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HEALTH ECONOMICS AND HEALTH POLICY ISSUES IN ALZHEIMER'S DISEASE

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Overview

The aim this special issue of the Journal of Nutrition, Health, and Aging is to explore novel approaches for health economics and health policy researches in dementia, with a specific focus on Alzheimer's disease (AD). The academic literature has widely explored and documented the tremendous economic burden of AD (1-8) and the cost-effectiveness of AD therapies (9-13). As new AD treatments are coming to the final phases of their development, there is need for academic contributions that explore the limits of former evaluations, provide specific suggestions to improve the design of current/future research, and suggest policy guidance to health care planners who are in charge of deciding the use and the management of new treatments.

We selected eight outstanding contributions from research teams in Europe and in the United-States that cover three main topics: cost-effectiveness, cost-of-illness, and health policy. This special issue of the Journal of Nutrition, Health, and Aging is organized in three parts. The first part presents two major contributions that explore novel approaches in cost-effectiveness evaluations of AD treatments and provide guidance for current/future research. The second part of this special issue is focusing on the central questions of the identification of resources used by patients with AD and the estimation of associated costs. The third part explores three major health policy issues in the European and US contexts: the presence of disparities in access to AD treatment, the impact of case management of AD on societal costs, and the value of novel health policies that target subgroups of patients.

Part 1: Cost-effectiveness Issues in AD

The two articles presented in that section greatly add to the body of scientific knowledge by identifying several biases found in current pharmacoeconomics models, and suggesting innovative solutions to reduce them. Fillit and colleagues show that such biases are raised by the difficulties with valuing elderly people's life ("bias against the elderly"), valuing cognitive status ("dementia bias"), and providing the right estimation of costs that occur before institutionalization ("delayed consequence bias"). In their article, they suggest novel approaches to develop more robust cost-effectiveness evaluations. Among many key recommendations, the authors underline the advantages of using: biomarkers as outcomes

measures, electronic claims that better capture costs and resource utilization data, and standardized comorbidity indexes that allow controlling for the influence of comorbidities on costs.

In their contribution, Mauskopf and colleagues explore the central question of strength of the association between AD severity measures and costs. Being able to rely on strong relationships is crucial for cost-effectiveness models. Reviewing 29 published articles, the authors find evidence that various dimensions of AD severity (cognition, functional status, and behavior) are associated with increased costs. They identify several flaws in the literature that call for new analyses. The authors explain that models exploring the relationship between AD severity and costs have to control for "endogeneity biases" raised by potential correlations between included independent variables and excluded variables (14). They underline the need to develop "composite" measures of AD severity that would include cognitive, functional, and behavioral statuses.

Part 2: Cost-of-Illness Evaluations in AD

Cost-of-illness evaluation need to rely on standardized instruments designed to accurately measure resource utilization. In their contribution, Wimo and colleagues provide statistical evidence that the Resource Use in Dementia (RUD) Lite instrument is valid to estimate resource utilization among community-dwelling patients with AD. The authors underline the need to run sensitivity analyses because there is often a risk that informal caregivers overestimate supervision time. Because it is almost impossible to obtain the direct observation of informal caregiving time in large studies, using outcomes obtained from RUD data is a very interesting option for cost-of-illness estimations.

Using the RUD Lite, Gustavsson and colleagues explore the differences of resource use and cost of dementia care between 12 European countries. Comparing cost of care in different countries is very difficult because of large institutional differences. Such differences are found in authors' results: the use of formal services is lower in Southern Europe compared with Western and Northern Europe, and the use of informal care is found to be higher in Southern Europe than in Western and Northern Europe. The authors underline that using a standardized instrument (the RUD Lite) was crucial to allow comparisons across various countries. This study opens new perspectives for AD research, following Fillit and colleagues'

recommendations for the use of “harmonized” standards in multinational researches.

While Gustavsson and colleagues focus on Southern, Western, and Northern Europe, less is known about Eastern Europe. Using the RUD instrument, Ersek and colleagues provide a very interesting contribution describing costs of AD in Hungary. The authors find that the societal cost of AD is mainly driven by direct costs (55% of total) and informal costs (36% of total), while indirect costs only represent 9% of total. This result is very different than the distribution found by Gustavsson and colleagues (informal costs: 54%; direct costs: 16%; and indirect costs: 30%). Such differences found between both sides of Europe (Hungary vs. Southern, Western, and Northern) provide a very interesting idea of how international comparisons can be used to guide health policy measures in countries starting to deal with the management of the AD burden.

Part 3: Health Policy Issues in AD

In this part, we selected articles that explore three main health policy stakes. Rattinger and colleagues focus on the central issue of the disparities associated with drug utilization in dementia. The authors underline the crucial importance of health care barriers in access to treatment. They provide strong evidences that visits to specialists are associated with an increase in the probability of receiving antidementia, antidepressants, and antipsychotic treatments among a population of US veterans with probable dementia. They also find the presence of racial disparities in access to treatment, African-American patients being less likely to be treated than other patients. They conclude that the identification of barriers in access to treatment is a central health policy issue, as access to treatment may reduce the disease progression.

Finding interventions that improve patients' access to health care resources is a key policy issue in AD, since a lack of access to health care resources, fragmented services, and disjointed care lead to system inefficiencies, lack of quality, and cost explosion (15, 16). In that context, there is need for integrated care systems where professionals trained in AD case management would provide assistance to patients and their informal caregivers. Despite the presence of substantial academic literature on case management, its cost-effectiveness remains under evaluated, and it is not clear whether such interventions lead to cost reductions (17-22). In their contribution, Pimouguet and colleagues provide a review of the literature on the question of the impact of case management interventions on costs of dementia and resource utilization. The authors provide evidences that the use of case management interventions in dementia does not always lead to cost and resource utilization reductions. They explain that further research should target sub-groups of patients for whom case management interventions could have highest influence.

Focusing on sub-groups of patients is the main topic of the contribution by McNamee and colleagues. In a context of a

decrease in public financial resources available, their contribution provides a key evidence of the importance of cost saving that can arise from the provision of treatment to different patient sub-groups. Such evidence can be used to rationalize health care expenditures in AD. According to McNamee and colleagues, the restriction of therapies to sub-groups is associated with significant cost savings, compared with a health policy that would consist in providing treatment to all AD patients.

Conclusion

Among many interesting findings and suggestions, three main conclusions emerge from that special issue (23-30), which bring guidance for future research on the health economics of AD. New creative pharmacoeconomics models are needed. Such models should use standardized measures of AD severity and resource utilization and explore solutions to reduce the various biases associated with current models. More comparisons between and within countries are needed, because they can be used to provide guidance to health policy planners. There is need for innovative health policy interventions focusing on the rationalization of health care spending and the reduction of disparities in access to treatment. Such policies could for instance target sub-groups of patients, defined by their level of AD severity and their sociodemographic characteristics.

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