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OBJECT: Contribution to the e-Health Action Plan 2012-2020: Implementing large scale e-Health solutions in European mountains areas.

This contribution is issued from a road map elaborated by an Alps Bio Cluster leading group set up in the framework of the pilot network: "**Autonomy and Healthcare**" of the Alps Bio Cluster project launched in October 2008 and ended in September 2011 (Priority 1 of the Alpine Space program).

Some global recommendations were made concerning the need to have a common technological European initiative: integrated platform open source & interoperable, (development of technologies: low energy, self adaptive system and data fusion software) to enable the cooperation between companies and share skills and the involvement of the big companies of the medical device field to deploy the solutions at a large scale and thus access to the market.

One specific axis of this road map is to list some recommendations at European level on e-Health solutions in order to take into account the specificities of mountains areas and their exemplarity for a faster implementation of those solutions.

Definitions of E health solutions

The classification of e-Health solution is very simple but mainly driven by the major needs from a technology standpoint.

Tele consultation, tele diagnostic: real-time bi-directional link including audio/video and data between patient and healthcare professionals

Tele assistance : Sending alarms needs basically a unidirectional link from patient to assistance center.

<u>Tele monitoring</u> : Sending data needs basically a unidirectional link with medium to low capacity as long as video media is not used. It could be medical data (blood sugar level, heartbeat…) or other kind of data (activity measures…)

<u>Tele-expertise</u>: real-time bidirectional communication (audio/video) sharing medical documents (MRI, scan…) between healthcares professional to have a second opinion.

A global context

The global context can be summarized around three main axes.

- Healthcare sector is facing increased needs due to the ageing population and the raise of the chronic diseases. Today the people are living longer and want to be mobile, enjoy their social life, stay at home… in one word "Ageing Well" despite the chronic diseases and pathologies they may have. The developed solution should therefore make up for the fragility/disability of the person to enable an autonomous life as long as possible.

- Cost reduction in European public budgets: high demand of quality and efficiency to the medico-social systems with less resources (hard resources and human resources)

- Transnational area: different features of the European medico-social systems and medical information systems. Solution need to be developed in order that they can be adapted to every already existing system. Their implementation should be easy and not time-consuming.

Specific challenges in mountains areas

On top of generic challenges applying in urban areas, mountains areas have some specific ones. They are mainly related to specificities of the population and lack of resources whether they are medical staff or telecommunication infrastructure.

- Ageing population is over represented.

- The lack of health professionals in mountains areas but less resistance to change because of absolute need.

- The lack of Health infrastructures and equipments, the difficulties to reach urban hospitals because of isolated situations and geographical constrains.

- An increasing tourist population during winter and summer seasons practicing sports.

- Telecom infrastructures not equally developed in mountains areas.

Implementing e health solutions in mountains areas could provide at the same time a large scale validation (users cases and business models) and deployment and overcome barriers by creating innovative organizational solutions in a context of absolute necessity.

Proposed recommendations

Strategy/policies

SP1. Foster on mountains areas and define it as pilot for e health solutions deployment through **Private Public Partnership**. It first implies a shared vision between private and public actors involved in social and health policies

SP2. Involvement of telecom operators to ensure minimum coverage in line with system requirements and cooperation between them to ensure a maximal coverage

SP3. Reinforce interoperability requirements for deployed systems in relying on open and industrial standards (BT Low energy, zigbee,.).

Organizational

O1. Reinforce cooperation and exchange between medical and social staffs and necessity of gathering these local expertise in a same place as **Health Houses.**

02 Reinforce transnational cooperation between hospitals by the establishment of a network enabling the exchange of knowledge and the mobility of citizens (ref to ALIAS project funded by the Alpine Space Program)

Medical practitioners: professional identity and practices

PP1. Evolution towards a care data management versus a direct interaction with the patient: local data processing and data storage, high level of expertise to be transferred to expert software and "care managers", necessity to solve the problem of legal certainty for these new practices, could be easier in territories with health desertification.

PP2. In order to reach health professionals' acceptance, training to support this evolution or creation of new jobs: double skills in medicine and ICT at a master degree are strongly required.

Business models

BM1. Viable BM to be defined is mandatory in those areas because not many options available

BM2. E health and remote solutions: regular ways of taking care of population, is not exceptional because lack of medical infrastructures,

BM3. Strong public incentives to have a fair value sharing among all the stakeholders guaranteeing an equal access for the population, special attention should be emphasized on telecom operators

BM4. Involvement of the funders (private assurances and national health public authorities) in the development phase of the e-Health solution to ensure full or partial reimbursement

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Matrix of coverage

Recommendations	Ageing population is over represented	The lack of health professionals in mountains areas but less resistance to change because of absolute need	lack of Health infrastructures and equipments and geographic isolation	increasing tourist population during winter and summer seasons practicing sports	Telecom infrastructures not equally developed in mountains areas
SP1		X	X		X
SP2	X				X
SP3				X	X
O1		X	X		
O2			X	X	
PP1			X		X
PP2	X		X		
BM1	X		X		
BM2		X		X	
BM3	X		X		
BM4	X		X		