THE MULTIDIMENSIONAL PROGNOSTIC INDEX (MPI)

MPI is a prognostic tool based on a standard CGA that has been shown to predict short- and long-term survival in older subjects, as well as other negative health outcomes (hospitalization, nursing home admission, length of hospital stay).

To obtain the final index of a given individual, a program calculates a MPI score, which ranges from 0 to 1. This calculation can be easily performed by a program that can be downloaded at no cost (www.mpiage.eu) or using an IOS free app (iMPI).

CORE ACTIVITIES OF MPI_AGE

A. Analysis on the use of predictive rules in clinical decision making in community-dwelling older people. An analysis on the use of predictive rules (MPI) in clinical and management decision making in community-dwelling older subjects was performed using clinical, functional and administrative data included in large databases from different European regions.

B. Use of MPI to improve cost-effectiveness of drug treatments in older people with multimorbidity and polypharmacy. MPI was used to identify the effectiveness of different drugs across different levels of frailty and dependence in large multinational databases.

C. Use of MPI to improve resource allocation in older hospitalized persons. A large multicenter clinical trial was performed to analyze the role of MPI in the identification of hospitalized patients with different characteristics and needs, which were prospectively followed for 1 year.

OBJECTIVES

The aims of the MPI_AGE project were to:

• identify the most cost-effective health interventions according to the individual prognostic mortality-risk profile;
• improve multi-professional interactions and collaboration in performing integrated care pathways of interventions according to the individual MPI-risk profile;
• develop tailored intervention programs based on the individual MPI-profile of older subjects;
• explore ways to reduce health-related costs, linked to a reduction of hospitalization rates, in-hospital length-of-stay, institutionalization rates, and inappropriate and unnecessary prescription drug use.

INTRODUCTION

The MPI_AGE project is a research project co-funded by the European Union through the Health 2007-2013 Programme. It has explored ways to reduce unnecessary use of health-care resources in older subjects through the design of optimized tailored, integrated, multi-professional, planned interventions. This project aimed to use a well-established diagnostic and prognostic tool, the Multidimensional Prognostic Index (MPI), based on a standard Comprehensive Geriatric Assessment (CGA), and analyzed how appropriate use of the cost-effective interventions in complex older individuals with multimorbidity and polypharmacy can be achieved in a series of analyses on the use of predictive rules in clinical and management decision making in older residents in different European regions. The project has been performed by identifying reference models to allocate resources and lower costs in healthcare. Analyses of multi-national databases including information on drug prescriptions and older subjects’ characteristics have identified some setting-specific MPI-profiles in which individual interventions are more cost-effective in terms of improved survival.
The Multidimensional Prognostic Index (MPI) has proved to be the best validated assessment instrument in various healthcare settings (community, hospital and nursing homes) and across a wide range of diseases and conditions.

MPI also identifies problems in several domains that may benefit from specialist comprehensive geriatric care.

Tailored healthcare interventions have the potential to reduce the inappropriate use of resources (hospitalizations, drugs, diagnostic tests). Individuals within each risk group may benefit from the adaptation of interventions to his/her prognosis and needs.

Health interventions should be adapted to the individual needs of older people, especially for those who are very sick, have multiple health problems or are physically or mentally impaired.

Healthcare professionals should assess the needs of each individual in an objective, reproducible way. Assessment has to consider every aspect of health and function that are relevant to each person.

Objective assessment of needs may avoid discrimination of older people (ageism) in decision-making.

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