

## Chapter 42

# An E-Health System for Promoting Wellbeing in the Elderly: The Butler System

**Cristina Botella**

*Universidad Jaume I, Spain & CIBER  
Fisiopatología Obesidad y Nutrición (CB06/03),  
Instituto Carlos III, Spain*

**Diana Castilla**

*Universidad Jaume I, Spain & CIBER  
Fisiopatología Obesidad y Nutrición (CB06/03),  
Instituto Carlos III, Spain*

**Rosa M. Baños**

*Universidad de Valencia, Spain & CIBER  
Fisiopatología Obesidad y Nutrición (CB06/03),  
Instituto Carlos III, Spain*

**Azucena García-Palacios**

*Universidad Jaume I, Spain & CIBER  
Fisiopatología Obesidad y Nutrición (CB06/03),  
Instituto Carlos III, Spain*

**Ernestina Etchemendy**

*CIBER Fisiopatología Obesidad y Nutrición  
(CB06/03), Instituto Carlos III, Spain*

**Mariano Alcañiz**

*CIBER Fisiopatología Obesidad y Nutrición  
(CB06/03), Instituto Carlos III, Spain &  
University Research Institute for Bioengineering  
and Human Centered Technology (UPV), Spain*

## ABSTRACT

*The disproportionate increase in the world's aged population, especially in developed countries, is one of the biggest challenges for developing health and social development policies. Developed countries are starting to include e-health applications in their health policies; these are effective programs that can reach large numbers of people at a much lower economic cost. The "Butler System" is an e-health application designed specifically for older people and the health professionals who work with this population. The Butler System is a multi-user platform with various levels of action, which includes resources that enhance elderly users' social integration, learning, socio-emotional networks, leisure and training in emotional regulation skills. Furthermore, the platform allows practitioners to continuously monitor older people's emotional states and offers various clinical resources and therapeutic activities. Tools such as the Butler System could become integral to supporting and promoting healthy habits for the elderly and assisting the health professionals who work with this population.*

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## INTRODUCTION

Two parameters characterize the twenty-first century, particularly in developed countries: the increase in life expectancy and the declining birth rate. As a result of these factors, demographic distributions have changed markedly: many areas are now increasingly comprised of elderly people. This significant demographic shift coincided with the technological revolution that began at the end of the twentieth century, which has redefined the people relate to each other. One result of this rapid change is that the generation gap has increased: older people feel misplaced and unrelated to this “new world” in which photos, music, newspapers, and even communication with their younger family members is increasingly managed in unfamiliar digital formats. Consequently, the elderly have become more vulnerable to adjustment disorders, mood disorders, anxiety problems, etc. Numerous scientific studies have proven the beneficial effects of using Information and Communication Technologies (ICTs) to address these isolation issues in the elderly; they are powerful tools for communication, entertainment, and socialization.

The Butler system, which was designed to bridge the widening gap between current technological realities and the older population, is based on the principles of positive psychology (Seligman, 2002). Our goal was, to facilitate the construction of psychological and social elements that are protective of a healthy quality of life. The project comprises an online multi-user technology platform with assistance lines for elderly users as well as support tools for healthcare professionals.

## THE AGING POPULATION AND ITS IMPACT ON HEALTH SYSTEMS

As previously mentioned, global demographics are undergoing clear and rapid transformation, with the aging population emerging as a major worldwide trend. Never before have so many

people achieved such advanced ages. The most recent census report conducted by the U.S. National Institute on Aging (Kinsella & Wan, 2009) estimates that between 2008 and 2040 the number of people aged 80 and 85 will have increased by 233% and 165%, respectively; the general population, on the other hand, will only have increased by 33%. By 2040, 1 of every 4 Europeans will be at least 65 years old, and 1 of every 7 will be at least 75. Similar trends are observed in Oceania, Asia, and elsewhere.

The disproportionate increase in the world's aged population, especially in developed countries, is one of the biggest challenges for developing health and social development policies. Reports from institutions such as the WHO (2002) and the American Society of Gerontology (Merck Institute of Aging & Health, 2004) indicate that this demographic transformation will have a strong impact on public health systems, thereby having a economic and social effect on future societies (The Swedish National Institute of Public Health, 2006). According to the U.S. report *The State of Aging and Health*, elaborated by the Gerontological Society of America (2004), psychological problems in older people will become a significant public health issue, resulting in a dramatic increase in the use and costs of health services.

A report conducted by the Center for Health Workforce Studies (2006), which assesses the implications of population aging on supply and demand in health services, shows that the elderly use a greater amount and variety of health services. Also, it notes that future generations of older people will have higher educational levels, greater access to information and better financial resources in their old age. Given these conditions, the report predicts a change in patterns of health services consumption by this population sector. Future demands on the health system will require a greater number of healthcare workers as well as changes in the way these health services are delivered.

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