

Submission ID¹: [14988](#)

A Literature Review of the Challenges Encountered in the Adoption of Assistive Technology (AT) and Training of Healthcare Professionals

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Background: Long-term disabilities often result in loss of autonomy and social interaction. Accordingly, there is a demand for Assistive Technology (AT) devices to enable individuals to live independently for as long as possible. However, many people experience difficulties in obtaining and using AT. This paper presents findings from a narrative literature review undertaken as part of the development of AT training for healthcare professionals, one of the work areas of the ADAPT project (Assistive Devices for Empowering Disabled People through Robotic Technologies), funded by EU INTERREG France (Channel) England. The results of the review informed the design of a survey of healthcare professionals regarding their views and experiences of AT and the development of AT training.

Method: The review sought to understand challenges encountered in the adoption and use of AT as well as how training of healthcare professionals in AT takes place. A narrative approach was adopted as the most appropriate way to synthesise published literature on this topic and describe its current state-of-art. Narrative reviews are considered an important educational tool in continuing professional development. An initial search was conducted via databases in the UK and France, including CINAHL, Academic Search Index, Social Sciences Citation Index, BDSP (Base de données en Santé Publique), Documentation EHESP/MSSH (Ecole des Hautes Etudes en Santé Publique/Maison des Sciences Sociales et Handicap), Cairn, Google Scholar and Pubmed. Inclusion criteria for the review included: covering issues relating to AT provision and training, English or French language, and published from 1990 onwards. Application of these criteria elicited 79 sources, including journal papers (48), reports (11), online sources (11), books (6) and conference papers (3). Sources were thematically analysed to draw out key themes.

Key results: The majority of papers were from USA and Canada (27), then UK (20) and France (19). Others were from Europe (7), Australia (3), country unknown (2), and one joint UK/France publication. The main source of literature was journal papers (48), of which the most common types were practice reports (18), evaluation surveys (10) and qualitative studies (9). The review uncovered a number of key challenges related to the adoption of devices, including: difficulty defining AT across disciplines, lack of knowledge of healthcare professionals and users, obtrusiveness and stigmatisation AT users can experience when using devices, and shortfalls in communication amongst professional groups and between professionals and users. These issues can lead to abandonment of AT devices. Furthermore, substantial barriers to healthcare professionals exist, including inconsistent provision and quality of training, lack of evaluation of training, lack

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15th AAATE Conference
GLOBAL CHALLENGES IN ASSISTIVE TECHNOLOGY
Bologna (IT), 27-30 August 2019

of resources and funding, shortage of qualified professionals to teach, and the increasingly rapid development of the technologies.

Conclusion: Support, training and education for prescribers, distributors, users, and their carers is vital in the adoption and use of AT. Evidence indicates a need for comprehensive education in the AT field, as well as ongoing assessment, updates and evaluation which is embedded in programmes.

Keywords: literature review, challenges adopting AT care solutions, AT training of healthcare professionals

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Tweetable abstract: Evidence suggests need for comprehensive, evaluated education of healthcare professionals in Assistive Technology in order to support adoption and use of devices and prevent abandonment #ADAPT_Project