒ Open data access solutions for patients via platforms provided by SMEs.