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doi:10.4017/gt.2008.07.04.010.00

## TELEREHABILITATION FOR COGNITIVE AND MOTOR FUNCTIONS

The European Silver Paper recommends measures to restore health and to maintain the highest possible level of independence and physical and mental autonomy<sup>1</sup>. During the last decade we assisted in rehabilitation studies and in technological development. From the combination rises telerehabilitation – a subfield of telemedicine consisting of a system to control rehabilitation from a distance – as an actual application and a promising development in the future<sup>2</sup>.

In recent years a great number of telerehabilitation projects has been developed in order to remotely treat patients at home. A subset dealt with the recovery of upper-limb functionalities in patients affected by neurological diseases as stroke, traumatic brain injury (TBI)<sup>2</sup> and multiple sclerosis (MS)<sup>3</sup>. Important results were also obtained in the field of gait analysis<sup>4</sup> and speech pathologies<sup>5</sup>. However, almost none of the rehabilitation systems in the above projects took into account specific needs coming from the 65+ population, which should be considered and treated as a separate group<sup>6</sup>, managed with a multidisciplinary, multimodal, and integrated approach<sup>1</sup>. On the other hand, project results showed that the market does offer a wide set of products potentially effective in telerehabilitation<sup>7</sup>, mainly based on technologies like virtual reality<sup>8</sup>, video conference<sup>9</sup>, sensor-based platform<sup>10</sup>, and wearable devices<sup>11</sup>.

From the above experiences and knowledge, and taking into account the ‘well-ageing’ paradigm, products and implemented services might usefully be adapted and used for maintaining residual functionalities and motor/cognitive activities of 65+ people.

Besides technological issues, important organizational and societal changes, i.e. cost reduction policies and an ageing population, should be taken into account as driving forces for the development of a successful home telecare system<sup>12</sup>. Up to now, communication technologies in the health care delivery process seemed to be successful only if (i) the model reflects the National Health Systems directives<sup>13</sup>, and (ii) the offer is as wide as possible in terms of technologies and pathologies considered. These two aspects are extremely important especially in a long-term perspective, where sustainability is a critical aspect<sup>14</sup>. With this in mind, a supervision and harmonization process conducted at a European level seems a fundamental step for sharing knowledge and experiences from local contexts, and for overcoming barriers and difficulties related to the service implementation<sup>15</sup>.

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doi:10.4017/gt.2008.07.04.011.00